461

Task Force Final Report

October 1995

Submitted to:
Iowa Telecommunications and Technology Commission

Volume 1+2

461 Task Force

October 13, 1995

Richard Opie, Chair
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Dear Members of the Iowa Telecommunications and Technology Commission:

The Iowa Telecommunications and Technology Commission (ITTC) appointed this thirteen-member 461 Task Force to analyze structural alternatives for the Iowa Communications Network (ICN), as the 1995 General Assembly requested in House File 461. The 461 Task Force is pleased to submit this comprehensive Final Report.

As Task Force members, we devoted 1,344 total hours over the last 100 days to meet, deliberate, and analyze the issues relating to our charge. Our directive was not to make a recommendation, but to conduct a comprehensive analysis of the issues relating to these ICN structural alternatives.

The Final Report is contained in two volumes. The primary document, Volume 1, contains the Final Summary Report and the analysis Matrix. The second document, Volume 2, contains supporting materials used throughout this study.

We would like to make special note of the support and assistance provided by the nineteen members of the 461 Resource Team that we formed to assist in our deliberations and analysis. The facilitation of the State Public Policy Group met and exceeded our expectations.

Finally, we sincerely appreciate your attendance at all Task Force meetings, and your support throughout our deliberations.

Sincerely,

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Preface

The 461 Task Force identified alternatives for the disposition of the Iowa Communications Network and attempted to measure the practicality of these options. Assessing this practicality becomes a matter of identifying the obstacles to the accomplishment of each option. These obstacles are legal, financial, political, and philosophical in nature.

The legal and financial obstacles can be measured using objective assessments. Whenever possible, the Task Force has attempted to provide these measurements. The political and philosophical obstacles can be measured only in terms of value judgments. These judgments vary among the Task Force members and reflect the background and specific interests which each Task Force member represents.

In addition, each of the obstacles, whether legal, financial, political, or philosophical, will change over time. Federal laws regarding telecommunications are in a state of flux. The financial constraints with regard to the issuance of debt for construction of the network will vary over time according to the terms implicit in the guarantees made for the debt issuance.

In the short term, the objective assessments can identify those options which have minimal impacts on users and minimal obstacles to accomplishment. Some of the options are more viable than others; some have significant barriers in the short term and become more viable in the long term.

The ultimate decision on which option is the most desirable should utilize the objective assessments gathered by the Task Force, and the value judgments that the appropriate statutory bodies are authorized to exercise.

The Task Force has attempted to identify all the issues and measure all the constraints and effects on each option relative to the charge given the Task Force by House File 461 and the Iowa Telecommunications and Technology Commission. This report represents a consensus of the Task Force and is hereby submitted to the ITTC for its use in satisfying the mandate under House File 461.

Final Report of the 461 Task Force

Submitted to:
Iowa Telecommunications and Technology Commission

Introduction

The Iowa Communications Network (ICN) became one of the focal points of the 1995 legislative session, as policy makers questioned the appropriateness of state ownership of the network. Recognizing the complex legal and fiscal issues tied to the network, legislators, through House File 461, requested the ICN's governing board, the Iowa Telecommunications and Technology Commission (ITTC), to examine various ownership/operations options within the context of these difficult issues.

In order to comply with the 100-day timeframe, the ITTC appointed the 461 Task Force to analyze alternatives to the current ICN structure. This thirteen-member task force's primary charge was to comply with the directive set forth by the Legislature in House File 461 -- study the possibility of selling the ICN to a private operator or converting the ICN into a public utility, while assuring that authorized users are protected.

The 461 Task Force was asked to complete a thorough analysis of these options, and present its findings to the ITTC in an easy-to-use format. The 461 Task Force was not directed to develop a recommendation. Rather, the 461 Task Force Report was developed to provide the ITTC with a comprehensive review of the issues relating to alternative ICN structures.

This report is the product of the 461 Task Force's deliberations. Because of the complexity and volume of the information reviewed, the Task Force carefully constructed a system which expanded the array of options to be studied from two to ten. The Task Force developed a methodology that examined key issues within the context of each option. These issues stimulated Task Force discussion and provided a venue for divergent perspectives.

The system developed by the Task Force should allow members of the ITTC and other decision makers to quickly reference the applicable analysis. Ultimately, these materials will provide Iowa policy makers with a framework for the creation of ICN policy direction.

461 Task Force - The Process

In House File 461, the Iowa Legislature appropriated $250,000 and directed the Iowa Telecommunications and Technology Commission (ITTC) to study the possibility of selling the ICN to a private operator or converting it to a public utility. The ITTC report was to be provided to the Governor and General Assembly by November 1, 1995.

The ITTC named a thirteen-member Task Force representing the public and private sectors, ICN users and non-users, industry experts, and issue specialists. State Public Policy Group, an Iowa-based consulting firm, was hired to facilitate the report process and provide staff support to the 461 Task Force. The Task Force and staff developed an ambitious work program to meet the objectives of HF 461.

The Task Force determined that the two options outlined in House File 461 were very general and could be defined in several different ways. In order to be thorough, the Task Force elected to expand the parameters of the study to include additional sale and public options. The number of options grew from two to ten, including three sale options, three public-private options, and four public options.

House File 461 also suggested that the Task Force study a number of legal and financial issues, as well as the impact of changes in the disposition of the ICN on authorized users and others. In addition, the Task Force expanded the scope of issues to be looked at under each option.

In reviewing the options and issues, the Task Force determined that the analysis would be best conducted using a Matrix. This Matrix gave the Task Force a visual framework through which each option could be analyzed, and should provide the ITTC with the detailed information they need to determine each option's potential and to make a recommendation to the Governor and the General Assembly.

During the six two-day meetings, the Task Force sought to identify resources that would add value to its deliberations. Over the course of this study, nineteen individuals representing a variety of interests were asked to participate in the study as members of the Task Force's Resource Team. Resource Team members attended all Task Force meetings, were involved in discussions when appropriate, and were provided the same information and meeting materials as Task Force members.

Additionally, the Task Force sought external information that would assist them in their analysis. A panel of outside experts representing a cross-section of philosophies from the telecommunications and cable industries participated in a panel presentation and discussion. Two companies participating in the panel were retained to conduct independent studies *(in Supporting Materials).* These two studies became a part of the Task Force's deliberations.

Two other activities supplemented the Task Force's deliberations. First, staff surveyed other states and provided the Task Force with background information on other state legislative initiatives in telecommunications *(in Report Appendix).* Secondly, the Task Force

conducted a survey to measure the potential impact of changes in the ICN structure on authorized users and the business community. Surveys were mailed to all 900 authorized users, as well as to 2,000 Iowa business and industries *(in Report Appendix & Supporting Materials)*. The survey, which had a 17% return rate, was an effort to give the Task Force public sentiment relating to each option and issue. Because it was an unscientific survey, the Task Force determined that the results not become a part of the Matrix, but be included as resource information.

House File 461, and the Task Force's Report, may have an impact on many Iowans. The Task Force felt strongly about keeping policy makers and other individuals and interest groups informed of the deliberations and progress of the 461 Task Force. Legislative leaders and key legislators and staff in telecommunications were provided meeting packet information and copies of all Task Force minutes. Members of the media were also provided the same information. After each Task Force meeting, the *461 Update* was mailed to more than 2,000 Iowa individuals and organizations, as well as all members of the General Assembly and the Governor. The *461 Update* provided readers with a profile of Task Force members, summary of Task Force meetings, key issues, and information on the Task Force's progress.

461 Task Force - Special Issues

Valuation

One obvious factor in the decision to sell or not sell the ICN is the price at which it can be sold. This raises the question of what the ICN is financially "worth." Although the charge to the Task Force did not include responsibility for determining the system's value, the Task Force nevertheless considered several issues related to the value of the network.

The Task Force began by compiling information on the cost of the system. Although there was general agreement that *cost* is not synonymous with *value*, there was also agreement that information on the system's cost would be useful, both to the State and to prospective buyers, in establishing their estimates of the system's value.

The Task Force worked with the ICN staff to prepare a *Facilities Ownership Summary (in Report Appendix)*, delineating the equipment actually owned by the ICN from non-owned equipment attached to the system and the original costs of the component parts. Where data on the cost of equipment was not available (because it was not acquired by the ICN), ICN staff estimates were used. This initial inventory includes the original cost of tangible assets, but does not include depreciation on those assets, financing costs, or operating deficits. Thus, the total estimated cost of $140 million substantially understates the total investment in the system made by the State of Iowa and various federal, state and other not-for-profit entities *(see chart on page 5)*.

Although the *Facilities Ownership Summary* represents the most complete summary of the investment in the system that has been made to date, Task Force members recognize that these costs do not necessarily represent the *value* of the system. The system's *value* is a function of the future income it will generate. More specifically, the system's value is the

present value of the estimated future income it will generate to its owner or to a prospective owner. Because estimates of that future income may differ from buyer to buyer, and because the rate at which the estimated future income is discounted may also vary from one buyer to another, the system's value may be different for different buyers.

Neither the Task Force nor the State can determine the price that purchasers will be willing to pay for the ICN. This is properly determined by the prospective buyers, and it may be presumed that buyers will make their own judgments concerning the price they will offer. What the State can and should do, is determine the value of the ICN *to the State*. Like the value to prospective buyers, the value of the ICN to the State depends on the future income it will generate for the State. Here, future income is the difference between the amount the State will pay to purchase ICN services from a private operator and the net costs it will incur in obtaining those same services operating the ICN. The system's value to the State is the present value of this projected difference in costs.

Determining the ICN's value to the State would require estimating future usage of the system and the comparative costs of meeting the usage demands by operating the system and by purchasing services from a private provider. Obviously, estimates of this nature are expensive and fraught with uncertainty. The Task Force agreed that if the network is to be sold, the State should obtain an appraisal of the network's value *to the State,* and not accept less than that determined value.

Investment in Iowa Fiber Optic Network

Additional Value of Operating System*

$_____

Additional Cost of User-Owned Attachments to FON

$29 Million**

Original Costs of State-Owned Fiber Optic Network (FON) Including Grants and Other Funds Provided by FON

$111 Million

* Additional value in place of tangible assets
Additional value of skilled labor force
Additional value of established systems and procedures
Additional value of expected future benefits

** ICN staff estimate

Federal Deregulation

The Task Force recognized that pending federal legislation and regulatory changes may have an impact on the future of the ICN. The Task Force requested that a representative of the industry and the Iowa Utilities Board research the pending legislation and provide a report *(in Report Appendix).*

At the date of this report, two bills - a House version and a Senate version - were pending in Congress. It was reported that both the U.S. House and Senate bills promote competition by transitioning to an open telecommunications market. There are three major areas in which federal legislation and regulations may have an impact on the ICN: telecommunications and video competition, universal service, and the deployment of new technology.

The proposed legislation may increase the demand for network facilities, providing telecommunications and video providers with a greater opportunity to sell or lease capacity. The definition of universal service is expanded in both bills and addresses access to advanced telecommunications for elementary and secondary schools.

The Task Force was careful not to include the requirements or ramifications of any pending legislation or rules in the Matrix, but felt it was important to note the current federal telecommunications deregulatory environment in this Report.

Iowa Utilities Board Study

In Senate File 2089 (1994), the Iowa Utilities Board (IUB) was directed to study the impact of the ICN on private telecommunications providers in the state. The IUB staff presented the parameters of the study to the Task Force, and indicated it would not be completed before the Task Force report and the ITTC recommendations are submitted to the Governor and General Assembly. Because the 461 Task Force was directed to examine similar issues, the Task Force agreed to make reference to the IUB study in the Matrix where appropriate.

Process for Sale Alternatives

House File 461 requested that, in the event of a sale, the Task Force comment on how a sale could best be accomplished. The legislation specifically outlined two alternative processes - Bid or Request for Proposal (RFP). Task Force members weighed the positive and negative aspects of each of those options.

A Bid process could be perceived as more fair to all potential buyers, but may not be able to properly address assurances or the legal and bonding issues. If several buyers are interested in the network, the State could maximize the total dollars received. However, if a bid process were to be selected, the State should first carefully define a set criteria for the bid and reserve the right to reject all bids.

An RFP process would allow the State to determine the value of the ICN, review the qualifications of the buyer, and determine the ability of that buyer to meet the outlined

assurances. RFPs could also allow more creativity in providing the assurances and gives the State flexibility in outlining long-term plans. However, the RFP process puts some burden on the State and must be very detailed to protect State interests.

Matrix - Option and Issue Methodology

The 461 Task Force was responsible for gathering, integrating, and analyzing a tremendous amount of information within a short time frame. The Task Force drew upon the expertise of individual Task Force members, telecommunications experts, interest groups, legal and financial counsel, and the private and public sectors. Compiling and citing the studies, surveys, summaries, and presentations reviewed by the Task Force would be cumbersome, lengthy, and difficult to read. The Task Force was intent in developing a manner of presenting the information that would make it "user-friendly."

For this reason, the 461 Task Force developed a Matrix which categorizes information in an easy-to-read, accessible format. The Matrix included in this report is an analysis of issues relating to ten different options. The Matrix allows members of the ITTC, legislators, the Governor, the public, and others to reference useful information about each option quickly. Each issue reviewed lists considerations, identifies potential constraints to an option, and provides responses to those constraints. The Task Force was very careful to incorporate all points of view into the Matrix and provide responses to each constraint presented. The Matrix will help policy makers understand that, while some options may be more difficult to implement, none are impossible.

The Task Force developed this Matrix to be a practical policy guide for the ITTC and ultimately the General Assembly. The intent was to provide policy makers with a quick reference guide on ICN issues. Any information contained in this report can be found in the Matrix, and can be supported by information in the Report Appendix or in the separate, supplemental appendix, called *Volume II: Supporting Materials*. The Task Force has provided a "Matrix User Guide" in the Matrix section to assist individuals who wish to analyze specific issues and make notes while reviewing the Matrix.

HF 461 Premise

House File 461 specifically directed the ITTC to consider options which would preserve the State's commitment to authorized users. This premise outlined in House File 461 formed the foundation of the Task Force's analysis.

House File 461 Premise

All options studied, unless noted otherwise, must contain provisions to assure the following:

- Affordable access to authorized users *(see Report Appendix for definition of affordable)*
- The availability of a well-maintained fiber optic system, and delivery of a specified bandwidth
- Completion of Part III as specified by the Iowa Legislature

Determination of Options

As mentioned earlier, the 461 Task Force determined that the two options outlined in House File 461 were not clearly defined and, depending on how they are interpreted, could contain several other alternatives within them.

To comply with its understanding of the intent of the legislation, the Task Force determined that there were a number of sale and state ownership options, and that many fell within the Iowa Code definition of *public utility*. The Task Force elected to expand the study to cover options ranging from total privatization of the network to a state-owned, state-operated public utility. Ten options were identified and reviewed in this study.

It is important to note that the HF 461 Premise (the assurances for all authorized users) applies to each option *except Option 1.* A full description of these options is contained in the Matrix - Option Description section of this report. *Please note that these options are numbered according to their position on the private-public continuum. The option numbers do not reflect any order or priority.*

Sale Options

Option 1 -- Sale of the Network (No Assurances)
The ICN would be sold to a private owner, but authorized users would not be assured affordable access to the network. Under this option, the State would not continue to provide funding for telecommunications services for authorized users and the network could be open to the general public. *This is the only option that does not meet the HF 461 Premise.*

Option 2 -- Sale of the Network (With Assurances)
The ICN would be sold to a private owner, but authorized users would be assured affordable access as outlined in the HF 461 Premise. This sale could be either state-subsidized or buyer-subsidized, and the network could be open to the general public.

Option 3 -- Sale of Excess Capacity
The State would sell excess capacity (or dark fiber) for private ownership and operation *(see Report Appendix for definition of dark fiber).* The State would retain control of its portion of the network and continue to provide the assurances outlined in the HF 461 Premise to authorized users. The sold portion of the network could be open for public use.

Public-Private Options

Option 4 -- Private-Public Ownership
The ICN would be owned and operated by a new public-private entity. This new entity could be a partnership, association, or corporation. While majority ownership of this entity is not addressed, the HF 461 Premise would be upheld and the general public could gain access to the network.

Option 5 -- State Ownership, Private Operations
The State would retain ownership of the ICN, but would lease the entire network to a private operator, who could open the network up for public use. Under this option, the private operator would assume operating risk and would pay the State for the opportunity to run the network. The State would include in the operations contract a provision which assures the HF 461 Premise.

Option 6 -- State Ownership, Private Management
The State would retain ownership of the ICN, but would contract with a private company to manage the network. The ICN would pay the private contractor for management duties, and would require that the HF 461 Premise be met. *This option would not expand the authorized user base.*

State Options

Option 7 -- Lease of Excess Capacity (No Restrictions)
The State would retain ownership and operations of the ICN, but would lease excess capacity to private operators anywhere in the state. The State would continue to meet the HF 461 Premise by operating the network separately from the leased excess capacity portion. This option could expand the user base to the general public.

Option 8 -- Lease of Excess Capacity (Restricted)
The State would retain ownership and operations of the ICN, but would lease excess capacity to private operators in areas where service is not currently available. Once service becomes available in an area, the ICN would be unable to continue the lease. This option would enforce the HF 461 Premise and could expand the authorized user base on a limited basis.

Option 9 -- State Ownership and Operations
The State would continue to own and operate the ICN in its current structure. This option would continue the State's commitment to authorized users, as outlined in the HF 461 Premise, and the authorized user base would remain unchanged.

Option 10 -- State-Owned Public Utility
The State would continue to own and operate the ICN, but would open the user base up to the general public. This option would continue to provide the HF 461 Premise, but could make the ICN subject to regulation.

The Iowa Utilities Board staff prepared a definition of *public utility* for the Task Force *(in Report Appendix),* using Iowa Code § 476.1 as a basis. For the purposes of this study, a *public utility* is *any public or private entity which furnishes an extensive range of two-way communications services to the general public for compensation.*

Under this definition, any option which provides services to the general public is a public utility, whether ownership is public or private. Seven of the options studied by the Task Force could fall into this category. Only three -- Options 6, 8, and 9 -- would keep the user base at the currently authorized level, or expand it on a restricted basis. The only option that truly guarantees the user base will be expanded to the general public is Option 10. In all other options, the owners and operators may decide to limit their customer base.

The Task Force determined that the intent of the General Assembly was to look at the opposite of a sale option, a state-owned public utility, or Option 10. Therefore, for the purposes of this report, Option 10 will be considered a public utility, although many other options could legally be viewed as such.

Option Summaries

The Task Force identified, reviewed, and analyzed the critical issues relating to each of the ten options. It was determined that, while some options may be easier to implement than others, none were impossible. The following option summaries are an effort to quickly define the option, point out constraints to implementation of that option, and suggest responses to those constraints. The summaries also highlight important impacts to authorized users, Iowa citizens, the business community, and telecommunications providers. For more detail, please review the complete Matrix and the materials provided in the Report Appendix or in the supplemental appendix, called *Volume II: Supporting Materials.*

These options are numbered according to their position on the private-public continuum. The option numbers do not reflect any order or priority.

Option 1
Sale of the Network (No Assurances)

The Iowa Communications Network (ICN) would be sold to a private owner, but the State would place no conditions on the sale and make no commitment to authorized users. This is the only option which does not meet the assurances outlined in the HF 461 Premise. Under this option, the State will not continue to provide funding for telecommunications services for authorized users and the network could be open to the general public.

The 461 Task Force identified the following legal and financial constraints that may have considerable influence on the viability of this option. The identified constraints are:

- The purchaser would need to obtain a permit and pay Iowa Department of Transportation (DOT) right-of-way fees *(the current annual fee for urban and rural use is approximately $700,000).*

- The National Guard Bureau would seek recoupment of up to $9.3 million and FEMA would seek recoupment of $3.9 million from the State. The $9.3 million and the $3.9 million are federal matching funds that were used for construction of the ICN Hub and installation of capacity at the Armories throughout the state.

- The State's right to use the ICN Hub may not be transferred or assigned to another party. The purchaser would need to relocate the ICN Hub and construct alternative facilities that meet FEMA survivability crisis standards, which would entail a substantial cost.

- If the FEMA requirements are not maintained, the State loses its emergency response and disaster recovery capabilities.

- The State may need to provide the purchaser with easements or other formal documentation of its right to access facilities housing the regional switches and county points of presence *(primarily located in community colleges, public facilities, and schools).*

- Part III leases, the maintenance contract ($2.9 million annually), and other agreements must be transferred to the private owner.

- The private owner would be subject to Iowa Utilities Board and Federal Communications Commission regulations.

- Iowa Code Chapter 8D does not currently permit sale of ICN, and would need to be amended.

- This option is prohibited before the first bond prepayment date, unless the State: (1) pays the bonds and comes within the Five-Year Safe Haven, or (2) obtains a private letter IRS ruling. The State could then relieve itself of its obligations and covenants under the bonds by escrowing sufficient funds.

The 461 Task Force sought to identify the impacts on users, existing telecommunications providers, businesses, and Iowa citizens if the Iowa Communications Network would be sold to a private entity and authorized users would not be assured affordable access and capacity to the network.

- Since the State will no longer subsidize authorized and Part III users, rates may increase making access to the network less affordable. State agencies may have to increase education and training budgets because the rates may rise. If they wish to continue using the fiber optic system, authorized users may need to negotiate their own arrangements with the private owner. These independent financial arrangements may not allow educational communications opportunities to be uniformly available throughout the state. Some rural schools and communities may not be able to access technology as easily or affordably as their urban counterparts. Telemedicine users, hospitals, and physician clinics would also be apprehensive about their ability access to fiber optic technology at the State's current rates.

- Authorized users would no longer be guaranteed access to the network. Capacity to meet their needs would most likely be available, but at current market rates.

- The Guard would discontinue upgrading, enhancing, and expanding its use of the network. The Guard would probably discontinue its specialized research and training activities if the network were to privatize and assurances not be included. If rates increase dramatically, universities and other users may no longer be competitive for grant projects and research funds.

- The State would no longer compete with the private telecommunications industry allowing all telecommunications providers on the same unsubsidized level. This option could bring new statewide competition to Iowa's telecommunications market. However, the threat of competition from a purchaser of the ICN is a concern among existing providers. If the ICN is sold for less than full value, the buyer may have a competitive advantage in the marketplace. A buyer could purchase the ICN with the intention of not using the system, thereby eliminating potential competition. On the other hand, a private enterprise not currently involved in telecommunications could purchase the system and become a new provider.

- The sale of the ICN will eliminate state subsidization. Increased competition gives customers more service choices at lower prices. Iowa businesses and citizens may be able to access private networks at current rates. However, citizens may not be able to afford distance learning, telemedicine, and other services at current market rates.

Option 2
Sale of the Network (With Assurances)

The Iowa Communications Network (ICN) would be sold to a private owner, but authorized users would be assured affordable access by reserving rates, reserving capacity, and using proceeds of the sale to invest in the cost of use or purchasing capacity at market rates. This sale could be either state-subsidized or buyer-subsidized, and the network could be open to the general public. Whatever decisions are made by the State in structuring this sale, it is critical that the sale contract be very well-defined, so that the obligations of the buyer and the State to maintain the assurances to authorized users are clear and understood.

The 461 Task Force identified the following legal and financial constraints that may have considerable influence on the viability of this option. The identified constraints are:

- The purchaser would need to obtain a permit and pay DOT right-of-way fees *(the current annual fee for urban and rural use is approximately $700,000).*
- If the State or the purchaser fails to meet the assurances to authorized users, the National Guard Bureau would seek recoupment of up to $9.3 million and FEMA would seek recoupment of $3.9 million from the State. The $9.3 million and the $3.9 million are federal matching funds that were used for construction of the ICN Hub and installation of capacity at the Armories throughout the state.
- The State's right to use the ICN Hub may not be transferred or assigned to another party. The purchaser would need to relocate the ICN Hub and construct alternative facilities that meet FEMA survivability standards, which would entail a substantial cost.
- If the FEMA requirements are not maintained, the State loses its emergency response and disaster recovery capabilities.
- The State may need to provide the purchaser with easements or other formal documentation of its right to access facilities housing the regional switches and county points of presence *(primarily located in community colleges, public facilities, and schools).*
- Part III leases, the maintenance contract ($2.9 million annually), and other agreements must be transferred to the private owner.
- The private owner would be subject to Iowa Utilities Board and Federal Communications Commission regulations.
- Iowa Code Chapter 8D does not currently permit sale of ICN, and would need to be amended.

- This option is prohibited before the first bond prepayment date, unless the State: (1) pays the bonds and comes within the Five-Year Safe Haven, or (2) obtains a private letter IRS ruling. The State could then relieve itself of its obligations and covenants under the bonds by escrowing sufficient funds.

The 461 Task Force sought to identify the impacts on users, existing telecommunications providers, businesses, and Iowa citizens if the Iowa Communications Network would be sold to a private entity and authorized users would be assured affordable access and capacity to the network.

- Authorized user rates could remain affordable and could continue to be state-subsidized. Revenues from private use could reduce state subsidies if reinvested in the network. State agencies could continue to save administrative funds and operate efficiently by using the ICN. Universities and other state government users may retain innovative grant projects and secure research funds because affordable rates are assured.

- Authorized users could be assured access to capacity sufficient to meet their current and future needs if the state specifies this in the sale contract and accurately forecasts future needs. If the State does not accurately forecast future needs, authorized users may need to compete with other users for capacity. Part III users could continue to receive priority status in scheduling classes and activities. Rural and urban hospitals would likely be treated equally in rate determination, capacity availability, and technology.

- Depending on the availability of grants under the new ownership, the Guard may discontinue upgrading, enhancing, and expanding its use of the network. However, new revenues from the expanded user base could help the private owner maintain and upgrade the system.

- If the ICN is sold for less than *value*, the buyer would have an advantage. However, the sale could put all telecommunications providers on the same unsubsidized level. This option could bring new statewide competition to Iowa's telecommunications market. However, the threat of competition from a purchaser of the ICN is a concern among existing providers.

- Iowa businesses and citizens would be able to access private networks at current market rates, and increased competition could result in more service choices at lower prices. Citizens could continue to benefit from affordable access to continuing educational opportunities, access to advanced medical treatment and diagnostics through telemedicine, increased government efficiencies, community access points in National Guard facilities and libraries, and coordinated disaster and emergency response systems. Economic development would be enhanced by allowing businesses on the network, but their rates may be increased to subsidize currently authorized user rates.

Option 3
Sale of Excess Network Capacity

The Iowa Communications Network (ICN) would sell excess capacity (or dark fiber) for private ownership and operation. The State would retain control of its portion of the network and continue to provide the assurances to authorized users. The network could be open for public use.

The 461 Task Force identified the following legal and financial constraints that may have considerable influence on the viability of this option. The identified constraints are:

- The purchaser of excess capacity would need to obtain a permit and pay DOT right-of-way fees *(the current annual fee for urban and rural use is approximately $700,000).*

- If the State fails to meet the assurances to authorized users, the National Guard Bureau would seek recoupment of up to $9.3 million and FEMA would seek recoupment for $3.9 million. The $9.3 million and the $3.9 million are federal matching funds that were used for construction of the ICN Hub and installation of capacity at the Armories throughout the state.

- If the purchaser of excess capacity needs to access or house equipment in the ICN Hub site, the ICN Hub may need to be relocated. However, the State and the purchaser of excess capacity could work out an arrangement to accommodate state personnel staffing of the ICN Hub.

- If the FEMA requirements are not maintained, the State loses its emergency response and disaster recovery capabilities.

- The State may need to provide the purchaser of excess capacity with easements or other formal documentation of its right to access facilities housing the regional switches and county points of presence *(located in community colleges, schools, universities, and other sites).*

- Part III leases, the maintenance contract ($2.9 million annually), and other agreements would remain with the State.

- The purchaser of excess capacity would be subject to Iowa Utilities Board and Federal Communications Commission regulations.

- The Legislature would need to amend Iowa Code Chapter 8D to allow private use of the network, and would likely need to amend Iowa Code Chapter 23A, which prohibits a private entity from using a tax exempt facility to compete for non-governmental users.

- The State must either be in compliance with the IRS General Public Use Exception (e.g. the State allows the general public to purchase excess capacity on an equal basis), or this option is prohibited before the first bond prepayment date, unless the State: (1) pays the bonds and comes within the Five-Year Safe Haven, or (2) obtains

a private letter IRS ruling. The State could then relieve itself of its obligations and covenants under the bonds by escrowing sufficient funds.

The 461 Task Force sought to identify the impacts on users, existing telecommunications, providers, businesses, and Iowa citizens if the State would sell excess capacity (or dark fiber) on the Iowa Communications Network for private ownership and operation and authorized users would be assured affordable access and capacity to the network.

- Authorized user rates remain affordable and continue to be state-subsidized. Revenues from private use could reduce state subsidies if reinvested in the network. State agencies could continue to save administrative funds and operate efficiently by using the ICN. Universities, independent colleges, and other state government users may retain innovative grant projects and secure research funds because affordable rates are assured.

- Authorized users would be assured access, priority status, and sufficient capacity to meet their current and future needs if it remains a state priority. Part III users would continue to receive priority status in scheduling classes and activities. Rural and urban hospitals would likely be treated equally in rate determination, capacity availability, and technology.

- The National Guard would continue upgrading, enhancing, and expanding its use of the network. Specialized research and training activities of the Guard are not negatively impacted. The Guard retains the flexibility required for future growth and development. The State preserves its model emergency response and disaster coordination capabilities.

- The State would be in direct competition with those providers who sell capacity. This competition could be deemed unfair if rates are not fully costed *(see Report Appendix for definition)*, the price of the excess capacity does not include depreciation and taxes, and the purchaser is not subject to the same regulations and responsibilities as other providers. By purchasing excess capacity, established providers could expand their services and customer base. Conversely, new providers could compete with existing providers without making initial investments. This option could increase the number of telecommunications providers, resulting in new service market opportunities.

- Depending on who purchased ICN excess capacity, Iowa businesses and citizens may be able to access the ICN at current market rates. Increased competition could result in more service choices at lower prices. Citizens could benefit from affordable access to continuing educational opportunities, access to advanced medical treatment and diagnostics through telemedicine, increased government efficiencies, community access points in National Guard facilities and libraries, and coordinated disaster and emergency response systems. Since businesses gain access to the network, Iowa's economic development efforts could be enhanced. However, Iowa's economic development efforts could be negatively impacted in the long run if the telecommunications providers suffer financial losses as a result of the option.

Option 4
Public/Private Ownership

Under this option, the Iowa Communications Network (ICN) would be owned and operated by a new entity comprised of both public and private representation. Prior to pursuing this option, the Legislature will need to resolve several structural issues, including (but certainly not limited to):

- What form should this entity take?
  This option may be a partnership, cooperative, or corporation. However, any joint ownership arrangement will need to be carefully constructed to avoid the constitutional prohibition on the State owning stock in a corporation.

- Should the State retain majority ownership in this public-private entity?
  This is an important consideration when determining asset ownership issues. If the State does not retain majority ownership in this joint entity, the conversion would be the same as a sale with assurances. In addition, the privately owned portion of this entity may be a coalition of private partners who could have competing interests. The critical consideration in this joint entity, like all quasi-public entities, is constructing an arrangement which balances public and private needs and eliminates or reduces the potential for conflict of interest. Specific descriptions of the responsibilities of each partner in this entity will be critical to the success of this option and the successful provision of the assurances.

- Should this entity be subject to the same regulations and responsibilities as other telecommunications providers?
  Currently, the ICN and ancillary facilities are exempt from Iowa Utilities Board regulation [Iowa Code §8D.13(18)]. Unless changed by the Legislature, the privately owned portion of this network would be subject to the jurisdiction of the Iowa Utilities Board and the State portion would retain its exempt status.

While the above structural issues will need to be clarified and resolved by the Legislature, the following constraints can be identified:

- This joint entity would need to obtain a permit and pay DOT right-of-way fees *(the current annual fee for urban and rural use is approximately $700,000 annually).*

- The National Guard and FEMA provided matching funds for the construction of the ICN Hub and installation of capacity at the Armories throughout the state. If the joint entity fails to provide the assurances to authorized users, the National Guard Bureau would seek recoupment for up to $9.3 million and FEMA would seek recoupment for $3.9 million.

- If the FEMA requirements are not maintained, the State loses its emergency response and disaster recovery capabilities.

- The State and the joint entity would need to work out an arrangement to accommodate only state personnel in the ICN Hub.

- The State may need to provide the joint entity with easements or other formal documentation of its right to access the facilities housing the regional switches and county points of presence *(primarily located in community colleges, public facilities, and schools).*

- Part III leases, the maintenance contract ($2.9 million annually), and other agreements must be transferred to the new entity.

- The private portion of this network may be subject to Iowa Utilities Board and Federal Communications Commission regulations.

- The Legislature would need to amend Iowa Code Chapter 8D, which prohibits private use of the network, and Iowa Code Chapter 23A, which expressly prohibits the State from competing with private enterprise.

- The State must either be in compliance with the IRS General Public Use Exception or this option would be prohibited before the first bond prepayment date, unless the State: (1) pays the bonds and comes within the Five-Year Safe Haven, or (2) obtains a private letter IRS ruling. The State could then relieve itself of its obligations and covenants under the bonds by escrowing sufficient funds.

Depending on the arrangement made, the State may continue to subsidize a portion of the network. Because this option complies with the assurances outlined for authorized users, the impact on the various user groups would not be significant. However, the impact on the telecommunications industry, the business community, and Iowa citizens is notable.

- The State may need to project the future capacity needs of authorized users in order to properly define the new entity's obligations under the assurances. Authorized users could be assured capacity sufficient to meet their current and future needs if this joint entity is able to establish a common purpose, or the State reserves the capacity and is able to accurately forecast future needs.

- If the State does not retain majority ownership in this entity, the Guard could lose a significant investment in network cards and circuitry. However, the State would continue to have a statewide emergency communications system.

- Iowa businesses and citizens would be able to access the ICN at current market rates. Properly implemented, this option could attract new business to Iowa, help existing businesses expand and become more productive, and provide new services to citizens. However, Iowa's economic development efforts could be negatively impacted in the long run if telecommunications providers suffer financial losses as a result of this option.

- Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. This option would expand the user base, placing the State in direct competition with the private telecommunications industry. This competition could be deemed unfair, unless rates are fully costed and the entity is subject to the same regulations and responsibilities as other providers.

Option 5
State Ownership & Private Operations

Under this option, the State retains ownership of the Iowa Communications Network (ICN) but leases the network to a private operator. The private operator would pay the State for the opportunity to operate the network, assume operational risks, and provide the assurances as outlined in the premise. However, it is not possible to assign all financial risk to the private operator. Ultimately, the State, as the owner, will bear the majority of the risk. This option is similar to the model used in many states for short-line railroads, where the state owns the road bed and rails, but leases it to operating companies.

Because this option allows the private operator to expand the user base, a number of legal issues could be implicated. The following constraints can be identified:

- The private operator would need to obtain a permit and pay DOT right-of-way fees *(the current annual fee for urban and rural use is approximately $700,000).*
- The National Guard and FEMA provided matching funds for the construction of the ICN Hub and installation of capacity at the Armories throughout the state. If the private operator fails to provide the assurances to authorized users, the National Guard Bureau would seek recoupment for up to $9.3 million and FEMA would seek recoupment for $3.9 million.
- It is unlikely that non-state contractors would be granted access or personnel privileges to the ICN Hub. This option would require the State and the private operator to enter into a formal agreement which allows only state personnel in the ICN Hub.
- If the FEMA requirements are not maintained, the State loses its emergency response and disaster recovery capabilities.
- The State may need to provide the private operator with easements or other formal documentation of its right to access the facilities housing the regional switches and county points of presence *(primarily located in community colleges, public facilities, and schools).*
- Part III leases, the maintenance contract ($2.9 million annually), and other agreements must be transferred to the private operator.
- Private use of the network would be subject to Iowa Utilities Board and Federal Communications Commission regulation, but the State portion would remain exempt.
- The Legislature would need to amend Iowa Code Chapter 8D, which prohibits private use of the network, and Iowa Code Chapter 23A, which expressly prohibits the State from competing with private enterprise.
- The State must either be in compliance with the IRS General Public Use Exception or this option would be prohibited before the first bond prepayment date, unless

the State: (1) pays the bonds and comes within the Five-Year Safe Haven, or (2) obtains a private letter IRS ruling. The State could then relieve itself of its obligations and covenants under the bonds by escrowing sufficient funds.

Because affordability is assured, authorized users could continue to attract innovative research projects and grant opportunities. This option is workable for the National Guard, as long as the responsibilities of each entity is explicitly outlined. Depending on the arrangements made, the State may continue to subsidize a portion of the network.

- Citizens would continue to benefit from affordable access to continuing education opportunities, access to advanced medical treatment and diagnostics through telemedicine, and a coordinated emergency response system.

- Authorized users may be apprehensive about this option if they perceive their priority status on the network becoming secondary to profit motivations. Part III and telemedicine users may continue to be concerned about their priority status in scheduling network access.

- The State may need to project the future capacity needs of authorized users in order to properly define the private operator's obligations under the assurances. Authorized users could be assured capacity sufficient to meet their needs if the State clearly defines the contractual obligations and accurately estimates future capacity needs.

- From the National Guard perspective, it is critical that the agreement be constructed so that future capacity needs are not too narrowly defined and that the Guard retain influence over its portion of the network. Access to a statewide communications system during an emergency is assured under this option. As long as this is functional, FEMA will not seek recoupment for funds invested in the system.

- Some telecommunications providers would be legally prohibited from becoming the ICN operator. Further, a private enterprise without the capital investment in a statewide fiber infrastructure could compete with existing telecommunications providers.

- This option would place the ICN in direct competition with the private sector in providing telecommunications services to the general public. In order to avoid unfair competition, rates should be fully costed, the operating contract should reflect the payment of taxes and depreciation, and the private operator should be subject to the same regulations and responsibilities as other providers.

- Iowa businesses and citizens would be able to access the ICN at current market rates. The increased competition from the ICN could result in more service choices for businesses and citizens at lower rates. Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. While the availability of a statewide fiber optic network is an economic development asset, the State's economy could be negatively impacted in the long-term if telecommunications providers suffer financial losses as a result of this option.

Option 6
State Ownership & Private Management

This option does not expand the user base and makes very few significant changes from the current structure of the ICN. The State continues to own the network and set ICN operational strategies and policies. However, the management duties of the ICN would be contracted to a private company, which would be paid by the State to manage the network. Because this option is relatively similar to the current ICN structure, there are only a few constraints to be identified.

- The DOT right-of-way fee waiver, all agreements, the maintenance contract, Part III leases, and the ICN regulatory exemptions would be unaffected by this option.

- The State and the private manager would need to work out an arrangement which allows only state personnel in the ICN Hub.

- The Legislature would need to make minor adjustments in the management provisions in the Iowa Code Chapter 8D.

- Under IRS regulations, this option would not affect the tax-exempt status of the bonds if the management contract complies with the Management Agreement Rules. If the management contract is not in compliance with these Rules, the State is prohibited from pursuing this option unless it: (1) pays the bonds and comes within the Five-Year Safe Haven, or (2) obtains a private letter IRS ruling. The State could then relieve itself of its obligations and covenants under the bonds by escrowing sufficient funds.

This option would continue to provide authorized users with affordable rates, access to ICN technology, and quality service. Since no new users are added to the system, authorized user concerns over scheduling conflicts would not be elevated. The ICN's research focus would be preserved under this option, and as long as the ICN remains a priority with the State, access to capacity sufficient to meet future needs could be assured.

- Citizens would continue to benefit from affordable access to continuing education opportunities, access to advanced medical treatment and diagnostics through telemedicine, and a coordinated emergency response system.

- From the National Guard perspective, it is critical that the management agreement be constructed so that future capacity needs are not too narrowly defined and that the Guard retain influence over its portion of the network. Access to a statewide communications system during an emergency is assured under this option.

- The ICN would continue to compete with private industry for service to authorized users. However, the authorized user base is clearly defined and the State is restricted from competing for services to the public.

- In order to avoid unfair competition for authorized users, rates should be fully costed. Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users.

Option 7
State Lease to Private Companies (Not Restricted)

The Iowa Communications Network (ICN) would continue to be owned and operated by the State, but would lease excess capacity for private operation anywhere in the state. The State could award licenses to private companies and/or the general public for the use of excess capacity. It is important to note that the State only leases excess capacity, it does not build additional fiber connections. The lessee(s) would be responsible for their connections to the network.

A number of significant constraints emerge under Option 7, but a number of areas are not significantly impacted. None of the constraints to Option 7 preclude its implementation; however, private use of the network could trigger recoupment of federal funds, payment of right of way fees, compliance with utility regulations, and meeting requirements to maintain tax exempt status.

- The private lessee(s) would need to obtain a permit and pay DOT right-of-way fees *(the current fee for rural and urban use is approximately $700,000).*

- The National Guard provided federal matching funds for the construction of the ICN Hub and installation of capacity at the Armories throughout the State. If the National Guard project is unable to proceed, recoupment may be required of up to $9.3 million.

- Existing grants, agreements, licenses, and contracts would not present barriers to this option. The FEMA agreement, maintenance contract, and Part III leases would not be affected by this option.

- Private use of the network would be subject to Iowa Utilities Board and Federal Communications Commission regulation, but the State portion remains exempt.

- The Legislature would need to amend the Iowa Code Chapter 8D to allow private lease and use of the ICN, and would likely need to amend Iowa Code Chapter 23A to allow a private entity to lease tax exempt facilities to compete for non-governmental users.

- If the State does not comply with the General Public Use exception by having the network open to all, this option is prohibited before the first bond prepayment date unless the State: 1) pays the bonds and comes within the Five-Year Safe Haven, or 2) obtains a private letter IRS ruling confirming the continuing tax exempt status. The state can then relieve itself of its obligations and covenants by escrowing sufficient funds.

Authorized user rates remain affordable and revenues from private lease(s) could be reinvested into the system to directly benefit authorized users. The user base could be expanded, which would benefit businesses and citizens. Private lessees must provide their own fiber connection to the network. There would be no significant impact on the National Guard or emergency management issues.

Leasing excess capacity has both positive and negative potentials for the private telecommunications providers.

- This option should not affect scheduling or the priority status of authorized users. Authorized users and Part III users would be assured of sufficient capacity to meet current and future needs if it remains a priority of the state.

- The network's user base would be expanded, allowing businesses and the general public access to the system. This could enhance the State's economic development efforts by attracting new business to Iowa, helping existing businesses expand and become more productive, and providing new services to citizens in a restricted environment.

- Retaining innovative grant projects and securing research funds would not be affected since affordable rates are assured.

- The ICN increases its competition level with existing telecommunications providers by expanding its user base. Artificial or subsidized rates keep other providers from entering the market and existing providers from expanding their market. This option would expand the user base, putting the State in direct competition with the private telecommunications industry. This competition could be perceived as unfair, unless rates are fully costed and the ICN is subject to the same regulations and responsibilities as other providers.

- Private telecommunications providers that lease capacity could have an unfair advantage over other providers.

Option 8
State Lease to Private Companies (Restricted)

This option would allow excess capacity on the state-owned Iowa Communications Network (ICN) to be leased for private operation on a restricted basis. The State would own and operate the ICN, but could lease excess capacity in areas of the state which do not currently have access to services. The State could award licenses to private companies for the use of excess capacity only in areas or markets where existing vendors are not capable or willing to provide the same service, and only during the time when the same service is not available from the private sector. Once service is provided by another vendor, regardless of the price, the State must discontinue service. It is important to note that the State only leases excess capacity, it does not build additional fiber connections. The lessee(s) would be responsible for their connections to the network.

A number of areas are not significantly affected by this option. Areas that would be least affected include the FEMA agreement, the status of the ICN Hub, and Part III leases. None of the following constraints preclude this option's implementation.

- The private lessee would need to obtain a permit and pay DOT right-of-way fees *(the current fee for urban and rural use is approximately $700,000).*

- The National Guard provided federal funds in the construction of the ICN Hub and installation of capacity at the Armories throughout the state. If the National Guard project is unable to proceed, recoupment may be required of up to $9.3 million.

- Existing grants, agreements, licenses, and contracts would not present barriers to this option. The maintenance contract, Part III leases, and other agreements would remain with the State.

- Private use of the network would be subject to Iowa Utilities Board and Federal Communications Commission regulation, but the State portion remains exempt.

- The Legislature would need to amend the Iowa Code Chapter 8D to allow private lease and use of the ICN, and would likely need to amend Iowa Code Chapter 23A to allow a private entity to lease tax exempt facilities to compete for non-governmental users.

- There must either be compliance with the IRS General Public Use Exception or this option is prohibited before the first bond prepayment date unless the State: 1) pays the bonds and comes within the Five-Year Safe Haven, or 2) obtains a private letter IRS ruling confirming the continuing tax exempt status. The state can then relieve itself of its obligations and covenants by escrowing sufficient funds.

Authorized user rates remain affordable and state-subsidized. In addition, revenues from private lease(s) could be reinvested into the system to directly benefit authorized users. The user base would be expanded to benefit businesses and citizens. Under this option, the State shares the risk with the private lessee(s). There would be no significant impact on the National Guard or emergency management issues.

Leasing excess capacity has both positive and negative potentials for private telecommunications providers. While the ICN would continue to compete with the private sector on a more limited basis, economic development opportunities in the communities might be expanded with a broader user base.

- This option should not affect scheduling or the priority status of authorized users. Authorized users and Part III users would be assured of sufficient capacity to meet current and future needs if it remains a priority of the state.

- Revenues from the private lease(s) could directly benefit authorized users if reinvested in the system.

- The network's user base would be expanded, allowing businesses and the general public access to the system. This could enhance the State's economic development efforts by attracting new business to Iowa, helping existing businesses expand and become more productive, and providing new services to citizens in a restricted environment.

- Retaining innovative grant projects and securing research funds would not be affected since affordable rates are assured.

- The ICN continues to compete with private providers for authorized users, but the user base is expanded without increasing the ICN's level of competition with private industry.

- Providers would encourage the State to structure lease payments to reflect the payment of taxes and depreciation the State does not pay. By fully costing rates and lease payments, unfair competition could be avoided.

- Private industry benefits from the creation of market demand in areas where service is not currently available. However, rates should be fully costed so users are prepared to pay market rates when transitioning from the ICN to private industry.

- This option may not be applicable if fiber optic services are available throughout the State.

Option 9
State Ownership & Operation (Limited)

The Iowa Communications Network (ICN) would be owned and operated by the State and the current users would be assured affordable access to a well-maintained fiber optic system. This would include completion of Part III as outlined by the Legislature, and would limit the ICN to the current user base. This option represents the ICN as it is today.

There are no constraints identified in this option, as it reflects current operations. There are no issues that would preclude or inhibit its continuation, including considerations involving right-of-way fees, current contracts, and agreements, FEMA, National Guard, emergency management, Part III leases, utility regulation, legal, or bonding.

This option represents the ICN in its current form, so the effects of this option reflect the continuation of the system as it functions today. The State would continue to directly subsidize the ICN. The State assumes the risk and provides benefits to authorized users through low rate structure. Affordable rates for use of the network are assured, so they are not an issue for federal grant projects and securing research funds. Some effects on existing telecommunications providers exist in areas of competition and access to new user groups.

- Iowans would continue to benefit from affordable access to continuing education opportunities, access to advanced medical treatment and diagnostics through telemedicine, and a coordinated emergency response system.

- Authorized users would be assured affordable access to sufficient capacity to meet current and future needs if it remains a state priority.

- Scheduling priority would be assured and continued for educational users, and telemedicine users would be assured emergency access to the system.

- Iowa's economic development efforts could be negatively impacted in the long run if telecommunications providers suffer financial losses as a result of this option. However, existing telecommunications providers view Option 9 as a positive if the State restricts access to authorized users and freezes the user base.

- The State continues to compete with the telecommunications industry for authorized users. Artificial or subsidized rates continue to keep providers from entering the market to provide telecommunications services to authorized users.

Option 10
State-Owned Public Utility

The Iowa Communications Network (ICN) would be owned and operated by the State and authorized users would be assured affordable access to a well-maintained fiber optic system. This would include completion of Part III as outlined by the Legislature, but would also open the ICN to the general public. This option would result in a state public telecommunications utility.

It is important to note that constraints raised in this option cover several very important issue areas. It is equally important to note that this option does not generate significant constraints in the issues of the National Guard, emergency management, telemedicine, state and federal government, or educational use.

Some of the identified constraints are significant determinants of whether this option could be implemented. While the constraints in and of themselves do not prohibit implementation of this option, they would require additional fees, changes in the Iowa Code, and careful compliance with federal IRS regulation. In general, the constraints fall in the areas of right of way, utilities regulation, legal, and financial.

- Private access to and use of the system, even though the State retains ownership and operation, would mean paying DOT right-of-way fees *(the current fee for urban and rural use is approximately $700,000 annually).*

- The FEMA agreement, maintenance contract, and Part III leases would not be affected by this option.

- The ICN is currently exempt from Iowa Utilities Board regulation [Iowa Code § 8D.13(18)]. The ICN's current exemption would be retained under this option. The State would need to determine whether it is appropriate for the ICN to operate outside regulation when its competitors must comply with regulatory requirements.

- The Legislature would need to amend the Iowa Code Chapter 8D to allow private use of the ICN, and would likely need to amend Iowa Code Chapter 23A to allow a private entity to lease tax exempt facilities to compete for non-governmental users.

- There must either be compliance with the IRS General Public Use Exception or this option is prohibited before the first bond prepayment date unless the State: 1) pays the bonds and comes within the Five-Year Safe Haven, or 2) obtains a private letter IRS ruling confirming the continuing tax exempt status. The state can then relieve itself of its obligations and covenants by escrowing sufficient funds.

One of the primary effects of Option 10 is the potential to open the network to additional user groups while maintaining affordable access to currently authorized groups. This means that it will be important to accurately forecast capacity needs for various user groups to ensure that sufficient capacity is reserved for them. A number of the effects of Option 10 could impact existing telecommunications providers in the state. Option 10 would continue to provide the research platform and low rate structure that attracts

innovative grant projects. While the risk would be totally assumed by the State, the State could benefit from the revenues generated by expansion of the user base.

- The general public, including businesses, could use the network.
- Authorized user rates would probably remain affordable. However, if the Legislature determines the ICN should be subject to regulation, the Iowa Utilities Board would need to approve reduced rates for authorized users.
- Revenues from expanded use of the network could benefit authorized users and reduce state subsidies if reinvested into the system.
- Access to sufficient capacity to meet current and future needs of authorized users would be assured if it remains a state priority or the state reserves the capacity and is able to accurately forecast future needs.
- Providers perceive this option as a direct threat. This option could negatively impact existing telecommunications providers by placing the State in competition with private industry. As the user base is expanded, the State increases its role as a telecommunications provider. This competition could be viewed as unfair, unless rates are fully costed and the ICN is subject to the same regulations and responsibilities as other providers.
- Economic development efforts could be enhanced by allowing businesses on the network. Both businesses and citizens could benefit from additional information and services accessed through the network.

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Matrix Guide

The 461 Task Force was asked to look at alternatives to the current Iowa Communications Network (ICN) structure, and measure the impact of these changes on currently authorized users, the telecommunications industry, and Iowans. The Task Force identified 10 options to be studied, and outlined 23 issues that were addressed under each option.

To accomplish this directive, the Task Force and staff determined that the study should be organized in a usable format, allowing access to the appropriate information quickly. This format - the Matrix - follows this section.

Matrix Description

The Matrix is actually three tables - one for the three Sale Options, one for the three Public-Private Options, and one for the four State Options. Each column (there are 10 total) in the tables represents an option. Each row (there are 23) represents a specific issue studied. Each cell in the table contains the findings of the 461 Task Force.

How to Use the Matrix

The Matrix is over 150 pages long and contains a variety of information that the Task Force analyzed from research, studies, reports, surveys, and other resources. This information was discussed and incorporated into the report where appropriate. These resources are available in the *Appendix* to this report and in the separate binder called *Volume II: Supporting Materials.*

The Matrix is organized by issue, so three tables will be included in each issue section. For example, if you wish to find out how turning the ICN into a public utility (Option 10) would affect the private telecommunications industry (Issue 19), you would look under the tabbed section called "Issue 19", and go to the third table - State Options. This table will have a column called "Option 10." The information contained in this section will give you a synopsis of the research reviewed by the task force on the impacts to the private telecommunications industry.

Please note that the Matrix Options are not numbered according to any priority. Below is a list of the three tables contained in each issue section, and the issues addressed by number. A full description of the options follows this section in "Matrix - Option Descriptions."

Tables

Sale Options *(Options 1, 2, 3)*
Private-Public Options *(Options 4, 5, 6)*
State Options *(Options 7,8,9,10)*

Issue Sections

1. Effect on Public Rights of Way
2. Effect on Existing 28E Agreements, Federal Grant Compliance, Licenses, and Contracts
3. Impact on FEMA Agreement & Emergency Response Capabilities
4. State Obligation to Users' Build-out Investments
5. ICN Hub Status
6. Status of Regional Switches and County Points of Presence
7. Status of Part III Facilities
8. Conflicts in Regulatory Compliance
9. Conflicts with State or Federal Laws
10. Effect on Status of Tax Exempt Bonds
11. Effect on State's Credit Rating & Security Pledged to Bonds
12. Impact on Currently Authorized Users
13. Impact on Ability to Access Sufficient Capacity
14. Impact on Part III Users
15. Impact on Telemedicine Users
16. Impact on State Government Users
17. Impact on National Guard Projects
18. Impact on Federal Government Users
19. Impact on Telecommunications Providers
20. Impact on Businesses and Citizens
21. Impact on Ability to Access the Internet
22. Private-Public Collaboration
23. Risk Analysis

Matrix Work Sheet

On the next page, you will find a clear plastic holder containing a Matrix Work Sheet, an oversized blank Matrix that you can use to make notes and help you visualize the study Matrix as a whole. This Work Sheet has been provided as a policy making tool to help the ITTC and other decision makers sift through the voluminous amount of information contained in this report.

Matrix -- Sale Options

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Description of Options		**Structure** • Private Ownership/Operation • Sale of entire system, including fiber and hardware **Conditions** • No conditions are placed on the sale of the network. • Educational users, state and federal government, and telemedicine users are not assured affordable access to a well-maintained fiber optic system and a specified bandwidth. • Part III is not completed. • Assumes State will not continue its commitment to subsidizing authorized users. **User Base** • Sale of network would expand the user base.	**Structure** • Private Ownership/Operation • Sale of entire system, including fiber and hardware **Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and a specified bandwidth. • Part III is completed as outlined by the Legislature. • Authorized use could be buyer subsidized or state subsidized, and access to capacity could be ensured by reserving rates, reserving capacity, using proceeds of sale to invest in cost of use, or purchasing capacity in the market at market rates. **User Base** • Sale of network would expand the user base.	**Structure** • State Ownership/Operation of current capacity • Private Ownership/Operation of excess capacity (sale of dark fiber) • State retains current level of control of hardware and capacity to support authorized users **Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and a specified bandwidth. • Part III is completed as outlined by the Legislature. **User Base** • Sale of excess capacity would expand the user base.

Matrix -- Public/Private Options

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Description of Options		**Structure** • State and Private Ownership • Options include *(but are not limited to)*: partnerships, associations, joint-stock companies, or corporation. **Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and delivery of a specified bandwidth. • Part III is completed as outlined by Legislature. **User Base** • This option would expand the user base.	**Structure** • State Ownership and Private Operations • State retains ownership of the network and leases to a private operator, who assumes the risk. • The operator pays the State to operate the network. **Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and delivery of a specified bandwidth. • Part III is completed as outlined by Legislature. **User Base** • This option would expand the user base.	**Structure** • State Ownership and Private Management • State retains ownership of the network and contracts for management duties. • The State pays a company to manage the network. **Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and delivery of a specified bandwidth. • Part III is completed as outlined by Legislature. **User Base** • This option would not expand the user base

Matrix -- State Options

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Description of Options		**Structure** • State Ownership and Operation • Excess capacity is leased for private operation. • State could award licenses to private companies for the use of excess capacity. • Private lessee(s) would be responsible for their own connections to the network. **Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and delivery of a specified bandwidth. • Part III is completed as outlined by the Legislature.	**Structure** • State Ownership and Operation • Excess capacity is leased for private operation. • State could award licenses to private companies for the use of excess capacity. • Lease is only available in areas or markets where existing vendors are not capable or willing to provide the same service. Once this same service is available in an area, the ICN must stop providing the service in that area. • Private lessee(s) would be responsible for their own connections to the network.	**Structure** • State Ownership and Operation **Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and delivery of a specified bandwidth. • Part III is completed as outlined by the Legislature. **User Base** • This option would not expand the user base.	**Structure** • State Ownership and Operation • ICN becomes a state-owned, state-operated public utility. **Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and delivery of a specified bandwidth. • Part III is completed as outlined by the Legislature. **User Base** • This option would expand the user base.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		User Base • This option would expand the user base.	**Conditions** • Educational users, state and federal government, and telemedicine users will be assured affordable access to a well-maintained fiber optic system and delivery of a specified bandwidth. • Part III is completed as outlined by the Legislature. **User Base** • This option would expand the user base.		

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
LEGAL				
1. What is the effect of this option on public rights of way?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • Public right of way issues do not present barriers to the sale of the network. • A sale would likely result in significant non-governmental use of the network. **Constraints** • This option would likely trigger DOT right of way fees for non-governmental use of the network. • The current annual fee for urban and rural freeway use is approximately $700,000. **Responses to Constraints** • The private owner would need to obtain a permit and pay DOT right of way fees for non-governmental use of the network.	**Considerations** • Public right of way issues do not present barriers to the sale of the network. • A sale would likely result in significant non-governmental use of the network. **Constraints** • This option would likely trigger DOT right of way fees for non-governmental use of the network. • The current annual fee for urban and rural freeway use is approximately $700,000. **Responses to Constraints** • The private owner would need to obtain a permit and pay DOT right of way fees for non-governmental use of the network.	**Considerations** • Public right of way issues do not present barriers to the sale of excess network capacity. • A sale of excess capacity would likely result in significant non-governmental use of the network. **Constraints** • This option would likely trigger DOT right of way fees for non-governmental use of the network. • The current annual fee for urban and rural freeway use is approximately $700,000. **Responses to Constraints** • The purchaser of excess capacity would need to obtain a permit and pay DOT right of way fees for non-governmental use of the network.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
LEGAL				
1. What is the effect of this option on public rights of way?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • Public right of way issues do not present barriers to alternate ownership of the network. • A public-private entity would likely result in significant non-governmental use of the network. **Constraints** • This option would likely trigger DOT right of way fees to the extent it results in non-governmental use of the network. • The current annual fee for urban and rural freeway use is approximately $700,000. **Response to Constraints** • The public-private entity would need to obtain a permit and pay DOT right of way fees for non-governmental use of the network.	**Considerations** • Public right of way issues do not present barriers to alternate operation of the network. • A privately operated network would likely result in significant non-governmental use of the network. **Constraints** • This option would likely trigger DOT right of way fees to the extent it results in non-governmental use of the network. • The current annual fee for urban and rural freeway use is approximately $700,000. **Response to Constraints** • The private operator would need to obtain a permit and pay DOT right of way fees for non-governmental use of the network.	**Considerations** • Public right of way issues do not present barriers to alternate management of the network. **Constraints** • Utilizing a private entity to manage the network without expanding the user base will not impact the current fee waiver.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
LEGAL					
1. What is the effect of this option on public rights of way?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • Public right of way issues do not present barriers to this option. • This option would likely result in significant non-governmental use of the network. **Constraints** • This option would likely trigger DOT right of way fees for non-governmental use of the network. • The current annual fee for urban and rural freeway use is approximately $700,000. **Responses to Constraints** • The private lessee(s) would need to obtain a permit and pay DOT right of way fees for non-governmental use of the network.	**Considerations** • Public right of way issues do not present barriers to this option. • This option would likely result in significant non-governmental use of the network. **Constraints** • This option would likely trigger DOT right of way fees for non-governmental use of the network. • The current annual fee for urban and rural freeway use is approximately $700,000. **Responses to Constraints** • The private lessee(s) would need to obtain a permit and pay DOT right of way fees for non-governmental use of the network.	**Considerations** • Public right of way issues do not present barriers to this option. • The DOT fee waiver will remain in effect for up to 26 more years if neither owners nor authorized users change. **Constraints** • This option will not trigger the DOT right of way fees as long as the user base does not expand.	**Considerations** • Public right of way issues do not present barriers to this option. • This option would likely result in significant non-governmental use of the network. **Constraints** • If the State retains ownership and removes limitations on access, the resulting private use would trigger DOT right of way fees. • The current annual fee for urban and rural freeway use is approximately $700,000. **Responses to Constraints** • The State would need to obtain a permit and pay DOT right of way fees for non-governmental use of the network.

ISSUES	Reference Materials	OPTION 1 *Sale of Network (No Assurances)*	OPTION 2 *Sale of Network (With Assurances)*	OPTION 3 *Sale of Excess Network Capacity*
LEGAL				
2. What is the effect of this option on existing 28E agreements, federal grant compliance language, licenses, and contracts currently in effect?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** Part I & II Agreements • The State's obligations under the maintenance contract with McLeod would transfer to the purchaser in the event of a sale. Current annual cost approximately $ 2,900,000. National Guard • If the ICN were sold without assurance that the National Guard project will proceed, the National Guard Bureau may seek recoupment of up to $9,323,000. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding. ITTC contractual obligation to serve federal agencies extends through June of 1996.	**Considerations** Part I & II Agreements • The State's obligations under the maintenance contract with McLeod would transfer to the purchaser in the event of a sale. Current annual cost approximately $ 2,900,000. National Guard • This option could proceed without recoupment action if Guard access remains intact allowing their project to proceed. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding. ITTC contractual obligation to serve federal agencies extends through June of 1996.	**Considerations** Part I & II Agreements • The State's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost approximately $2,900,000. National Guard • The State would continue to own and operate its portion of the network under this option. Continued state operation of the ICN would have no significant impact on the Guard agreement. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		Mercy Foundation • While the agreement does not address a sale of the network, it is likely the State's obligations under this agreement could be assigned/delegated to a purchaser, as long as the network connection and service rates are maintained through July 1997. Board of Regents • If the Board of Regents consents, this agreement for ICN use can be transferred to a successor/purchaser. Both the use and maintenance agreements include termination provisions. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale of the network, but some could trigger significant demands for recoupment. • The McLeod maintenance contract would transfer to the purchaser in the sale. ($2.9 million/year) • The National Guard Bureau may seek recoupment of up to $9,323,000.	Mercy Foundation • While the agreement does not address a sale of the network, it is likely the State's obligations under this agreement could be assigned/delegated to a purchaser, as long as the network connection and service rates are maintained through July 1997. Board of Regents • If the Board of Regents consents, this agreement for ICN use can be transferred to a successor/purchaser. Both the use and maintenance agreements include termination provisions. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale of the network, but some could trigger significant demands for recoupment. • The McLeod maintenance contract would transfer to the purchaser in the sale. ($2.9 million/year) • This option could proceed without recoupment action if Guard access remains intact allowing its project to proceed.	GSA/ICN Pilot Project • The State may sell, lease or retain ownership of those portions of the network built out with this federal funding. ITTC contractual obligation to serve federal agencies extends through June of 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreements. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale of the network, but some could trigger significant demands for recoupment. • If the Guard is unable to complete its project, the National Guard Bureau may seek recoupment of up to $9,323,000.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• The State may assign its obligations under the Mercy Foundation agreement to the purchaser, as long as the network connection and service rates are maintained through July 1997. • The State must obtain the consent of the Board of Regents before transferring its agreement to a purchaser.	• If the Guard is unable to complete its project, the National Guard Bureau may seek recoupment of up to $9,323,000. • The State may assign its obligations under the Mercy Foundation agreement to the purchaser, as long as the network connection and service rates are maintained through July 1997. • The State must obtain the consent of the Board of Regents before transferring its agreement to a purchaser.	

ISSUES	Reference Materials	OPTION 4 *Private/Public Ownership*	OPTION 5 *State Ownership Private Operations*	OPTION 6 *State Ownership Private Management*
LEGAL				
2. What is the effect of this option on existing 28E agreements, federal grant compliance language, licenses, and contracts currently in effect?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod could be shared with a private entity under this option. Current annual cost approximately $ 2,900,000. National Guard • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau would not seek recoupment of up to $9,323,000. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding.	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost approximately $ 2,900,000. National Guard • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau would not seek recoupment of up to $9,323,000. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding.	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost approximately $2,900,000. National Guard • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau would not seek recoupment of up to $9,323,000. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreements. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale or alternate ownership or management of the network, but some could trigger significant demands for recoupment. • The McLeod maintenance contract could be shared or transferred to the public/private entity. ($2.9 million/year) • If the National Guard project were unable to proceed, the National Guard Bureau may seek recoupment of up to $9,323,000.	• The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreements. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale or alternate ownership or management of the network, but some could trigger significant demands for recoupment. • If the National Guard project were unable to proceed, the National Guard Bureau may seek recoupment of up to $9,323,000.	• The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreements. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale or alternate ownership or management of the network, but some could trigger significant demands for recoupment. • If the National Guard project were unable to proceed, the National Guard Bureau may seek recoupment of up to $9,323,000.

ISSUES	Reference Materials	OPTION 7 *State Lease to Private Companies (Not Restricted)*	OPTION 8 *State Lease to Private Companies (Restricted)*	OPTION 9 *State Ownership & Operation (Limited)*	OPTION 10 *State Owned Public Utility (No Limits)*
LEGAL					
2. What is the effect of this option on existing 28E agreements, federal grant compliance language, licenses, and contracts currently in effect?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** <u>Phase I & II Agreements</u> • The state's obligations under the maintenance contract with McLeod would remain with the state under this option. Current annual cost is approx. $2,900,000. <u>National Guard</u> • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau will not seek recoupment of up to $9,323,000. <u>Star Schools</u> • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact.	**Considerations** <u>Phase I & II Agreements</u> • The state's obligations under the maintenance contract with McLeod would remain with the state under this option. Current annual cost is approx. $2,900,000. <u>National Guard</u> • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau will not seek recoupment of up to $9,323,000. <u>Star Schools</u> • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact.	**Considerations** <u>Phase I & II Agreements</u> • The state's obligations under the maintenance contract with McLeod would remain with the state under this option. Current annual cost is approx. $2,900,000. <u>National Guard</u> • Continued state operation would have no significant impact on the Guard agreement. <u>Star Schools</u> • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. <u>GSA/ICN Pilot Project</u> • The state may sell, lease, or retain ownership of those portions of the network built out with this federal funding.	**Considerations** <u>Phase I & II Agreements</u> • The state's obligations under the maintenance contract with McLeod would remain with the state under this option. Current annual cost is approx. $2,900,000. <u>National Guard</u> • Continued state operation would have no significant impact on the Guard agreement. <u>Star Schools</u> • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. <u>GSA/ICN Pilot Project</u> • The state may sell, lease, or retain ownership of those portions of the network built out with this federal funding.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		GSA/ICN Pilot Project • The state may sell, lease or retain ownership of those portions of the network built out with this federal funding. • The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreement. **Constraints** • The contracts reviewed to date would not present barriers to this option, but could trigger significant demands for recoupment.	GSA/ICN Pilot Project • The state may sell, lease or retain ownership of those portions of the network built out with this federal funding. • The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreement. **Constraints** • The contracts reviewed to date would not present barriers to this option, but could trigger significant demands for recoupment.	• The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreement. **Constraints** • The contracts reviewed to date would not present barriers to this option.	• The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreement. **Constraints** • The contracts reviewed to date would not present barriers to this option.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• If the National Guard project is unable to proceed, the National Guard Bureau may seek recoupment for up to $9,323,000.	• If the National Guard project is unable to proceed, the National Guard Bureau may seek recoupment for up to $9,323,000.		

ISSUES	Reference Materials	OPTION 1 *Sale of Network (No Assurances)*	OPTION 2 *Sale of Network (With Assurances)*	OPTION 3 *Sale of Excess Network Capacity*
LEGAL				
3. Will the terms of the FEMA agreement be fulfilled under this option? Will FEMA require reimbursement for their investment? Are there consequences to the State's emergency response activities?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • Without assurances of access to the network for emergency communications, this option would have a negative impact upon the State's emergency response capabilities and the future availability of FEMA funding. **Constraints** • It is possible FEMA will seek recoupment of $3,905,000 in matching funds used for the Armory project and ICN enhancements if the State fails to provide assurance of county emergency communication access. • Any alternative hub site, as reviewed under Issue 5, would need to meet FEMA survivable crisis standards - a substantial cost for any purchaser. **Responses to Constraints** • The State would need to reimburse FEMA for its $3,905,000 match. • The purchaser would need to relocate the ICN hub (see Issue 5), an action which would entail a substantial cost.	**Considerations** • If assurances providing access to the network for emergency communications are maintained, this option will not negatively impact the State's emergency response capabilities and the future availability of FEMA funding. **Constraints** • It is possible FEMA will seek recoupment of $3,905,000 in matching funds used for the Armory project and ICN enhancements if the State fails to provide assurance of county emergency communication access. • Any alternative hub site, as reviewed under Issue 5, would need to meet FEMA survivable crisis standards - a substantial cost for any purchaser. **Responses to Constraints** • If the State does not meet its commitment to the FEMA agreement, the State would need to reimburse FEMA for its $3,905,000 match.	**Considerations** • This option will not negatively impact the State's emergency response capabilities or the future availability of FEMA funding. **Constraints** • As long as the State provides assurance of county emergency communication access, FEMA will not seek recoupment for $3,905,000 in matching funds. • Any alternative hub site, as reviewed under Issue 5, would need to meet FEMA survivable crisis standards - at a substantial cost. **Responses to Constraints** • If the State does not meet its commitment to the FEMA agreement, the State would need to reimburse FEMA for its $3,905,000 match. • If the purchaser of excess capacity needs to access or house equipment in the ICN hub site, the hub may need to be relocated (see Issue 5).

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
			• The purchaser would need to relocate the ICN hub (see Issue 5) and assure that it meets FEMA survivability standards, a requirement which would entail a substantial cost.	• To avoid relocation, the State and the purchaser of excess capacity will need to work out an arrangement for access to the ICN hub.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
LEGAL				
3. Will the terms of the FEMA agreement be fulfilled under this option? Will FEMA require reimbursement for their investment? Are there consequences to the State's emergency response activities?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • This option will not negatively impact the State's emergency response capabilities or the future availability of FEMA funding. **Constraints** • As long as the State provides assurance of county emergency communication access, FEMA will not seek recoupment for its $3,905,000 match. • Any alternative hub site, as reviewed under Issue 5, would need to meet FEMA survivable crisis standards - a substantial cost. **Responses to Constraints** • If the State does not meet its commitment to providing county emergency response capabilities, the State would need to reimburse FEMA for its $3,905,000 match.	**Considerations** • This option will not negatively impact the State's emergency response capabilities or the future availability of FEMA funding. **Constraints** • As long as the State provides assurance of county emergency communication access, FEMA will not seek recoupment for its $3,905,000 match. • Any alternative hub site, as reviewed under Issue 5, would need to meet FEMA survivable crisis standards - a substantial cost. **Responses to Constraints** • If the State does not meet its commitment to providing county emergency response capabilities, the State would need to reimburse FEMA for its $3,905,000 match. • If the private operator needs to access or house equipment in the ICN hub site, the hub may need to be relocated (see Issue 5).	**Considerations** • This option will not negatively impact the State's emergency response capabilities or the future availability of FEMA funding. **Constraints** • As long as the State provides assurance of county emergency communication access, FEMA will not seek recoupment for its $3,905,000 match. • Any alternative hub site, as reviewed under Issue 5, would need to meet FEMA survivable crisis standards - a substantial cost. **Responses to Constraints** • If the State does not meet its commitment to providing county emergency response capabilities, the State would need to reimburse FEMA for its $3,905,000 match.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• If the private owner(s) involved in this new entity need to access or house equipment in the ICN hub site, the hub may need to be relocated (see Issue 5). • To avoid relocation, the entity and the State may need to work out an arrangement for access to the ICN hub.	• To avoid relocation, the private operator and the State may need to work out an arrangement for access to the ICN hub.	• Because the State continues to own and operate the network, this option will have minimal impact to the FEMA agreement.

ISSUES	Reference Materials	OPTION 7 *State Lease to Private Companies (Not Restricted)*	OPTION 8 *State Lease to Private Companies (Restricted)*	OPTION 9 *State Ownership & Operation (Limited)*	OPTION 10 *State Owned Public Utility (No Limits)*
LEGAL					
3. Will the terms of the FEMA agreement be fulfilled under this option? Will FEMA require reimbursement for their investment? Are there consequences to the State's emergency response activities?	Iowa Attorney General's Office Analysis *(In Report Appendix)*	**Considerations** • This option would not negatively impact the State's emergency response capabilities or the future availability of FEMA funding. **Constraints** • As long as the State provides assurance of county emergency communication access, FEMA will not seek recoupment for its $3,905,000 match. **Responses to Constraints** • Because the State continues to own and operate the network, this option will have minimal impact to the FEMA agreement.	**Considerations** • This option would not negatively impact the State's emergency response capabilities or the future availability of FEMA funding. **Constraints** • As long as the State provides assurance of county emergency communication access, FEMA will not seek recoupment for its $3,905,000 match. **Responses to Constraints** • Because the State continues to own and operate the network, this option will have minimal impact to the FEMA agreement.	**Considerations** • This option will not negatively impact the State's emergency response capabilities and the future availability of FEMA funding. **Constraints** • As long as the State provides assurance of county emergency communication access, FEMA will not seek recoupment for its $3,905,000 match. **Responses to Constraints** • Because the State continues to own and operate the network, this option will have minimal impact to the FEMA agreement.	**Considerations** • This option will not negatively impact the State's emergency response capabilities or the future availability of FEMA funding. **Constraints** • As long as the State provides assurance of county emergency communication access, FEMA will not seek recoupment for its $3,905,000 match. **Responses to Constraints** • Because the State continues to own and operate the network, this option will have minimal impact to the FEMA agreement.

ISSUES	Reference Materials	OPTION 1 *Sale of Network (No Assurances)*	OPTION 2 *Sale of Network (With Assurances)*	OPTION 3 *Sale of Excess Network Capacity*
LEGAL				
4. State law requires federal agencies, telemedicine, and National Guard federal grant programs to pay for system-wide build-out. What are the ramifications of this option on this arrangement? What is the State's obligation to provide this service in the future?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** Part I & II Agreements • The State's obligations under the maintenance contract with McLeod would transfer to the purchaser in the event of a sale. Current annual cost approximately $ 2,900,000. National Guard • If the ICN were sold without assurance that the National Guard project will proceed, the National Guard Bureau may seek recoupment of up to $9,323,000. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding. ITTC contractual obligation to serve federal agencies extends through June of 1996.	**Considerations** Part I & II Agreements • The State's obligations under the maintenance contract with McLeod would transfer to the purchaser in the event of a sale. Current annual cost approximately $ 2,900,000. National Guard • This option could proceed without recoupment action if Guard access remains intact allowing its project to proceed. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding. ITTC contractual obligation to serve federal agencies extends through June of 1996.	**Considerations** Part I & II Agreements • The State's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost approximately $2,900,000. National Guard • The State would continue to own and operate its portion of the network under this option. Continued state operation of the ICN would have no significant impact on the Guard agreement. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		Mercy Foundation • While the agreement does not address a sale of the network, it is likely the State's obligations under this agreement could be assigned/delegated to a purchaser, as long as the network connection and service rates are maintained through July 1997. Board of Regents • If the Board of Regents consents, this agreement for ICN use can be transferred to a successor/purchaser. Both the use and maintenance agreements include termination provisions. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale of the network, but some could trigger significant demands for recoupment. • The McLeod maintenance contract would transfer to the purchaser in the sale. ($2.9 million/year) • The National Guard Bureau may seek recoupment of up to $9,323,000.	Mercy Foundation • While the agreement does not address a sale of the network, it is likely the State's obligations under this agreement could be assigned/delegated to a purchaser, as long as the network connection and service rates are maintained through July 1997. Board of Regents • If the Board of Regents consents, this agreement for ICN use can be transferred to a successor/purchaser. Both the use and maintenance agreements include termination provisions. **Constraint & Responses** • The contracts reviewed to date would not present barriers to the sale of the network, but some could trigger significant demands for recoupment. • The McLeod maintenance contract would transfer to the purchaser in the sale. ($2.9 million/year) • This option could proceed without recoupment action if Guard access remains intact allowing its project to proceed.	GSA/ICN Pilot Project • The State may sell, lease or retain ownership of those portions of the network built out with this federal funding. ITTC contractual obligation to serve federal agencies extends through June of 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreements. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale of the network, but some could trigger significant demands for recoupment. • If the Guard is unable to complete its project, the National Guard Bureau may seek recoupment of up to $9,323,000.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• The State may assign its obligations under the Mercy Foundation agreement to the purchaser, as long as the network connection and service rates are maintained through July 1997. • The State must obtain the consent of the Board of Regents before transferring its agreement to a purchaser.	• If the Guard is unable to complete its project, the National Guard Bureau may seek recoupment of up to $9,323,000. • The State may assign its obligations under the Mercy Foundation agreement to the purchaser, as long as the network connection and service rates are maintained through July 1997. • The State must obtain the consent of the Board of Regents before transferring its agreement to a purchaser.	

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
LEGAL				
4. State law requires federal agencies, telemedicine, and National Guard federal grant programs to pay for system-wide build-out. What are the ramifications of this option on this arrangement? What is the State's obligation to provide this service in the future?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod could be shared with a private entity under this option. Current annual cost approximately $ 2,900,000. National Guard • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau will not seek recoupment of up to $9,323,000. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding.	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost approximately $ 2,900,000. National Guard • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau will not seek recoupment of up to $9,323,000. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding.	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost approximately $2,900,000. National Guard • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau will not seek recoupment of up to $9,323,000. Star Schools Grant • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact. GSA/ICN Pilot Project • The State may sell, lease, or retain ownership of those portions of the network built out with this federal funding.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreements. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale or alternate ownership or management of the network, but some could trigger significant demands for recoupment. • The McLeod maintenance contract could be shared or transferred to the public/private entity. ($2.9 million/year) • If the National Guard project were unable to proceed, the National Guard Bureau may seek recoupment of up to $9,323,000.	• The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreements. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale or alternate ownership or management of the network, but some could trigger significant demands for recoupment. • If the National Guard project were unable to proceed, the National Guard Bureau may seek recoupment of up to $9,323,000.	• The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreements. **Constraints & Responses** • The contracts reviewed to date would not present barriers to the sale or alternate ownership or management of the network, but some could trigger significant demands for recoupment. • If the National Guard project were unable to proceed, the National Guard Bureau may seek recoupment of up to $9,323,000.

ISSUES	Reference Materials	OPTION 7 *State Lease to Private Companies (Not Restricted)*	OPTION 8 *State Lease to Private Companies (Restricted)*	OPTION 9 *State Ownership & Operation (Limited)*	OPTION 10 *State Owned Public Utility (No Limits)*
LEGAL					
4. State law requires federal agencies, telemedicine, and National Guard federal grant programs to pay for system-wide build-out. What are the ramifications of this option on this arrangement? What is the State's obligation to provide this service in the future?	Iowa Attorney General's Office Analysis *(In Report Appendix)*	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost is approx. $2,900,000. National Guard • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau will not seek recoupment of up to $9,323,000. Star Schools • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact.	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost is approx. $2,900,000. National Guard • As long as the Guard continues to have access to the network and is able to complete its projects, the National Guard Bureau will not seek recoupment of up to $9,323,000. Star Schools • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact.	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost is approx. $2,900,000. National Guard • Continued state operation would have no significant impact on the Guard agreement. Star Schools • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact.	**Considerations** Phase I & II Agreements • The state's obligations under the maintenance contract with McLeod would remain with the State under this option. Current annual cost is approx. $2,900,000. National Guard • Continued state operation would have no significant impact on the Guard agreement. Star Schools • As long as the equipment purchased with grant funds is used to enhance distance education in the schools, the structure of ICN under this option will have no impact.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		GSA/ICN Pilot Project • The state may sell, lease, or retain ownership of those portions of the network built out with this federal funding. • The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreement. **Constraints** • The contracts reviewed to date would not present barriers to this option, but could trigger significant demands for recoupment.	GSA/ICN Pilot Project • The state may sell, lease, or retain ownership of those portions of the network built out with this federal funding. • The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreement. **Constraints** • The contracts reviewed to date would not present barriers to this option, but could trigger significant demands for recoupment.	GSA/ICN Pilot Project • The state may sell, lease, or retain ownership of those portions of the network built out with this federal funding. • The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreement. **Constraints** • The contracts reviewed to date would not present barriers to this option.	GSA/ICN Pilot Project • The state may sell, lease, or retain ownership of those portions of the network built out with this federal funding. • The ITTC's contractual obligation to serve federal agencies extends through June 1996. Mercy Foundation • This option would have minimal impact on the Mercy Foundation's grant. Board of Regents • This option would have minimal impact on the Board of Regents agreement. **Constraints** • The contracts reviewed to date would not present barriers to this option.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• If the National Guard project is unable to proceed, the National Guard Bureau may seek recoupment for up to $9,323,000.	• If the National Guard project is unable to proceed, the National Guard Bureau may seek recoupment for up to $9,323,000.		

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
LEGAL				
5. What is the status of the ICN Hub (currently housed in a federal facility)?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party. **Constraints** • The State owns equipment in the ICN hub, but not the hub itself. The State's right to use the ICN hub under a license agreement *can not be transferred without the consent of the National Guard* - consent is unlikely to be provided to a private entity.	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party. **Constraints** • The State owns equipment in the ICN hub, but not the hub itself. The State's right to use the ICN hub under a license agreement *can not be transferred without the consent of the National Guard* - consent is unlikely to be provided to a private entity.	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party. **Constraints** • The State owns equipment in the ICN hub, but not the hub itself. The State's right to use the ICN hub under a license agreement *can not be transferred without the consent of the National Guard* - consent is unlikely to be provided to a private entity.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		Responses to Constraints • The purchaser would need to relocate the ICN hub and construct alternative facilities, an action which would entail substantial cost. • The alternative hub site must meet FEMA survivable crisis standards to avoid a recoupment demand of almost $3.5 million. The cost of such an alternative site could be substantial.	**Responses to Constraints** • The purchaser would need to relocate the ICN hub and construct alternative facilities, an action which would entail substantial cost. • The alternative hub site must meet FEMA survivable crisis standards to avoid a recoupment demand of almost $3.5 million. The cost of such an alternative site could be substantial. • To avoid recoupment, the alternative hub site must be constructed according to FEMA survivability standards, a substantial cost. • If the alternative hub site does not meet FEMA survivability standards, FEMA will seek recoupment of $3,905,000 in matching funds.	**Responses to Constraints** • If the purchaser of excess capacity needs to access or house equipment in the ICN hub site, the hub may need to be relocated. • The alternative hub site must meet FEMA survivable crisis standards to avoid a recoupment demand of almost $3.5 million. The cost of such an alternative site could be substantial. • To avoid relocation of the ICN hub, the State and the purchaser of excess capacity may need to work out an arrangement for access to the hub. • To avoid recoupment, the alternative hub site must be constructed according to FEMA survivability standards, a substantial cost. • If the alternative hub site does not meet FEMA survivability standards, FEMA will seek recoupment of $3,905,000 in matching funds.

ISSUES	Reference Materials	OPTION 4 *Private/Public Ownership*	OPTION 5 *State Ownership Private Operations*	OPTION 6 *State Ownership Private Management*
LEGAL				
5. What is the status of the ICN Hub (currently housed in a federal facility)?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party. **Constraints** • Federal ownership of the ICN hub would not preclude public/private ownership.	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party. **Constraints** • Federal ownership of the ICN hub would not preclude private operation.	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party. **Constraints** • Federal ownership of the ICN hub would not preclude public/private ownership.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• However, any such option must accommodate state personnel staffing of the ICN hub. It is unlikely the Guard will permit non-state contractors to provide personnel to staff the ICN hub. **Responses to Constraints** • The State, National Guard, and the public-private entity will need to enter a formal agreement which allows only state personnel in the ICN hub.	• However, any such option must accommodate state personnel staffing of the ICN hub. It is unlikely the Guard will permit non-state contractors to provide personnel to staff the ICN hub. **Responses to Constraints** • The State, National Guard, and the private operator will need to enter a formal agreement which allows only state personnel in the ICN hub.	• However, any such option must accommodate state personnel staffing of the ICN hub. It is unlikely the Guard will permit non-state contractors to provide personnel to staff the ICN hub. **Responses to Constraints** • The State, National Guard, and the private manager will need to enter a formal agreement which allows only state personnel in the ICN hub.

ISSUES	Reference Materials	OPTION 7 *State Lease to Private Companies (Not Restricted)*	OPTION 8 *State Lease to Private Companies (Restricted)*	OPTION 9 *State Ownership & Operation (Limited)*	OPTION 10 *State Owned Public Utility (No Limits)*
LEGAL					
5. What is the status of the ICN Hub (currently housed in a federal facility)?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party.	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party.	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party.	**Considerations** • The STARC Armory is a federal facility. • The State has no ownership interest in the STARC Armory facility. Rather, the State has a right to use a portion of the building pursuant to a license agreement granted by the Secretary of the Army. • By Interagency agreement, the Military and Emergency Management Divisions of the Iowa Department of Public Defense, the Iowa Department of General Services, and the Iowa Public Broadcasting Board each utilize a portion of the Armory. • The State's right to use the Armory may not be transferred or assigned to another party.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		Constraints • The lease of excess capacity would not significantly impact the federal ownership of the ICN hub.	**Constraints** • The lease of excess capacity would not significantly impact the federal ownership of the ICN hub.	**Constraints** • Continued state ownership and operation would not significantly impact the federal ownership of the ICN hub.	**Constraints** • Continued state ownership and operation would not significantly impact the federal ownership of the ICN hub.

ISSUES	Reference Materials	OPTION 1 *Sale of Network (No Assurances)*	OPTION 2 *Sale of Network (With Assurances)*	OPTION 3 *Sale of Excess Network Capacity*
LEGAL				
6. Under this option, what is the status of and effect on the state facilities housing the regional switches and county points of presence access locations?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. • While no written agreements are in place defining state use of these facilities, the State Legislature has authority to enact legislation mandating that the community colleges, local schools, and other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network. **Constraints** • No written agreements are in place defining state use of the regional and county facilities. • A purchaser of the network may desire easements or other formal documentation of their right to access these facilities. **Responses to Constraints** • The State Legislature may enact legislation mandating community colleges, local schools, and other political subdivisions to give the ICN purchaser access to their facilities.	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. • While no written agreements are in place defining state use of these facilities, the State Legislature has authority to enact legislation mandating that the community colleges, local schools, and other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network. **Constraints** • No written agreements are in place defining state use of the regional and county facilities. • A purchaser of the network may desire easements or other formal documentation of their right to access these facilities. **Responses to Constraints** • The State Legislature may enact legislation mandating community colleges, local schools, and other political subdivisions to give the ICN purchaser access to their facilities.	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. • While no written agreements are in place defining state use of these facilities, the State Legislature has authority to enact legislation mandating that the community colleges, local schools, and other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network. **Constraints** • No written agreements are in place defining state use of the regional and county facilities. • A purchaser of the excess capacity may desire easements or other formal documentation of their right to access these facilities. **Responses to Constraints** • The State Legislature may enact legislation mandating community colleges, local schools, and other political subdivisions to give the ICN purchaser access to their facilities.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
LEGAL				
6. Under this option, what is the status of and effect on the state facilities housing the regional switches and county points of presence access locations?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. • While no written agreements are in place defining state use of these facilities, the state legislature has authority to enact legislation mandating that the community colleges, local schools, and other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network. **Constraints** • No written agreements are in place defining state use of the regional and county facilities. • This public-private partners may desire easements or other formal documentation of their right to access these facilities.	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. • While no written agreements are in place defining state use of these facilities, the state legislature has authority to enact legislation mandating that the community colleges, local schools, and other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network. **Constraints** • No written agreements are in place defining state use of the regional and county facilities. • The private operator may desire easements or other formal documentation of their right to access these facilities.	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. • While no written agreements are in place defining state use of these facilities, the state legislature has authority to enact legislation mandating that the community colleges, local schools, and other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network. **Constraints** • No written agreements are in place defining state use of the regional and county facilities. **Responses to Constraints** • The State Legislature may, if necessary, enact legislation mandating community colleges, local schools, and other political subdivisions to give the private manager access to their facilities.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		Responses to Constraints • The State Legislature may, if necessary, enact legislation mandating community colleges, local schools, and other political subdivisions to give the private-public entity access to their facilities.	**Responses to Constraints** • The State Legislature may, if necessary, enact legislation mandating community colleges, local schools, and other political subdivisions to give the private operator access to their facilities.	

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
LEGAL					
6. Under this option, what is the status of and effect on the state facilities housing the regional switches and county points of presence access locations?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. **Constraints** • The regional and county access points will not be impacted by this option because the State continues to own, operate, and maintain the network.	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. **Constraints** • The regional and county access points will not be impacted by this option because the State continues to own, operate, and maintain the network.	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. **Constraints** • The regional and county access points will not be impacted by this option because the State continues to own, operate, and maintain the network.	**Considerations** • Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. **Constraints** • The regional and county access points will not be impacted by this option because the State continues to own, operate, and maintain the network.

ISSUES	Reference Materials	OPTION 1 *Sale of Network (No Assurances)*	OPTION 2 *Sale of Network (With Assurances)*	OPTION 3 *Sale of Excess Network Capacity*
LEGAL				
7. What is the status of Part III facilities under this option?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to a sale or alternate ownership or management of the network. • A sale of the network, with or without assurances of access to authorized users, would not have an impact on the lease agreements because the State could assign the agreements to the purchaser. **Constraints** • While the State may assign the Part III contracts, the purchaser is under no obligation to accept this assignment. • Since Part III sites are not guaranteed affordability, they may no longer wish to be connected. **Responses to Constraints** • The State, in agreement with the purchaser, may assign those Part III contracts that continue to be willing to access the network.	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to a sale or alternate ownership or management of the network. • A sale of the network, with or without assurances of access to authorized users, would not have an impact on the lease agreements because the State could assign the agreements to the purchaser. **Constraints** • Sale with assurances would not affect the lease agreements because the State could assign the agreements to the purchaser. **Responses to Constraints** • The State may assign the lease agreements to the purchaser.	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to a sale or alternate ownership or management of the network. • A sale of the excess network capacity would not have an impact on the lease agreements because the State could assign the agreements to the purchaser. **Constraints** • Sale of excess capacity would not affect the lease agreements.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
LEGAL				
7. What is the status of Part III facilities under this option?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to a sale or alternate ownership or management of the network. **Constraints** • The Part III leases would not impair this option.	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to a sale or alternate ownership or management of the network. **Constraints** • The Part III leases would not impair this option.	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to a sale or alternate ownership or management of the network. **Constraints** • The Part III leases would not impair this option.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
LEGAL					
7. What is the status of Part III facilities under this option?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to this option. **Constraints** • The Part III leases would not be affected by this option.	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to this option. **Constraints** • The Part III leases would not be affected by this option.	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to this option. **Constraints** • The Part III leases would not be affected by this option.	**Considerations** • The Part III contracts include assignment provisions and should not present a significant barrier to this option. **Constraints** • The Part III leases would not be affected by this option.

ISSUES	Reference Materials	OPTION 1 *Sale of Network* *(No Assurances)*	OPTION 2 *Sale of Network* *(With Assurances)*	OPTION 3 *Sale of* *Excess Network Capacity*
LEGAL				
8. Identify any conflicts in compliance with the policies and regulations of the Iowa Utilities Board (IUB), Interstate Commerce Commission (ICC), and the Federal Communications Commission (FCC)?	Iowa Attorney General's Office Analysis *(in Report Appendix)* Iowa Utilities Board Analysis *(In Report Appendix)*	**Considerations** • A private owner of the network would be subject to the jurisdiction of the IUB and the FCC under current law, while the ICN is exempt from such regulation. • Unless changed by the State Legislature, the private owner would be subject to the IUB jurisdiction, including rate regulation if the private owner has 15,000 or more customers or 15,000 or more access lines *(Iowa Code Chapter 476)*. • Unless changed by the U.S. Congress, the private owner would be subject to FCC regulation *(Communications Act of 1934, Chapter 214)*. **Constraints** • There are no regulations at the federal or state level which preclude this option.	**Considerations** • A private owner of the network would be subject to the jurisdiction of the IUB and the FCC under current law, while the ICN is exempt from such regulation. • Unless changed by the State Legislature, the private owner would be subject to IUB regulation, including rate regulation if the private owner has 15,000 or more customers or 15,000 or more access lines *(Iowa Code Chapter 476)*. • Unless changed by the U.S. Congress, the private owner would be subject to FCC regulation *(Communications Act of 1934, Chapter 214)*. **Constraints** • The assurances may be challenged as "unreasonable preferences or advantages" under Iowa Code §476.5 and The Communications Act of 1934, Chapter 202. **Responses to Constraints** • The IUB and FCC have the discretion to determine if discounts given to authorized users are justified and reasonable.	**Considerations** • The ICN's current exemption from regulation is not conditioned upon state management and that portion of the use retained by the State will remain exempt under this option. • A private owner of the network would be subject to the regulation of the IUB and FCC under current law, while the ICN is exempt from such regulation. • Unless changed by the State Legislature, the owner of excess capacity would be subject to IUB regulation, including rate regulation if the private owner has 15,000 or more customers or 15,000 or more access lines *(Iowa Code Chapter 476)*. • Unless changed by the U.S. Congress, the private owner would be subject to FCC regulation *(Communications Act of 1934, Chapter 214)*. **Constraints** • There are no regulations at the federal or state level which preclude this option.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
			• A strong argument could be made that these discounts were given for the public good, and would therefore be justified and reasonable.	

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
LEGAL				
8. Identify any conflicts in compliance with the policies and regulations of the Iowa Utilities Board (IUB), Interstate Commerce Commission (ICC), and the Federal Communications Commission (FCC)?	Iowa Attorney General's Office Analysis *(in Report Appendix)* Iowa Utilities Board Analysis *(in Report Appendix)*	**Considerations** • To the extent that this option provides for private ownership or operation of all or a portion of the network, the private party will be subject to IUB and FCC regulations. • The ICN's current exemption from regulation is not conditioned upon state management and that portion of the use retained by the State will remain exempt under these options. **Constraints & Responses** • There are no regulations at the federal or state level that would preclude this option. • Unless changed by the State Legislature, the privately owned portion of this network would be subject to IUB jurisdiction, including rate regulation if the private owner has 15,000 or more customers and 15,000 or more access lines *(Iowa Code Chapter 476)*.	**Considerations** • To the extent that this option provides for private ownership or operation of all or a portion of the network, the private party will be subject to IUB and FCC regulations. • The ICN's current exemption from regulation is not conditioned upon state management and that portion of the use retained by the State will remain exempt under these options. **Constraints & Responses** • There are no regulations at the federal or state level that would preclude this option. • Unless changed by the State Legislature, the privately owned portion of this network would be subject to the IUB jurisdiction, including rate regulation if the private owner has 15,000 or more customers and 15,000 or more access lines *(Iowa Code Chapter 476)*.	**Considerations** • The ICN's current exemption from regulation is not conditioned upon state management and that portion of the use retained by the State will remain exempt under these options. **Constraints & Responses** • There are no regulations at the federal or state level that would preclude this option.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• Unless changed by the U.S. Congress, the privately owned portion of this network would be subject to FCC jurisdiction *(The Communications Act of 1934, Chapter 214).*	• Unless changed by the U.S. Congress, the privately owned portion of this network would be subject to the FCC jurisdiction *(The Communications Act of 1934, Chapter 214).*	

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
LEGAL					
8. Identify any conflicts in compliance with the policies and regulations of the Iowa Utilities Board (IUB), Interstate Commerce Commission (ICC), and the Federal Communications Commission (FCC)?	Iowa Attorney General's Office Analysis *(in Report Appendix)* Iowa Utilities Board Analysis *(in Report Appendix)*	**Considerations** • To the extent this option provides for private use of the network, the private lessee will be subject to IUB and FCC regulations. • The portion of the use retained by the State will remain exempt under this option. **Constraints & Responses** • There are no regulations at the federal or state level that would preclude this option. • Unless changed by the state legislature, a private lessee would be subject to IUB jurisdiction, including rate regulation if the private owner has 15,000 or more customers or 15,000 or more access lines *(Iowa Code Chapter 476).*	**Considerations** • To the extent this option provides for private use of the network, the private lessee will be subject to IUB and FCC regulations. • The portion of the use retained by the State will remain exempt under this option. **Constraints & Responses** • There are no regulations at the federal or state level that would preclude this option. • Unless changed by the state legislature, a private lessee would be subject to IUB jurisdiction, including rate regulation if the private owner has 15,000 or more customers or 15,000 or more access lines *(Iowa Code Chapter 476).*	**Considerations** • This option does not allow private use of the network, and therefore would preserve the ICN exemption. **Constraints & Responses** • There are no regulations at the federal or state level that would preclude this option.	**Considerations** • This option eliminates all restrictions on authorized use of the network. • The State would continue to receive its exemption from IUB regulation. **Constraints & Responses** • There are no regulations at the federal or state level that would preclude this option. • The Legislature would need to decide if it is appropriate for the ICN to operate outside of regulation when its competitors must comply with regulatory requirements. • The State could leave Iowa Code § 8D.13(18) as is and allow the ICN to operate outside IUB regulation, or it could amend it to place private use under IUB jurisdiction.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• Unless changed by the U.S. Congress, the private lessee would be subject to the FCC jurisdiction. *(The Communications Act of 1934, Chapter 214).*	• Unless changed by the U.S. Congress, the private lessee would be subject to FCC jurisdiction *(The Communications Act of 1934, Chapter 214).*		

ISSUES	Reference Materials	OPTION 1 *Sale of Network (No Assurances)*	OPTION 2 *Sale of Network (With Assurances)*	OPTION 3 *Sale of Excess Network Capacity*
LEGAL				
9. Are there any state or federal laws which preclude the State from pursuing this option?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Considerations** • No state or federal laws have been found which would preclude this option. **Constraints** • Iowa Code Chapter 8D would not permit the sale of the ICN. **Responses to Constraints** • The State Legislature would need to amend Iowa Code Chapter 8D.	**Considerations** • No state or federal laws have been found which would preclude this option. **Constraints** • Iowa Code Chapter 8D would not permit the sale of the ICN. **Responses to Constraints** • The State Legislature would need to amend Iowa Code Chapter 8D.	**Considerations** • No state or federal laws have been found which would preclude this option. **Constraints** • This option, which allows a private entity to use a tax exempt facility to compete for non-governmental users, may implicate the noncompetition provisions of Iowa Code Chapter 23A. • Iowa Code Chapter 8D does not permit the sale of excess capacity to private citizens and businesses. **Responses to Constraints** • The State Legislature may amend Iowa Code Chapter 23A. • The State Legislature would need to amend Iowa Code Chapter 8D.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
LEGAL				
9. Are there any state or federal laws which preclude the State from pursuing this option?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Constraints** • Iowa Code Chapter 8D would not permit this option. • This option, which allows private use of tax exempt facilities to compete for non-governmental users, may implicate the noncompetition provisions of Iowa Code Chapter 23A. • By constitutional prohibition, the State can not become a stockholder in any corporation. **Responses to Constraints** • The State Legislature would need to amend Iowa Code Chapter 8D. • The State Legislature may need to amend Iowa Code Chapter 23A. • Any joint ownership arrangement would need to be carefully structured to avoid the prohibition on the State owning stock in a corporation.	**Constraints** • Iowa Code Chapter 8D would not permit this option. • This option, which allows a private entity to use of tax exempt facilities to compete for non-governmental users, may implicate the noncompetition provisions of Iowa Code Chapter 23A. **Responses to Constraints** • The State Legislature would need to amend Iowa Code Chapter 8D. • The State Legislature may need to amend Iowa Code Chapter 23A.	**Constraints** • No state or federal laws have been found which would preclude this option. • This option does not expand the user base, so therefore will not implicate the noncompetition provisions of Iowa Code Chapter 23A. **Responses to Constraints** • The State would only need to amend ICN management provisions in the Iowa Code Chapter 8D.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
LEGAL					
9. Are there any state or federal laws which preclude the State from pursuing this option?	Iowa Attorney General's Office Analysis *(in Report Appendix)*	**Constraints** • Iowa Code Chapter 8D restricts the use of the ICN to authorized user groups. • This option, which allows a private entity to lease tax exempt facilities to compete for non-governmental users, may implicate the noncompetition provisions of Iowa Code Chapter 23A. **Responses to Constraints** • The State Legislature would need to amend the Iowa Code Chapter 8D to allow private lease and use of the ICN. • The State Legislature may need to amend Iowa Code Chapter 23A.	**Constraints** • Iowa Code Chapter 8D restricts the use of the ICN to authorized user groups. • This option, which allows a private entity to lease tax exempt facilities to compete for non-governmental users, may implicate the noncompetition provisions of Iowa Code Chapter 23A. **Responses to Constraints** • The State Legislature would need to amend the Iowa Code Chapter 8D to allow private lease and use of the ICN. • The State Legislature may need to amend Iowa Code Chapter 23A.	**Constraints** • No state or federal laws have been found which would preclude this option. • This option does not expand the user base, so therefore will not implicate the noncompetition provisions of Iowa Code Chapter 23A. **Responses to Constraints** • No Iowa Code changes likely for this option.	**Constraints** • Iowa Code Chapter 8D restricts the use of the ICN to authorized user groups. • This option, which allows a private entity to lease tax exempt facilities to compete for non-governmental users, may implicate the noncompetition provisions of Iowa Code Chapter 23A. **Responses to Constraints** • The State Legislature would need to amend the Iowa Code Chapter 8D to allow private use of the ICN. • The State Legislature would likely need to amend Iowa Code Chapter 23A.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Bonds/Credit				
10. What is the effect of this option on the status of the tax exempt bonds used to finance Parts I and II of the network? Does this option result in a violation of any provisions of the bond documents?	Bob Helmick (for Dorsey & Whitney) Analysis *(in Report Appendix)*	**Considerations** • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).* • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until their first prepayment date. • A sale or change of use of the ICN (except as a general utility) would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date. **Constraints** • The State may not sell the network unless it makes provision that interest on the bonds will remain tax exempt.	**Considerations** • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).* • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until their first prepayment date. • A sale or change of use of the ICN (except as a general utility) would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date. **Constraints** • The State may not sell the network unless it makes provision that interest on the bonds will remain tax exempt.	**Considerations** • Under IRS regulations, the sale of more than 10% of excess capacity is the same as a sale. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).* • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until the first prepayment date. • A sale of more than 10% of the excess capacity would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*

		Responses to Constraints
		• This option is prohibited before the first prepayment date, unless the State:
		  • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR
		  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
		• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date.
		Effects
		• A sale is prohibited unless the State complies with the "responses to constraints."
			Responses to Constraints
			• This option is prohibited before the first prepayment date, unless the State:
			  • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR
			  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
			• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date.
			Effects
			• A sale is prohibited unless the State complies with the "responses to constraints."
				Constraints
				• A sale of excess capacity should not affect the tax exemption, so long as the State complies with the General Public Use Exception, or sells less than 10%.
				• This option is just like a sale, unless the ICN is the vendor and the network is open to the general public on a first-come, first-serve basis (General Public Use Exception).
				Responses to Constraints
				• If the General Public Use Exception does not apply, this option is prohibited before the first prepayment date, unless the State:
				  • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR
				  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
				• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date. **Effects** • Excess capacity can be sold to the general public. • If under some circumstances there is little direct use by the general public, a sale of more than 10% excess capacity could not be made unless the State complies with the actions outlined in "responses to constraints."

ISSUES	Reference Materials	OPTION 4 *Private/Public Ownership*	OPTION 5 *State Ownership Private Operations*	OPTION 6 *State Ownership Private Management*
Bonds/Credit				
10. What is the effect of this option on the status of the tax exempt bonds used to finance Parts I and II of the network? Does this option result in a violation of any provisions of the bond document?	Bob Helmick (Dorsey & Whitney) Analysis *(in Report Appendix)*	**Considerations** • Under IRS regulations, this option would be the same as a sale. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds)*. • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until the first prepayment date. • Transfer to a private-public owner would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date.	**Considerations** • Under IRS regulations, operation by a private entity (as distinguished from a qualified management contract) would be the same as a sale. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds)*. • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until the first prepayment date. • A private operations contract would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date.	**Considerations** • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds)*. • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until their first prepayment date. • A private management contract that is not in compliance with the IRS Management Agreement Rules could result in such an adverse effect on the tax exempt status, therefore such could not be done until their first prepayment date.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*

		Constraints
		• The State may not pursue this option unless it makes provision that interest on the bonds will remain tax exempt.
		Responses to Constraints
		• This option is prohibited before the first prepayment date, unless the State:
		  • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR
		  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
			Constraints
			• The State may not pursue this option unless it makes provision that interest on the bonds will remain tax exempt.
			Responses to Constraints
			• This option is prohibited before the first prepayment date, unless the State:
			  • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR
			  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
				Constraints
				• Under IRS regulations, this option would be the same as a sale, unless there is compliance with the IRS Management Agreement Rules.
				• The management of the network by a private entity would not have an effect upon the tax exempt bonds so long as the management agreement complies with IRS regulations.
				• IRS regulations generally prohibit long-term management contracts which in effect would give the benefit of ownership to the manager. *(See Discussion Paper III for more information)*
				Responses to Constraints
				• Comply with IRS Management Agreement Rules *(see Discussion Paper III)*, OR
				• This option is prohibited before the first prepayment date, unless the State:
				  • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date. **Effects** • This option is prohibited unless the State complies with the "responses to constraints."	• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date. **Effects** • This option is prohibited unless the State complies with the "responses to constraints."	• Obtains a private letter IRS ruling confirming the continuing tax exempt status. • After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date. **Effects** • Certain management contracts can be entered into with no effect on the bonds and bond documents, but certain contracts going beyond the rule would have an adverse effect.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Bonds/Credit					
10. What is the effect of this option on the status of the tax exempt bonds used to finance Parts I and II of the network? Does this option result in a violation of any provisions of the bond documents?	Bob Helmick (for Dorsey & Whitney) Analysis *(in Report Appendix)*	**Considerations** • Selected leases to private users for purposes of tax exemption has the same effect as a sale. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).* • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until the first prepayment date.	**Considerations** • For the purposes of tax exemption, a lease of excess capacity is the same as a sale. • As the State would be eliminating a segment of the general public (those in areas already served by private utilities), such an arrangement would violate the General Public Use Exception and could affect the taxability of the bonds. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).*	**Considerations** • This option provides no change in the use of the network. The present network configuration and use complies with bond documents and IRS regulations. **Constraints** • There would be no constraints other than present arrangements. **Effects** • The legality of the bonds and compliance with their terms would not be affected .	**Considerations** • If the State desires to widen the permitted users to the network, it must do so in a manner that will not affect the tax exempt status of the bonds, or it must pay off the bonds. • If private non-exempt users are permitted so that their use is more than 10% of the ICN, that use must be the same as for members of the general public (i.e. the IRS General Public Exception must be complied with). In effect, the network would become a public utility. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• A private lease of the network would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date. **Constraints** • The leasing of excess capacity to private users as members of the general public would not affect the tax exemption if in compliance with the General Public Use Exception. *(see Discussion Paper II)* • The State must set rates for the lease. The lease may not be awarded through an auction. **Response to Constraints** • The State must comply with the General Public Use Exception by having the network open to all *(see Discussion Paper II)*, OR	• For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until their first prepayment date. • A restricted private lease would result in such an adverse effect on the tax exempt status, therefore such could not be done until their first prepayment date. **Constraints** • As the State would be eliminating a segment of the general public (those in areas already served by private utilities), such an arrangement would violate the General Public Use Exception. *(see Discussion Paper II)* **Responses to Constraints** • This option is prohibited before the first prepayment date, unless the State: • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR		• By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds)*. • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until their first prepayment date. **Constraints** • If private non-exempt users are permitted so that their use is more than 10 % of the ICN, that use must be the same as for members of the general public (i.e. IRS General Public Use Exception must be complied with). In effect, the network would be a public utility.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*

		• Unless the State complies with the General Public Use Exception, this option will be the same as a sale.
		
		• This option is prohibited before the first prepayment date, unless the State:
		
		  • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR
		
		  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
		
		• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date.
			• Obtains a private letter IRS ruling confirming the continuing tax exempt status.
			
			• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date.
			
			Effects
			
			• The legality of the bonds and compliance with their terms would not be affected, so long as the State complies with the "responses to constraints."
					Response to Constraints
					
					• The State must comply with the General Public Use Exception by having the network open to all *(see Discussion Paper II)*, OR
					
					• This option is prohibited before the first prepayment date, unless the State:
					
					  • Pays the bonds and comes within the Five-Year Safe Haven (1998), OR
					
					  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
					
					• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the bonds at the first prepayment date.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		Effects • Properly structured, the State should be able to open the network on an equal opportunity basis to all members of the general public with no effect on the tax exemption, bond documents, or security or credit ratings of the State as a general utility. • Other selective arrangements could be made, but the State would have to comply with the items above in "responses to constraints." • The legality of the bonds and compliance with their terms would not be affected, so long as the State complies with the "responses to constraints."			**Effects** • The network must be operated as a public utility consistent with the use by the General Public Use Exception.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Bonds/Credit				
11. Would the State's credit rating be adversely affected by this option? Does this option adversely affect the security or revenues pledged to the bonds?	Bob Helmick (for Dorsey & Whitney) Analysis *(In Report Appendix)*	**Constraints** • As long as the State complies with the "responses to constraints" in Issue 10, there is no effect on the security and revenues pledged to the bonds. • If the State properly executes its responses in Issue 10, there will be no effect on the State's credit rating.	**Constraints** • As long as the State complies with the "responses to constraints" in Issue 10, there is no effect on the security and revenues pledged to the bonds. • If the State properly executes its responses in Issue 10, there will be no effect on the State's credit rating.	**Constraints** • This option will not affect the security and revenues pledged to the bonds. • This option will not affect the State's credit rating.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Bonds/Credit				
11. Would the State's credit rating be adversely affected by this option? Does this option adversely affect the security or revenues pledged to the bonds?	Bob Helmick (for Dorsey & Whitney) Analysis *(in Report Appendix)*	**Considerations** • Creation of a public-private entity, and the transfer of ownership and benefits of ownership to the entity, would have the same effect as the sale of the network. • As long as the State complies with the "responses to constraints" in Issue 10, there is no effect on the security and revenues pledged to the bonds. • If the State properly executes its responses in Issue 10, there will be no effect on the State's credit rating.	**Considerations** • A lease to a private operator who assumes the risks and benefits of ownership would have the same effect as the sale of the network. • As long as the State complies with the "responses to constraints" in Issue 10, there is no effect on the security and revenues pledged to the bonds. • If the State properly executes its responses in Issue 10, there will be no effect on the State's credit rating.	**Constraints** • This option will not affect the security and revenues pledged to the bonds. • This option will not affect the State's credit rating if the State complies with the "responses to constraints" in Issue 10.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Bonds/Credit					
11. Would the State's credit rating be adversely affected by this option? Does this option adversely affect the security or revenues pledged to the bonds?	Bob Helmick (for Dorsey & Whitney) Analysis *(in Report Appendix)*	**Constraints** • The State's credit rating would not be affected. • The State's security and revenues pledged to the bonds would not be affected.	**Constraints** • The State's credit rating would not be affected. • The State's security and revenues pledged to the bonds would not be affected.	**Constraints** • The State's credit rating would not be affected. • The State's security and revenues pledged to the bonds would not be affected.	**Constraints** • The State's credit rating would not be affected, if the State complies with the "responses to constraints" listed in Issue 10. • The State's security and revenues pledged to the bonds would not be affected, if the State complies wit the "responses to constraints" listed in Issue 10.

ISSUES	Reference Materials	OPTION 1 *Sale of Network (No Assurances)*	OPTION 2 *Sale of Network (With Assurances)*	OPTION 3 *Sale of Excess Network Capacity*
Authorized Users				
12. What are the positive & negative impacts of this option on the ability of authorized users to affordably access telecommunications technology?		**Considerations** • State no longer involved in telecommunications planning for authorized users, and buyer is under no obligation to make such accommodations. • User responsible for planning and funding telecommunications activities. • ICN backbone continues to be available statewide, but use rates may not be affordable for authorized users. **Effects** • Authorized users may not able to affordably access the network. • Sale would eliminate all state funding for the system and access to the system. • Authorized users that can afford to access the network could compete with the general public for capacity (higher profit markets may receive prioritization). • Authorized users may not be able to affordably access capacity in the short term.	**Considerations** • Contract needs to be very clearly defined to ensure the State's commitment to authorized users is maintained. • State will need to specify current and project future capacity needs in order to properly define the sale contract. • Authorized user rates would be subsidized either by the State or the buyer. • Buyer subsidies may create greater user comfort, because they are not reliant on state appropriations. However, this could devalue the network and reduce buyer interest. • State may lose flexibility in responding to authorized user needs. • The private sector may be more innovative and efficient in responding to authorized user needs.	**Considerations** • State retains control over the policy and future of its portion of the ICN. • State may receive a marketplace rate of return for part of the network, which can be reinvested into the system. • State continues to be flexible in responding to authorized user needs. • Access to the network and scheduling would not conflict with new users, since private portion is operated separately. **Effects** • Authorized user rates remain affordable. • State would continue to provide funding for the system and, in some cases, access to the system. • Revenues from the sale of excess capacity could benefit authorized users, if reinvested into the system.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• Rural schools and communities may not be able to access technology as easily or affordably as their urban counterparts.	• A specified bandwidth could be set-aside by the buyer to be used and managed by the State or authorized user groups. This reservation would ensure the priority status of current users and eliminate potential scheduling conflicts with the general public. **Effects** • Authorized user rates remain affordable. • If the sale is state-subsidized, the State would fund all authorized users' access to the system, but not the system itself. • If the sale is buyer-subsidized, the State would no longer fund access to the system or the system itself. • Rural schools and communities are able to access the network as affordably as their urban counterparts.	• Rural schools and communities are able to access network as affordably as their urban counterparts.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Authorized Users				
12. What are the positive & negative impacts of this option on the ability of authorized users to affordably access telecommunications technology?		**Considerations** • State could receive a market place rate of return for part of the network, which could be reinvested into the system. • State could lose flexibility in responding to authorized user needs. • State and private interests would need to be balanced to eliminate or reduce the potential for conflict of interest. • State would need to specify current and project future capacity needs. • Scheduling and access conflicts could arise between new and authorized users. **Effects** • Authorized user rates would remain affordable.	**Considerations** • State would need to specify current and project future capacity needs. • State could lose flexibility in responding to authorized user needs. • A poor operator could devalue the state-owned system and provide poor user service. • State representation or oversight may be necessary to ensure that State goals and user needs are met. **Effects** • Authorized user rates remain affordable, but the private operations contract could eliminate the need for state funding. • Rural schools and communities are able to access the network as affordably as their urban counterparts. • Authorized users may compete with new users for capacity and in scheduling (profit centers could receive priority status).	**Considerations** • Authorized users do not benefit from revenues generated by private use of the network. • State continues to be flexible in responding to authorized user needs. • User base is not expanded, so private-public conflicts over access will not be an issue. • The network may be perceived as more efficient if managed privately. • The private manager should be selected competitively. This competition could help achieve top management efficiency and service. **Effects** • Authorized user rates remain affordable. • State would continue to provide funding for both the system and, in some cases, access to the system.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• This option could reduce reliance on state appropriations, but the State would probably continue to provide funding for the system and, in some cases, access to the system. • Revenues from private use could benefit authorized users if reinvested into the system. • Rural schools and communities are able to access the network as affordably as their urban counterparts. • Authorized users may compete with new users for capacity and in scheduling (profit centers could receive priority status).		• Rural schools and communities are able to access network as affordably as their urban counterparts.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Authorized Users					
12. What are the positive & negative impacts of this option on the ability of authorized users to affordably access telecommunications technology?		**Considerations** • State could receive a market place rate of return for part of the network, which could be reinvested into the system. • State continues to be flexible in responding to authorized user needs. • Access to the network and scheduling will not conflict with new users, since leased portion is operated separately. **Effects** • Authorized user rates remain affordable. • The State would continue to fund the system and, in some cases, access to the system. • Revenues from the private lease(s) could benefit authorized users if reinvested into the system.	**Considerations** • State could receive a market place rate of return for part of the network, which could be reinvested into the system. • State continues to be flexible in responding to authorized user needs. • Access to the network and scheduling will not conflict with new users, since leased portion is operated separately. **Effects** • Authorized user rates remain affordable. • The State would continue to fund the system and, in some cases, access to the system. • Revenues from the private lease(s) could benefit authorized users if reinvested into the system.	**Considerations** • Authorized users do not benefit from revenues generated from private use of the network. • State continues to be flexible in responding to authorized user needs. • Authorized users continue to receive priority status in scheduling access to the network. **Effects** • Authorized user rates remain affordable. • The State would continue to fund the system and, in some cases, access to the system. • Rural schools and communities are able to access the network as affordably as their urban counterparts.	**Considerations** • This option may be under regulation of the Iowa Utilities Board, who must first approve the preferential rates given to authorized users. It is likely that they will, but if they do not, authorized user rates would increase. • State would need to project future capacity needs for authorized users and all new users. • Authorized user capacity and scheduling should be separated from the rest of the network. This would prevent private use from conflicting with authorized user access, and would guarantee the priority status of authorized users. **Effects** • Authorized user rates remain affordable.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• Rural schools and communities are able to access the network as affordably as their urban counterparts. • Authorized users would continue to receive priority status in scheduling.	• Rural schools and communities are able to access the network as affordably as their urban counterparts. • Authorized users would continue to receive priority status in scheduling.	• Authorized users would continue to receive priority status in scheduling.	• If the IUB rules against preferential rates for authorized users, the State would need to meet the assurance for affordable rates in some other way (i.e. a separate appropriation). • Rural schools and communities are able to access the network as affordably as their urban counterparts. • Revenues from expanded use of the network could directly benefit authorized users if reinvested into the system. • Authorized users may no longer receive priority status in scheduling.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Authorized Users				
13. What are the positive & negative impacts of this option on the State's ability to retain long-term capacity sufficient to meet the present and future needs of authorized users?		**Considerations** • State would not be involved in retaining capacity for authorized users. • ICN backbone continues to reach into all 99 Iowa counties, but access to the technology may be cost-prohibitive. **Effects** • Authorized users would need to make their own arrangements with the private owner. These independent arrangements could address these capacity issues on an individual basis. • Authorized users would probably not be able to access capacity at current rates in the short term.	**Considerations** • The State would need to specify in the sale contract the capacity to be reserved for authorized users. This may or may not include growth factors. • State will need to specify current and project future capacity needs in order to properly define the sale contract. **Effects** • Authorized users could be assured access to capacity sufficient to meet their current and future needs *if the State specifies this in the sale contract and is able to accurately forecast future needs.*	**Considerations** • The State retains control of the network hardware and therefore has the option to continue the expansion of capacity for authorized users. • Future capacity of authorized users can be met by the State under this option. • Revenues generated from sale could be used to improve the capacity and technology of the state-owned portion of the network. **Effects** • Authorized users would be assured access to capacity sufficient to meet their current and future needs *if it remains a state priority.*

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Authorized Users				
13. What are the positive & negative impacts of this option on the state's ability to retain long-term capacity sufficient to meet the present and future needs of authorized users?		**Considerations** • The new entity's charter needs to address reserved capacity for authorized users. • If capacity is not reserved, authorized users may compete with new users for capacity on the network. • The State would need to project future capacity needs in order to properly define the new entity's obligations. Current capacity needs can be measured. • Without a common purpose, the State and private industry could be in conflict, making authorized user access to sufficient capacity difficult. **Effects** • Authorized users would be assured access to capacity sufficient to meet their current and future needs *if the entity establishes a common purpose, or the State reserves the capacity and is able to accurately forecast future needs.*	**Considerations** • The operations contract should address reserved capacity for authorized users. • If capacity is not reserved, authorized users may compete with new users for capacity on the network. • The State would need to project future capacity needs in order to properly define the operations contract. Current capacity needs can be measured. • This option allows the State to set the policy concerning service to ICN users. **Effects** • Authorized users would be assured access to capacity sufficient to meet their current and future needs *if the State reserves the capacity in the contractual agreement and is able to accurately forecast future needs.*	**Considerations** • Because it retains control of the network hardware, the State has the option to continue expanding capacity for authorized users. • The State would have the ability to meet the present and future needs of authorized users through additional investment in the ICN. • Because this option does not expand the user base, authorized user groups would not compete with new users for capacity on the system. • This option addresses management. The real issue is not administrative costs, but rather the underlying costs of the infrastructure which are not met by the current fee structure. **Effects** • Authorized users would be assured access to capacity sufficient to meet their current and future needs *if it remains a state priority.*

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Authorized Users					
13. What are the positive & negative impacts of this option on the state's ability to retain long-term capacity sufficient to meet the present and future needs of authorized users?		**Considerations** • Because it retains control of the network hardware, the State has the option to continue expanding capacity for authorized users. • The State will be able to retain long-term capacity sufficient to meet the present and future needs of authorized users. • Revenues generated from private leases could be used to expand capacity and improve the technology of the network. • Authorized users would not have to compete with the lessee(s) for capacity. **Effects** • Autho rized users would be assured access to capacity sufficient to meet current and future needs *if it remains a state priority.*	**Considerations** • Because it retains control of the network hardware, the State has the option to continue expanding capacity for authorized users. • The State will be able to retain long-term capacity sufficient to meet the present and future needs of authorized users. • Revenues generated from private leases could be used to expand capacity and improve the technology of the network. • Authorized users would not have to compete with the lessee(s) for capacity. **Effects** • Authorized users would be assured access to capacity sufficient to meet current and future needs *if it remains a state priority.*	**Considerations** • Because it retains control of the network hardware, the State has the option to continue expanding capacity for authorized users. • The State will be able to retain long-term capacity sufficient to meet the present and future needs of authorized users. • Because this option does not expand the user base, authorized users would not have to compete with other users for capacity. • The State may not be willing to invest in technology upgrades. **Effects** • Authorized users would be assured access to capacity sufficient to meet current and future needs *if it remains a state priority.*	**Considerations** • Because it retains control of the network hardware, the State has the option to continue expanding capacity for authorized users. • The State will be able to retain long-term capacity sufficient to meet the present and future needs of authorized users. • Revenues generated from private leases could be used to expand capacity and improve the technology of the network. • If capacity is not reserved, authorized users may compete with the new users for capacity on the network. • To reserve capacity, the State would need to project future capacity needs .

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
					Effects • Authorized users would be assured access to capacity sufficient to meet current and future needs *if it remains a state priority or the State reserves the capacity and is able to accurately forecast future needs.*

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Authorized Users				
14. What are the positive & negative impacts of this option on Part III users, particularly as it relates to rates, research, capacity and scheduling?		**Considerations** • State would no longer be involved in funding or providing educational telecommunications. • Part III users could work directly with the private owner to access the network. • Part III users would need to make their own telecommunications arrangements with the private owner or another provider. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State no longer subsidizes Part III users, so rates would probably increase. Therefore, Part III users may not be able to affordably access the network. • Part III is not completed by the State. • While fiber backbone extends to all 99 counties, there could be a disparity between rural and urban ease and affordability of access.	**Considerations** • If the sale is state-subsidized, Part III users would continue to depend on the state appropriations process. • State may lose flexibility in responding to the needs of Part III users. • The State needs to clearly define its commitment to Part III users in the sale contract. This includes subsidization level, capacity reserve, and completion of Part III. • If the State does not accurately forecast future Part III needs and specify them in the sale contract, Part III users may not have access to the capacity necessary for future needs. • As a new user, Part III's demand for capacity now and in the future will be difficult to determine. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. • Part III users may no longer be a priority on the network.	**Considerations** • Part III users would probably continue to depend on the state appropriations process. • Revenues from the sale of excess capacity could benefit Part III users if reinvested in the network. • State continues to be flexible in responding to the needs of Part III users. • Part III access to the network and scheduling will not conflict with new users, since private portion is operated separately. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • Part III use remains affordable and continues to be state-subsidized. • Rural schools are able to access the network as affordably as their urban counterparts.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• Part III access and scheduling could conflict with other users and Part III users may no longer be a priority on the private network. • Part III users that can afford to access the network may compete with the general public for access (profit centers could receive priority status).	**Effects** • Part III use remains affordable and continues to be subsidized. • Rural schools are able to access the network as affordably as their urban counterparts. • The State continues to provide equal educational communications opportunities to all Iowans, regardless of their rural or urban location. • If the State does not accurately forecast future needs, Part III users may be forced to compete with other authorized users for capacity. • Unless the State operates the reserved capacity separately from the private network, Part III access and scheduling may conflict with new users.	• Because Part III users would continue to receive priority status, scheduling classes and activities would not be affected.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Authorized Users				
14. What are the positive & negative impacts of this option on Part III users, particularly as it relates to rates, research, capacity and scheduling?		**Considerations** • Part III users may continue to depend on the state appropriations process. • Revenues generated from private use of the network could benefit Part III users if reinvested in the system. • State may lose flexibility in responding to the needs of Part III users. • Part III user needs may be overlooked if careful consideration is not given to the balance of public-private interests within this new entity. • This option may take away local and regional control of Part III scheduling. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects.	**Considerations** • Part III users may continue to depend on the state appropriations process. • State would need to specify current and project future Part III needs, which is difficult because they are new users. • State may lose flexibility in responding to the needs of Part III users. • A poor operator could devalue the state-owned system and provide poor service to Part III users. • This option may take away local and regional control of Part III scheduling. • State oversight could help ensure that Part III user needs are met. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects.	**Considerations** • Part III users would continue to depend on state appropriations process. • State continues to be flexible in responding to Part III user needs. • This option may restructure Part III scheduling and could take away local and regional control. • User base is not expanded, so Part III users will not have to compete with other users for access to the network. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • Part III user rates remain affordable and continue to be state-subsidized. • Rural schools are able to access the network as affordably as their urban counterparts.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		Effects • Part III user rates remain affordable, and could continue to be state-subsidized. • Rural schools are able to access the network as affordably as their urban counterparts. • Part III users may compete with new users for access to the network (profit centers could receive priority status). • Part III scheduling could become competitive on first-come, first-serve basis.	**Effects** • Part III user rates remain affordable, but may no longer be state-subsidized, • Private operations contract could reduce or eliminate state subsidies for Part III user rates. • Rural schools are able to access the network as affordably as their urban counterparts. • Part III users may compete with new users for access to the network (profit centers could receive priority status). • Part III users may be concerned that their needs are secondary to profit motivations. • Part III scheduling could become competitive on first-come, first-serve basis.	• Part III scheduling would probably not be affected.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Authorized Users					
14. What are the positive & negative impacts of this option on Part III users, particularly as it relates to rates, research, capacity and scheduling?		**Considerations** • Part III users continue to depend on the state appropriations process. • Revenues from private lease could benefit Part III users if reinvested into the system. • State continues to be flexible in responding to Part III user needs. • Part III users continue to receive priority status in scheduling access to the network. • Access to the network and scheduling will not conflict with new users, since leased portion is operated independently. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects.	**Considerations** • Part III users continue to depend on the state appropriations process. • Revenues from private lease could benefit Part III users if reinvested into the system. • State continues to be flexible in responding to Part III user needs. • Part III users continue to receive priority status in scheduling access to the network. • Access to the network and scheduling will not conflict with new users, since leased portion is operated independently. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects.	**Considerations** • Part III users continue to depend on the state appropriations process. • State continues to be flexible in responding to Part III user needs. • Part III users continue to receive priority status in scheduling access to the network. • User base is not expanded, so Part III users will not have to compete with other users in scheduling. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • Part III user rates remain affordable and continue to be state-subsidized.	**Considerations** • Part III users may no longer depend on the state appropriations process. • Revenues from private lease could benefit Part III users if reinvested into the system. • State may continue to be flexible in responding to Part III user needs. • If the Iowa Utilities Board refuses to allow preferential treatment to Part III users, rates could increase. • State would need to project the future capacity needs of Part III users. • As a new user, Part III's demand for capacity now and in the future will be difficult to determine.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		Effects • Part III user rates remain affordable and continue to be state-subsidized. • Rural schools are able to access the network as affordably as their urban counterparts. • Part III scheduling would not be affected.	**Effects** • Part III user rates remain affordable and continue to be state-subsidized. • Rural schools are able to access the network as affordably as their urban counterparts. • Part III scheduling would not be affected.	• Rural schools are able to access the network as affordably as their urban counterparts. • Part III scheduling would not be affected.	• Part III users could retain priority scheduling status, if capacity is operated separately. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • Part III user rates remain affordable. • If the IUB rules against the preferential rates for Part III users, the State would need to meet assurances in another way (i.e. additional appropriation). • Rural schools are able to access the network as affordably as their urban counterparts. • If scheduling and capacity is separated from general public use, Part III scheduling could be unaffected.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Authorized Users				
15. What are the positive & negative impacts of this option on telemedicine users?		**Considerations** • Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. **Effects** <u>Usage Rates</u> • Hospitals and physician clinics may not be assured access to fiber optic technology at the current rates. <u>Capacity</u> • Telemedicine users may not have access to adequate ICN capacity to meet future needs. • As users become more experienced with telemedicine, the need for capacity will increase greatly. • As HCFA and the insurance industry improve reimbursement policies for telemedicine services, fiber optic technology use will increase and sufficient capacity may not be available.	**Considerations** • Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. **Effects** <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the private network at the current rates. • The State may need to define *affordable* in the sale contract, and that definition may differ from the telemedicine user's perception of affordable. <u>Capacity</u> • Telemedicine users may not have access to adequate ICN capacity to meet future needs. • As users become more experienced with telemedicine, the need for capacity will increase greatly.	**Considerations** • Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. **Effects** <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the ICN at current rates. <u>Capacity</u> • Telemedicine users would probably have access to adequate ICN capacity to meet future needs. • As users become more experienced with telemedicine, the need for capacity will increase greatly. • As HCFA and the insurance industry improve reimbursement policies for telemedicine services, fiber optic technology use will increase and sufficient capacity may not be available.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		Emergency Access • Telemedicine users may not have the ability to instantly access the network *(an ability which is critical during emergencies)*. Equity of Access • Rural hospitals and clinics would probably not be treated equally in rate determination, capacity availability, and technology. Research Focus • Research focus is uncertain. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. Network Coordination • ICN could be operated, scheduled, and maintained by separate entities. • There could be confusion over who is responsible for the various aspects of the network.	• As HCFA and the insurance industry improve reimbursement policies for telemedicine services, fiber optic technology use will increase and sufficient capacity may not be available. Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies)*. Equity of Access • Rural and urban hospitals and clinics alike would probably be treated equally in rate determination, capacity availability, and technology. Research Focus • Research focus is uncertain. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. Network Coordination • ICN could be operated, scheduled, and maintained by separate entities.	• As HCFA and the insurance industry improve reimbursement policies for telemedicine services, fiber optic technology use will increase and sufficient capacity may not be available. Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies)*. Equity of Access • Rural and urban hospitals and clinics alike would probably be treated equally in rate determination, capacity availability, and technology. Research Focus • Research focus is probably maintained. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. Network Coordination • ICN would be operated, scheduled, and maintained by a single entity.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• The ICN has been unique in that telemedicine users found it necessary to cooperate in the development of uniform standards and protocols, and all users are using the same technology. This cooperation could disintegrate and result in the development of a number of smaller, proprietary networks which may not be accessible to all potential users. Involvement in Political Process • Telemedicine users are removed from the political environment. Confidentiality Assurance • Medical records and consultations carried over fiber are confidential. State may need to establish regulations or laws pertaining to telemedicine confidentiality.	• There could be confusion over who is responsible for the various aspects of the network. • The ICN has been unique in that telemedicine users found it necessary to cooperate in the development of uniform standards and protocols, and all users are using the same technology. This cooperation could disintegrate and result in the development of a number of smaller, proprietary networks which may not be accessible to all potential users. Involvement in Political Process • Telemedicine users may no longer depend on the State for capacity and rate decisions, removing them from the political environment. Confidentiality Assurance • Medical records and consultations carried over fiber are confidential. State may need to establish regulations or laws pertaining to telemedicine confidentiality.	• There would be no confusion over who is responsible for the various aspects of the network. Involvement in Political Process • Telemedicine users depend on the State for capacity and rate decisions, and continue to be in the political environment. Confidentiality Assurance • Medical records and consultations carried over fiber are confidential. State may need to establish regulations or laws pertaining to telemedicine confidentiality.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Authorized Users				
15. What are the positive & negative impacts of this option on telemedicine users?		**Considerations** Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. **Effects** <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the ICN at current rates. <u>Capacity</u> • Access to capacity sufficient to meet future telemedicine needs is uncertain. • As users become more experienced with telemedicine, the need for capacity will increase greatly. • As HCFA and the insurance industry improve reimbursement policies for telemedicine services, fiber optic technology use will increase and sufficient capacity may not be available.	**Considerations** Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. **Effects** <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the ICN at current rates. <u>Capacity</u> • Access to capacity sufficient to meet future telemedicine needs is uncertain. • As users become more experienced with telemedicine, the need for capacity will increase greatly. • As HCFA and the insurance industry improve reimbursement policies for telemedicine services, fiber optic technology use will increase and sufficient capacity may not be available.	**Considerations** Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. **Effects** <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the ICN at current rates. <u>Capacity</u> • Access to capacity sufficient to meet future telemedicine needs is uncertain. • As users become more experienced with telemedicine, the need for capacity will increase greatly. • As HCFA and the insurance industry improve reimbursement policies for telemedicine services, fiber optic technology use will increase and sufficient capacity may not be available.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies).* Equity of Access • Rural and urban hospitals and clinics alike would probably be treated equally in rate determination, capacity availability, and technology. Research Focus • The ICN's research focus would probably be maintained. • Private-public partnerships attract grant funds, maintaining Iowa's status as a test bed for new research. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's low rates make it an attractive conduit for these innovative projects. Network Coordination • ICN would probably be operated, scheduled, and maintained by a single entity.	Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies).* Equity of Access • Rural and urban hospitals and clinics would probably be treated equally in rate determination, capacity, availability, and technology. Research Focus • The ICN's research focus would probably be maintained. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects Network Coordination • ICN would be operated, scheduled, and maintained by a single entity. • There would be no confusion over who is responsible for the various aspects of the network.	Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies).* Equity of Access • Rural and urban hospitals and clinics alike would probably be treated equally in rate determination, capacity availability, and technology. Research Focus • The ICN's research focus would probably be maintained. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. Network Coordination • ICN would be operated, scheduled, and maintained by a single entity. • There would be no confusion over who is responsible for the various aspects of the network.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• There would be no confusion over who is responsible for the various aspects of the network. <u>Involvement in Political Process</u> • Telemedicine users depend on the State for capacity and rate decisions, and continue to be in the political environment. <u>Confidentiality Assurance</u> • Medical records and consultations carried over fiber are confidential. State may need to establish regulations or laws pertaining to telemedicine confidentiality.	<u>Involvement in Political Process</u> • Telemedicine users depend on the State for capacity and rate decisions, and continue to be in the political environment. <u>Confidentiality Assurance</u> • Medical records and consultations carried over fiber are confidential. State may need to establish regulations or laws pertaining to telemedicine confidentiality.	<u>Involvement in Political Process</u> • Telemedicine users depend on the State for capacity and rate decisions, and continue to be in the political environment. <u>Confidentiality Assurance</u> • Medical records and consultations carried over fiber are confidential. The State may need to establish regulations or laws pertaining to telemedicine confidentiality.

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Authorized Users					
15. What are the positive & negative impacts of this option on telemedicine users?		**Considerations** Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the ICN at current rates. <u>Capacity</u> • Access to ICN capacity sufficient to meet future needs is uncertain. • As telemedicine users become more experienced with telemedicine, the need for capacity will increase greatly.	**Considerations** Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the ICN at current rates. <u>Capacity</u> • Access to ICN capacity sufficient to meet future needs is uncertain. • As telemedicine users become more experienced with telemedicine, the need for capacity will increase greatly.	**Considerations** Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the ICN at current rates. <u>Capacity</u> • Access to ICN capacity sufficient to meet future needs is uncertain. • As telemedicine users become more experienced with telemedicine, the need for capacity will increase greatly.	**Considerations** Current and potential telemedicine users identify eight critical factors in their use of fiber optic technology. The status of these factors under this option is analyzed below. <u>Usage Rates</u> • Hospitals and physician clinics may be assured access to the ICN at current rates. <u>Capacity</u> • Access to ICN capacity sufficient to meet future needs is uncertain. • As telemedicine users become more experienced with telemedicine, the need for capacity will increase greatly.

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		• As HCFA and the insurance industry improve telemedicine reimbursement policies, fiber optic technology use will increase and sufficient capacity may not be available. Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies).* Equity of Access • Rural and urban hospitals and clinics alike would probably be treated equally in rate determination, capacity availability, and technology. Research Focus • Research focus would probably be maintained.	• As HCFA and the insurance industry improve telemedicine reimbursement policies, fiber optic technology use will increase and sufficient capacity may not be available. Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies).* Equity of Access • Rural and urban hospitals and clinics alike would probably be treated equally in rate determination, capacity availability, and technology. Research Focus • Research focus would probably be maintained.	• As HCFA and the insurance industry improve telemedicine reimbursement policies, fiber optic technology use will increase and sufficient capacity may not be available. Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies).* Equity of Access • Rural and urban hospitals and clinics alike would probably be treated equally in rate determination, capacity availability, and technology. Research Focus • Research focus would probably be maintained.	• As HCFA and the insurance industry improve telemedicine reimbursement policies, fiber optic technology use will increase and sufficient capacity may not be available. Emergency Access • Telemedicine users would retain the ability to instantly access the network *(an ability which is critical during emergencies).* Equity of Access • Rural and urban hospitals and clinics alike would probably be treated equally in rate determination, capacity availability, and technology. Research Focus • Research focus would probably be maintained.

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		• Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. <u>Network Coordination</u> • ICN would be operated, scheduled, and maintained by a single entity. • There would be no confusion over who is responsible for the various aspects of the network. <u>Involvement in Political Process</u> • Telemedicine users depend on the State for rate and capacity decisions, and continue to be in the political environment.	• Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. <u>Network Coordination</u> • ICN would be operated, scheduled, and maintained by a single entity. • There would be no confusion over who is responsible for the various aspects of the network. <u>Involvement in Political Process</u> • Telemedicine users depend on the State for rate and capacity decisions, and continue to be in the political environment.	• Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. <u>Network Coordination</u> • ICN would be operated, scheduled, and maintained by a single entity. • There would be no confusion over who is responsible for the various aspects of the network. <u>Involvement in Political Process</u> • Telemedicine users depend on the State for rate and capacity decisions, and continue to be in the political environment.	• Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. <u>Network Coordination</u> • ICN would be operated, scheduled, and maintained by a single entity. • There would be no confusion over who is responsible for the various aspects of the network. <u>Involvement in Political Process</u> • Telemedicine users depend on the State for rate and capacity decisions, and continue to be in the political environment.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		Confidentiality Assurance • Medical records and consultations carried over fiber are confidential. The State may need to establish regulations or laws pertaining to confidentiality in telemedicine.	Confidentiality Assurance • Medical records and consultations carried over fiber are confidential. The State may need to establish regulations or laws pertaining to confidentiality in telemedicine.	Confidentiality Assurance • Medical records and consultations carried over fiber are confidential. This option probably preserves confidentiality.	Confidentiality Assurance • Medical records and consultations carried over fiber are confidential. This option probably preserves confidentiality.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Authorized Users				
16. What are the positive & negative impacts of this option on state government users, particularly as it relates to rates, research, capacity, and scheduling?		**Considerations** • State agencies would need to work directly with private owner to access the network, or make other arrangements. • State agencies could negotiate rates for service with the private owner, or other providers. • Because of size or other characteristics, some state agencies may be left out of special rate or access arrangements. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State government use of the network no longer subsidized. • State agencies could lose their low-cost voice and data transmission service. • State agencies would probably not be able to access the network at current rates.	**Considerations** • If the sale is state-subsidized, state government users would continue to depend on state funding. • State may lose flexibility in responding to state agency user needs. • State will need to specify the current and project the future capacity needs in order to properly define the sale contract. • If the State does not accurately forecast state government user needs and specify them in the sale contract, state government users may not have access to the capacity necessary to meet future needs. • Capacity for state agency use for video, voice, and data services could be reserved at the current rates in the sale contract. • A specified bandwidth could be set-aside by the buyer to be used and managed by the State. This reservation could ensure the priority status of state government users and eliminate potential scheduling conflicts with the general public.	**Considerations** • Revenues from the sale of excess capacity could benefit state government users if reinvested into the system. • State continues to be flexible in responding to state government user needs. • State government access to the network and scheduling will not conflict with new users, since private portion is operated separately. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State agency user rates remain affordable and continue to be subsidized. • State agencies would retain current low-cost voice and data transmission services, and may continue to access the ICN at current rates.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• State agencies may have to increase education and training budgets. • State government access and scheduling could conflict with other users, and state government users may no longer be a priority on the private network. • Because the current rate structures are no longer assured, universities, independent colleges, and other state government users may lose innovative grant projects and research funds.	• Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State agency user rates remain affordable and continue to be subsidized. • State agencies could retain current low-cost voice and data transmission services, and may continue to access the private network at current rates. • State agencies could continue to operate efficiently by the ICN. • If the State does not accurately forecast future needs, state government users may be forced to compete with other authorized users for capacity and access to the private network. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.	• State agencies could continue to operate efficiently by using the ICN. • State government would continue to receive priority status in scheduling network use. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Authorized Users				
16. What are the positive & negative impacts of this option on state government users, particularly as it relates to rates, research, capacity, and scheduling?		**Considerations** • State government users continue to depend on state appropriations process. • Revenues from private use could benefit state government users if reinvested in the system. • State may lose flexibility in responding to the needs of state government users. • State government user needs may be overlooked if careful consideration is not given to balancing public-private interests. • State may need to specify current and projected capacity needs. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State agency user rates remain affordable and continue to be state-subsidized.	**Considerations** • State government users continue to depend on state appropriations process. • Revenues from private use could benefit state government users if reinvested in the system. • State could lose flexibility in responding to state government needs. • State would need to specify current and projected state government needs. • A poor operator could devalue the state-owned system, and provide poor service to state government users. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State agency user rates remain affordable, but may no longer be state-subsidized.	**Considerations** • State government users continue to depend on state appropriations process. • State continues to be flexible in responding to state government user needs. • User base is not expanded, so state government users will not have to compete with other users for access and scheduling. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State government user rates remain affordable and continue to be state-subsidized. • State agencies could retain current low-cost voice and data transmission services, and may continue to access the ICN at current rates.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• State agencies could retain current low-cost voice and data transmission services, and continue to access the ICN at current rates. • Unless reserved or operated separately, scheduling and access conflicts could occur between new and state government users. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.	• The private operations contract could eliminate state subsidies for state government use. • State agencies could retain current low-cost voice and data transmission services, and may continue to access the ICN at current rates. • State government users may be concerned that their needs are secondary to profit motivations. • Unless reserved or operated separately, scheduling and access conflicts could occur between new and state government users. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.	• State government users continue to receive priority status in scheduling network use, so scheduing would probably not be affected. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.

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Authorized Users					
16. What are the positive & negative impacts of this option on state government users, particularly as it relates to rates, research, capacity, and scheduling?		**Considerations** • State government users continue to depend on state funding. • Private revenues may benefit state government users if reinvested into the system. • State continues to be flexible in responding to state government user needs. • State government users will continue to have priority scheduling status. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State government user rates remain affordable and continue to be state-subsidized.	**Considerations** • State government users continue to depend on state funding. • Private revenues may benefit state government users if reinvested into the system. • State continues to be flexible in responding to state government user needs. • State government users will coninue have priority scheduling status. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State government user rates remain affordable and continue to be state-subsidized.	**Considerations** • State government users continue to depend on state funding. • State continues to be flexible in responding to state government user needs. • State government users will continue to have priority scheduling status. • Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State government user rates remain affordable and continue to be state-subsidized.	**Considerations** • State government users may continue to depend on state funding. • Private revenues may benefit state government users if reinvested into the system. • State may continue to be flexible in responding to state government user needs. • If the Iowa Utilities Board refuses to allow preferential treatment to state government users, rates could increase. • State would need to project the future capacity needs of state government users. • Unless capacity is reserved by the State, state government users may conflict with new users.

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		• State agencies could retain low-cost voice and data transmission services, and continue to access the ICN at current rates. • Access to the network and scheduling will not conflict with new users, and should not be affected. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.	• State agencies could retain low-cost voice and data transmission services, and continue to access the ICN at current rates. • Access to the network and scheduling will not conflict with new users, and should not be affected. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.	• State agencies could retain low-cost voice and data transmission services, and continue to access the ICN at current rates. • Scheduling for state government users will not be affected. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.	• Most grant awards are not based on the exclusive use of the ICN. However, the ICN's current low rates make it an attractive conduit for innovative projects. **Effects** • State government user rates remain affordable. • State agencies could retain low-cost voice and data transmission services, and continue to access the ICN at current rates. • If capacity is not reserved for authorized users, state government access to the network and scheduling could conflict with new users and affect scheduling. • Because affordable rates are assured, universities, independent colleges, and other state government users would be able to retain innovative grant projects and secure research funds.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Authorized Users				
17. What are the positive & negative impacts of this option on the National Guard?	National Guard Master Cooperative Agreement *(in Volume II: Supporting Materials)*	**Considerations** • The National Guard may not be guaranteed access to fiber optic technology at the current rate structure. • The National Guard would not satisfy the intent on which the Community Learning and Information Grant was made. The Grant makes 57 full motion video classrooms available to authorized users for distance education and other activities, as well as reduces reserve unit travel by providing video training. • The National Guard's definition of "affordable" is not the same as private industry. • The Guard may not be able to affordably access the type of technology that it needs - DS/3 and ATM switching - to continue specialized research and training activities at affordable rates. *(ATM will be required for research at higher bandwidth levels.)*	**Considerations** • The National Guard would be assured continued affordable access to the private network. • The National Guard would not satisfy the intent on which the Community Learning and Information Grant was made. The Grant makes 57 full motion video classrooms available to authorized users for distance education and other activities, as well as reduces reserve unit travel by providing video training. • According to a memorandum modifying the Master Cooperative Agreement (Section 712), the Guard must be consulted in any sale option. • The State would need to work through several complicated legal issues before the equipment, which is owned by the federal government, can be turned over to the State after warranties expire.	**Considerations** • The National Guard would be assured continued affordable ICN access. • The National Guard would not satisfy the intent on which the Community Learning and Information Grant was made. The Grant makes 57 full motion video classrooms available to currently users for distance education and other activities, as well as reduces reserve unit travel by providing video training. • From the National Guard perspective, this option is the most realistic sale option. • This option would continue to meet the Guard's needs without disrupting service. • According to a memorandum modifying the Master Cooperative Agreement (Section 712), the Guard must be consulted in any sale option. • The equipment, which is owned by the federal government, would not need to be sold under this option.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• According to a memorandum modifying the Master Cooperative Agreement (Section 712), the Guard must be consulted in any sale option. • The State would need to work through several complicated legal issues before the equipment, which is owned by the federal government, can be turned over to the State after warranties expire. • Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option may not preserve this requirement. • The State would lose its model emergency management and disaster coordination capabilities. • The location of the ICN Hub poses a number of legal issues -- because it is located in the basement of a federal, secure facility, it could not be sold for private use unless it were relocated.	• The location of the ICN Hub poses a number of legal issues -- because it is located in the basement of a federal, secure facility, it could not be sold for private use unless it were relocated. • Updated technology on the ICN is very important to the National Guard for its continued research opportunities. This option may not preserve this requirement. • Use of the private network for innovative technologies, Guard research, and training activities may not be preferred, which could result in the elimination of funding for these activities. • The Advanced Research Projects Agency (ARPA), the U.S. Department of Defense's research arm that funded, and continues to fund, a large part of the Iowa National Guard's use of the ICN, has taken special interest in Iowa due to its state ownership.	• Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option would preserve this requirement. • The ICN could continue to operate as it does now, with the National Guard having influence over its interest in the network. • The State of Iowa's State Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN Hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities. • The State's disaster response would continue to be centralized at the ICN hub, which will facilitate a coordination and communication during disaster or emergencies. **Effects** • This option may have a positive overall impact on the Guard. Revenue received may reduce ICN rates or be reinvested into the system.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• The Guard has invested $466,787 in network cards that are currently in the ICN frames. These cards would be unusable under this option, and the Guard's investment would be lost. • The Advanced Research Projects Agency (ARPA), the U.S. Department of Defense's research arm that funded and continues to fund a large part of the Iowa National Guard's use of the ICN, has taken special interest in Iowa due to its state ownership. • The National Guard would have no influence over its interest in and the operation of its portion of the network. This is critical for the Guard's continued use of a network. The Guard must have control over its applications and security is paramount. • The State of Iowa's State Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities.	• The National Guard would have less influence over its interest in and the operation of its portion of the network. This is critical for the Guard's continued use of a network. The Guard must have control over its applications and security is paramount. • The State of Iowa's State Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities. • Iowa is perceived as a model in emergency preparedness and disaster response. • The ICN hub is unique in that it provides statewide emergency communications for the State Patrol, as well as disaster response units. • Relationships between the State, National Guard, federal government, and the new owner/operator would be complicated.	• The Guard would continue upgrading, enhancing, and expanding its use in the network. • The specialized research and training activities of the Guard are not negatively affected by this option. • The Guard's ability to secure federal research funds would probably not be affected by this option. • The National Guard facilities would continue to be used for ICN purposes. • The National Guard facilities would become community access sites for authorized users. • The State would preserve its model emergency response and disaster coordination capabilities. • This option would continue to provide the National Guard with the flexibility it needs for future growth and development.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• Iowa is perceived as a model in emergency preparedness and disaster response. • The ICN hub is unique in that it provides statewide emergency communications for the State Patrol, as well as disaster response units. **Effects** • The Guard may discontinue upgrading, enhancing, and expanding its use in the network. • The Guard's goal to keep technology current could be impacted negatively. • The Guard may no longer conduct the types of specialized research and training activities currently underway. • Use of the private network for innovative technologies, Guard research, and training activities would be unlikely. • Without assurances, future research grant opportunities are uncertain.	**Effects** • The Guard may discontinue upgrading, enhancing, and expanding its use in the network (depending on availability of grants under this new ownership). • The National Guard facilities would continue to be used for ICN purposes. • The National Guard facilities would become community access sites for authorized users. • The State could lose its model emergency response and disaster coordination capabilities. • The Guard may be able to preserve its specialized research capabilities. • The State's disaster coordination and emergency response capabilities may be negatively impacted if the terms of the sale do not provide for communications needed during an emergency. • The State of Iowa and the National Guard would need to work out emergency access process with the new owners.	

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• National Guard facilities could no longer be used for ICN purposes. • National Guard facilities would not become community access points for authorized users. • The State would degrade its model emergency response and disaster coordination capabilities. • The State's disaster coordination and emergency response capabilities would be negatively impacted by a sale, and could result in a fragmented response effort.		

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Authorized Users				
17. What are the positive & negative impacts of this option on the National Guard?	National Guard Master Cooperative Agreement *(in Voume II: Supporting Materials)*	**Considerations** • The National Guard would be assured affordable ICN access. • The National Guard would satisfy the intent on which the Community Learning Information Grant was made. The Grant makes 57 full motion video classrooms available to the public for distance education and other activities, as well as reduces reserve unit travel by providing video training. • This option would be workable from the Guard perspective. • The responsibilities of each party will be critical for the success of this option. Specific descriptions of these responsibilities is very important. • Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option could preserve this requirement.	**Considerations** • The National Guard would be assured affordable ICN access. • The National Guard would satisfy the intent on which the Community Learning Information Grant was made. The Grant makes 57 full motion video classrooms available to the public for distance education and other activities, as well as reduces reserve unit travel by providing video training. • This option would be workable from the Guard perspective. • The responsibilities of each party will be critical for the success of this option. Specific descriptions of these responsibilities is very important. • Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option could preserve this requirement.	**Considerations** • The National Guard would be assured continued affordable ICN access. • The National Guard would satisfy the intent on which the Community Learning Information Grant was made. The Grant makes 57 full motion video classrooms available to the public for distance education and other activities, as well as reduces reserve unit travel by providing video training. • This option would be workable from the Guard perspective. • The responsibilities of each party will be critical for the success of this option. Specific descriptions of these responsibilities is very important. • Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option could preserve this requirement.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• If the State retains majority ownership in the network, many of the legal issues regarding equipment and network cards are not of consequence. • If private companies retain ownership of the network, the State would need to consider all legal issues involving circuit ownership and network cards. • It would be critical for the agreement to be constructed so that future Guard capacity needs are not too narrowly outlined and that the Guard has influence over its interest in the network. • The State of Iowa's Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities. • According to the memorandum modifying the Master Cooperative Agreement (Section 712) , the National Guard must be consulted in any sale option.	• It is critical for the agreement to be constructed so that future Guard capacity needs are not too narrowly outlined and that the Guard has influence over its interest in the network. • The State of Iowa's Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities. • The State's disaster response would continue to be centralized at the ICN hub, which will facilitate coordination and communication during disasters and emergencies. • Relationships between the State, National Guard, federal government, and the operator could be complicated. • The State of Iowa and the National Guard would need to work out emergency access procedures with the private operators.	• It would be critical for the agreement to be constructed so that future Guard capacity needs are not too narrowly outlined and that the Guard has influence over its interest in the network. • The State of Iowa's Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities. • The State's disaster response would continue to be centralized at the ICN hub, which will facilitate coordination and communication during disasters and emergencies. **Effects** • The specialized research and training activities of the Guard could be negatively impacted if other usage affects National Guard activities. • The National Guard's facilities would continue to be used for ICN purposes.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• The State's disaster response would continue to be centralized at the hub, which will facilitate coordination and communication during disasters and emergencies. • Relationships between the State, National Guard, federal government, and the new entity could be complicated. • The State of Iowa and the National Guard would need to work out emergency access procedures with this new entity. **Effects** • The specialized research and training activities of the Guard could be negatively impacted if other usage affects National Guard activities. • The Guard's ability to secure federal funds and conduct specialized research would not be affected by this option. • The National Guard's facilities would continue to be used for ICN purposes.	**Effects** • The specialized research and training activities of the Guard could be negatively impacted if other usage affects National Guard activities. • The National Guard facilities would continue to be used for ICN purposes. • The National Guard facilities would continue to be used as community access points for authorized users. • The Guard's ability to secure federal funds and conduct specialized research would not be affected by this option. • The State would preserve its model emergency response and disaster coordination capabilities. • This option may not provide the Guard with the flexibility it needs for future growth and development.	• The National Guard facilities would continue to be used as community access points for authorized users. • The Guard's ability to secure federal funds and conduct specialized research would not be affected by this option. • The State would preserve its model emergency response and disaster coordination capabilities. • This option may not provide the Guard with the flexibility it needs for future growth and development.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• The National Guard's facilities would continue to be community access points for authorized users. • The State would preserve its model emergency response and disaster coordination capabilities. • This option may not provide the Guard with the flexibility it needs for future growth and development.		

ISSUES	Reference Materials	OPTION 7 *State Lease to Private Companies (Not Restricted)*	OPTION 8 *State Lease to Private Companies (Restricted)*	OPTION 9 *State Ownership & Operation (Limited)*	OPTION 10 *State Owned Public Utility (No Limits)*
Authorized Users					
17. What are the positive & negative impacts of this option on the National Guard?	National Guard Master Cooperative Agreement *(in Volume II: Supporting Materials)*	**Considerations** • The National Guard would be assured affordable ICN access. • The National Guard would satisfy the intent on which the Community Learning Information Grant was made. The Grant makes 57 full motion video classrooms available to the public for distance education and other activities, as well as reduces reserve unit travel by providing video training. • This option would be workable from the Guard perspective. • The responsibilities of each party will be critical for the success of this option. Specific descriptions of these responsibilities is very important.	**Considerations** • The National Guard would be assured affordable ICN access. • The National Guard would satisfy the intent on which the Community Learning Information Grant was made. The Grant makes 57 full motion video classrooms available to the public for distance education and other activities, as well as reduces reserve unit travel by providing video training. • This option would be workable from the Guard perspective. • The responsibilities of each party will be critical for the success of this option. Specific descriptions of these responsibilities is very important.	**Considerations** • The National Guard would be assured affordable ICN access. • The National Guard would satisfy the intent on which the Community Learning Information Grant was made. The Grant makes 57 full motion video classrooms available to the public for distance education and other activities, as well as reduces reserve unit travel by providing video training. • This option would be workable from the Guard perspective. • The Guard would continue to have influence over its portion of the network	**Considerations** • The National Guard would be assured affordable ICN access. • The National Guard would satisfy the intent on which the Community Learning Information Grant was made. The Grant makes 57 full motion video classrooms available to the public for distance education and other activities, as well as reduces reserve unit travel by providing video training. • This option would be workable from the Guard perspective. • The responsibilities of each party will be critical for the success of this option. Specific descriptions of these responsibilities is very important.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• The Guard would continue to have influence over its portion of the network. • Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option would preserve this requirement. • This option would provide the Guard with the flexibility it needs for future growth and development. • The State of Iowa's Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities.	• The Guard would continue to have influence over its portion of the network. • Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option would preserve this requirement. • This option would provide the Guard with the flexibility it needs for future growth and development. • The State of Iowa's Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities.	• Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option would preserve this requirement. • The Guard would continue to have influence over its interests in the network. • The State of Iowa's Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities. • The State's disaster response would continue to be centralized at the ICN hub, which will facilitate coordination and communication during disasters and emergencies.	• The Guard would continue to have influence over its portion of the network. • Updated technology on the ICN is very important to the National Guard and for its continued research opportunities. This option would preserve this requirement. • This option would provide the Guard with the flexibility it needs for future growth and development. • The State of Iowa's Emergency Operations Center is located in the basement of the STARC Armory, along with the ICN hub. The co-location of these two entities is a crucial component of the State's emergency and disaster response activities.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• The State's disaster response would continue to be centralized at the ICN hub, which will facilitate coordination and communication during disasters and emergencies. **Effects** • The specialized research and training activities of the Guard are not negatively impacted by this option. • National Guard facilities continue to be used for ICN purposes. • National Guard facilities would become community access sites for authorized users. • The State would preserve its model emergency response and disaster coordination capabilities. • The Guard's ability to secure federal funds and conduct specialized research would not be affected by this option.	• The State's disaster response would continue to be centralized at the ICN hub, which will facilitate coordination and communication during disasters and emergencies. **Effects** • The specialized research and training activities of the Guard are not negatively impacted by this option. • National Guard facilities continue to be used for ICN purposes. • National Guard facilities would become community access sites for authorized users. • The State would preserve its model emergency response and disaster coordination capabilities. • The Guard's ability to secure federal funds and conduct research would not be affected by this option.	**Effects** • The specialized research and training activities of the Guard are not negatively impacted by this option. • National Guard facilities continue to be used for ICN purposes. • National Guard facilities would become community access sites for authorized users. • The State would preserve its model emergency response and disaster coordination capabilities. • The Guard's ability to secure federal funds and conduct research would not be affected by this option.	• The State's disaster response would continue to be centralized at the ICN hub, which will facilitate coordination and communication during disasters and emergencies. • The State would need to upgrade to an automated scheduling system to handle the increases in demand. **Effects** • The specialized research and training activities of the Guard are not negatively impacted by this option. • National Guard facilities continue to be used for ICN purposes. • National Guard facilities would become community access sites for authorized users. • The State would preserve its model emergency response and disaster coordination capabilities.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
					• The Guard's ability to secure federal funds and conduct research would not be affected by this option.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Authorized Users				
18. What are the positive & negative impacts of this option on federal government users?	Summary of Major Federal Grants & Contracts Associated with the ICN *(in Report Appendix)*	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN would no longer continue to provide federal government users with affordable rates, access to technology, and quality service. • In order to continue grants at affordable rates, federal government users will need to make arrangements independently with private providers.	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. • In order to clearly define the assurances in the sale, the State will need to forecast capacity needs for user groups. • The State may not be able to accurately estimate the capacity needs of federal government users. The federal government has been using the ICN for demonstration projects. This limited use of the network should not be used as the baseline for determining future use.	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service. • Federal government users would not be negatively impacted by this option if new users do not conflict with federal access. • Access to communications system during an emergency is assured.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• Federal government users could be negatively affected by this option. • Federal government grant opportunities may diminish or be eliminated if rates are not affordable. • Access to communications system during an emergency may not be assured.	**Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service. • Federal government users may not be negatively impacted by this option if the assurances are clearly defined and new users does not conflict with federal access. • Access to communications system during an emergency is assured.	

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Authorized Users				
18. What are the positive & negative impacts of this option on federal government users?	Summary of Major Federal Grants & Contracts Associated with the ICN *(in Report Appendix)*	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service. • Federal government users could be negatively impacted by this option if new users conflict with federal access.	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service. • Federal government users could be negatively impacted by this option if new users conflict with federal access. • Access to communications system during an emergency is assured.	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service. • Federal government users could be negatively impacted by this option if new users conflict with federal access.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• Access to communications system during an emergency is assured.		• Access to communications system during an emergency is assured.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Authorized Users					
18. What are the positive & negative impacts of this option on federal government users?	Summary of Major Federal Grants & Contracts Associated with the ICN *(in Report Appendix)*	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service.	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service.	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service.	**Considerations** • Federal grants are not contingent upon state ownership or operation. • Iowa receives federal grants because of the infrastructure in place, not the ownership of that infrastructure. • Federal grants are given based on affordability, access to technology, and quality of service. • Changes in the technology offered, the service quality, or the rates may affect federal grant opportunities. **Effects** • Under this option, the ICN will continue to provide federal government users with affordable rates, access to technology, and quality service.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• Federal government users could be negatively impacted by this option if new users conflict with federal access. • Access to an emergency communications system is assured.	• Federal government users could be negatively impacted by this option if new users conflict with federal access. • Access to an emergency communications system is assured.	• Federal government users would not be negatively impacted. • Access to an emergency communications system is assured.	• Federal government users could be negatively impacted by this option if new users conflict with federal access. • Access to an emergency communications system is assured.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Business/Citizens				
19. What positive & negative impacts would this option have on existing telecommunications providers?		**Considerations** • Some telecommunications providers may not legally be able to buy the ICN. • No strings are attached to the sale, making it more attractive to a potential buyer. • The purchaser could be subject to the same regulations and responsibilities as other providers. • If the new owner does not need to comply with regulations and is exempt from financial and social responsibilities, other providers could be at a competitive disadvantage. • Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities. **Effects** • The State no longer competes with the private telecommunications industry.	**Considerations** • Some telecommunications providers may not legally be able to buy the ICN. • Telecommunications providers may not be interested in this option if they need to make a commitment to provide the assurances, particularly if that commitment is financial (buyer-subsidized sale). • If the assurances are made by the State (state-subsidized sale), the agreements could be outlined in a relatively simple contractual agreement. • State obligation would be subject to legislative approval, which could make a potential buyer more cautious. • The sale contract needs to be very well-defined, so that the obligations of the buyer and the State in regard to the assurances are understood and clear. • The purchaser could be subject to the same regulations and responsibilities as other providers.	**Considerations** • The State would need to make a policy decision: sell capacity to telecommunications providers only, or sell to anyone who wants to purchase capacity. Either way, the State competes with private industry. • The State, which is tax-exempt, would compete with existing providers who pay taxes. • Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • To avoid unfair competition, rates should be fully costed. • The purchase price for excess capacity should reflect the payment of taxes and depreciation the State does not pay. • New providers could compete with existing providers without needing the capital existing providers have already invested.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• The sale could put all telecommunications providers on the same unsubsidized level. • This option could return statewide competition to Iowa's telecommunications market. • The threat of competition from the purchaser of the ICN is a concern among existing providers. • If the ICN is sold for less than value, the buyer could have a competitive advantage. • A large corporation could purchase the system and immediately become a competitor in telecommunications. • A large telecommunications provider could purchase the ICN with the intention of not using the system, thereby eliminating potential competition. • If the new owner contributes to programs such as 911 and universal service, other telecommunications providers could be relieved of some of their financial and administrative obligations in these areas.	• Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities. **Effects** • If the ICN is sold for less than its value, the buyer could have a competitive advantage. • The sale could put all telecommunications providers on the same unsubsidized level. • This option could bring new statewide competition to Iowa's telecommunications market. • The threat of competition from the purchaser of the ICN is a concern among existing providers.	• Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities. **Effects** • State is in direct competition with those providers who sell capacity. • State would have an unfair advantage over other telecommunications providers. • The ICN continues to compete with private providers for authorized users. • By purchasing excess capacity, established providers could expand their services and customer base. • By purchasing excess capacity, new providers could compete with existing providers without making the initial investments. • This option could increase the number of telecommunications providers, resulting in new service market opportunities.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
			• If the new owner contributes to programs such as 911 and universal service, other telecommunications providers should be relieved of some of their financial and administrative obligations in these areas.	• Iowa's economic development efforts could be negatively impacted in the long run if the telecommunications providers suffer financial losses as a result of this option.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Business/Citizens				
19. What positive & negative impacts would this option have on existing telecommunications providers?		**Considerations** • This option may result in a coalition of private providers who all have competing interests. • Asset ownership issues will be complex. Private providers may not be interested in joining this entity if the assets are state-controlled. • In order to prevent this entity from becoming a monopoly, it may be necessary for the State to set parameters on the entity's corporate structure. • The State, which is tax-exempt, would be competing with existing providers who pay taxes. • Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • To avoid unfair competition, rates should be fully costed. • This entity could be subject to the same regulations and responsibilities as other providers.	**Considerations** • Some telecommunications providers may not legally become the ICN operator. • The contract should reflect the payment of taxes and depreciation that the State does not pay. If it does not, the State, which is tax-exempt, could be competing with existing providers who pay taxes. • Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • To avoid unfair competition, rates should be fully costed. • The private operator should be subject to the same regulations and responsibilities as other providers. • New providers could compete with existing providers without needing the capital existing providers have already invested.	**Considerations** • Limiting the expansion of the user base could create more stability in the industry in regard to the ICN. • Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • To avoid unfair competition for authorized users, rates should be fully costed. • Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities. **Effects** • The authorized user base is clearly defined and the State is restricted from additional competition. • The ICN continues to compete with private industry for authorized users.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• New providers could compete with existing providers without needing the capital existing providers have already invested. • Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities. **Effects** • State would be in direct competition with the private telecommunications industry. • The ICN continues to compete with private providers for authorized users. • The entity could have an unfair advantage over other providers because of the State's involvement. • This entity could be so big that the industry is forced into participation. • This option could create a statewide telecommunications monopoly.	• Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities. **Effects** • The user base expands, and the State is in direct competition with the private telecommunications industry. • The State of Iowa increases its role as a provider. • The threat of competition from the ICN is a concern among existing providers. • The ICN continues to compete with private providers for authorized users. • If regulated, the ICN could be on the same level as other telecommunications providers. • If the new owner contributes to programs such as 911 and universal service, other telecommunications providers should be relieved of some of their financial and administrative obligations in these areas.	• If the State freezes authorized users and uses, private enterprise will experience no further loss in business. • Iowa's economic development efforts could be negatively impacted in the long run if the telecommunications providers suffer financial losses as a result of this option.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• Private telecommunications providers may not be able to compete independently. • Private providers may be both a partner in the entity and a competitor with the entity. Conflicts of interest could be very difficult to overcome. • If the new owner contributes to programs such as 911 and universal service, other telecommunications providers should be relieved of some of their financial and administrative obligations in these areas. • Iowa's economic development efforts could be negatively impacted in the long run if the telecommunications providers suffer financial losses as a result of this option.	• A private provider or company without a statewide fiber infrastructure could compete with existing statewide providers. • Iowa's economic development efforts could be negatively impacted in the long run if the telecommunications providers suffer financial losses as a result of this option.	

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Business/Citizens					
19. What positive & negative impacts would this option have on existing telecommunications providers?		**Considerations** • Private providers could lease capacity and resell in areas they do not currently service. • The State, which is tax exempt, could compete with existing providers who pay taxes. • Lease payments should reflect the payment of taxes and depreciation that the State does not pay. • Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • In order to avoid unfair competition, rates should be fully costed. • Lessees that resell capacity should be subject to the same regulations and responsibilities as other providers.	**Considerations** • Private providers could lease capacity and resell in areas they do not currently service. • Under this option, the State could be a market developer, stimulating demand for services in markets where not currently offered. • Lease payments should reflect the payment of taxes and depreciation that the State does not pay. • Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • To avoid unfair competition, rates should be fully costed. • Rates should be fully costed so users are prepared to pay market rates when transitioning from the ICN to private industry.	**Considerations** • Because the user base could be expanded and authorized uses (i.e. education and training) are not clearly defined, providers have not been able to plan strategically. • Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • To avoid unfair competition for authorized users, rates should be fully costed. • Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities.	**Considerations** • This option is a direct threat to the provider community. • Artificial or subsidized rates keep other providers from entering the market to provide services to authorized users. • To avoid unfair competition for authorized users, rates should be fully costed. • The private portion of the ICN should be subject to the same regulations and responsibilities as other providers. • Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• New providers could compete with existing providers without needing the capital existing providers have already invested. • Providers are given the opportunity to increase capacity with short lead time. • Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities. **Effects** • State would be in direct competition with private providers. • The ICN continues to compete with private providers for authorized users. • The State would expand its role as a provider.	• Lessees that resell capacity should be subject to the same regulations and responsibilities as other providers. • Providers may be apprehensive that, under this option, the ICN could become competitive and expand the user base. • Local telephone companies are often integral parts of rural communities. Any option which diminishes the competitiveness of local telephone companies affects the structure of these communities. **Effects** • The ICN continues to compete with private providers for authorized users. • The State would expand its role as a provider.	**Effects** • This option would be positive from the provider standpoint if the State freezes the user base and allows access only to authorized users. • The ICN continues to compete with private providers for authorized users. • Iowa's economic development efforts could be negatively impacted in the long run if private providers suffer financial losses as a result of this option.	**Effects** • This option has no positives from the provider standpoint. • The State of Iowa increases its role as a telecommunications provider. • The user base expands, and the State is in unfair competition with private industry. • The ICN continues to compete with private providers for authorized users. • This option could create a statewide, state-owned monopoly. • Telecommunications providers will not be able to compete if the ICN is not subject to the same regulations and responsibilities as other providers.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• The threat of competition from the ICN is a concern among providers. • Providers that lease capacity would have an unfair advantage over other providers. • Iowa's economic development efforts could be negatively impacted in the long run if private providers suffer financial losses as a result of this option.	• User base is expanded without increasing the ICN's competition with private industry. • This option provides services on a temporary basis to users that would otherwise not have access to those services. • Existing providers may not be able to attract new markets under this option. • Iowa's economic development efforts could be negatively impacted in the long run if private providers suffer financial losses as a result of this option.		• Iowa's economic development efforts could be negatively impacted in the long run if private providers suffer financial losses as a result of this option.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Business/Citizens				
20. What are the positive & negative impacts of this option on Iowa businesses and citizens?		**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. **Effects** • Iowa businesses and citizens would be able to access private networks at current market rates. • Citizens may not be able to afford distance learning, telemedicine, and other services at current market rates. • Economic development efforts could be enhanced by access to statewide fiber optic networks.	**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Businesses could be provided access to the network, but their rates may subsidize services to authorized users. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. **Effects** • Iowa businesses and citizens would be able to access private networks at current market rates. • Economic development efforts could be enhanced by access to statewide fiber optic networks. • Increased competition could result in more service choices at lower prices.	**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Businesses could be provided access to the network, but their rates may subsidize services to authorized users. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. • The scope of services provided and the expansion of the user base is dependent on the buyer of excess capacity. The buyer may continue to limit services and the customer base. **Effects** • Iowa businesses and citizens may be able to access the ICN at current market rates.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
		• Increased competition could result in more service choices at lower prices. • Some customers may avoid negative impacts associated with the ICN's bypass of private enterprise networks. • This option would eliminate state funding for the system.	• Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities ▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency ▪ Community access points in National Guard facilities and public libraries ▪ Coordinated, efficient disaster and emergency response system • This option could eliminate or reduce state funding for the system.	• Economic development efforts could be enhanced by expansion of the user community. • Increased competition could result in more service choices at lower prices. • Some customers may be negatively impacted by the ICN's bypass of private enterprise networks. • Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities ▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency ▪ Community access points in National Guard facilities and public libraries ▪ Coordinated, efficient disaster and emergency response system • This option could reduce state funding for the system, if private revenues are reinvested into the system.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Business/Citizens				
20. What are the positive & negative impacts of this option on Iowa businesses and citizens?		**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. **Effects** • Iowa businesses and citizens may be able to access the ICN at current market rates. • Economic development efforts could be enhanced by expansion of the user community. • Public access sites in Iowa libraries could provide citizens with access to a variety of information.	**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. **Effects** • Iowa businesses and citizens may be able to access the ICN at current market rates. • Economic development efforts could be enhanced by expansion of the user community. • Public access sites in Iowa libraries could provide citizens with access to a variety of information.	**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. **Effects** • Iowa businesses and citizens may not be able to access the ICN, except as currently authorized. • Public access sites in Iowa libraries could provide citizens with access to a variety of information.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
		• Increased competition could result in more service choices at lower prices. • Some customers may be negatively impacted by the ICN's bypass of private enterprise networks. • Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities ▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency ▪ Community access points in National Guard facilities and public libraries ▪ Coordinated, efficient disaster and emergency response system • This option could reduce or eliminate state funding, if revenues from private use are reinvested into the system.	• Increased competition could result in more service choices at lower prices. • Some customers may be negatively impacted by the ICN's bypass of private enterprise networks. • Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities ▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency ▪ Community access points in National Guard facilities and public libraries ▪ Coordinated, efficient disaster and emergency response system • This option could reduce or eliminate state funding, if revenues from private use are reinvested into the system.	• Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities ▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency ▪ Community access points in National Guard facilities and public libraries for authorized uses ▪ Coordinated, efficient disaster and emergency response system • The State would continue to provide funding for the system and, in some cases, access to the system.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Business/Citizens					
20. What are the positive & negative impacts of this option on Iowa businesses and citizens?		**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. **Effects** • Iowa businesses and citizens would be able to access the ICN at current market rates.	**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. • The ICN is a market developer, filling in the gaps where service is not already available.	**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities. **Effects** • Iowa businesses and citizens would not be able to access the ICN.	**Considerations** • The availability of statewide fiber optic networks is an economic development asset. • Businesses could be provided access to the network, but their rates may subsidize services to authorized users. • Many Iowa citizens reside in small communities and benefit from the health and stability of local economies. Rural telephone companies, local schools, and libraries often form the backbone of these communities. Anything that diminishes the competitiveness of local telephone companies impacts the structure of Iowa's small communities.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• Public access sites in Iowa libraries could provide citizens with access to a variety of information. • Economic development efforts could be enhanced by expansion of the user community. • Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities ▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency ▪ Community access points in National Guard facilities and public libraries ▪ Coordinated, efficient disaster and emergency response system	• This option stimulates the economy by giving existing providers and new companies the opportunity and incentives to provide services throughout the State. **Effects** • Iowa businesses and citizens would be able to access the ICN at current market rates in areas where service is not currently available. • Public access sites in Iowa libraries could provide citizens with access to a variety of information. • Economic development efforts could be enhanced by expansion of the user community. • Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities	• Public access sites in Iowa libraries could provide citizens with access to a variety of information. • Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities ▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency ▪ Community access points in National Guard facilities and public libraries for authorized uses ▪ Coordinated, efficient disaster and emergency response system • The State would continue to provide funding for the system.	**Effects** • Iowa businesses and citizens would be able to access the ICN at current market rates. • Public access sites in Iowa libraries could provide citizens with access to a variety of information. • Economic development efforts could be enhanced by expansion of the user community • Increased competition could result in more service choices at lower prices. • Citizens could continue to benefit from: ▪ Affordable access to continuing education opportunities ▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• Properly implemented, this option could attract new business to Iowa, help existing businesses expand and become more productive, and provide new services to citizens. • The State would continue to fund the system, but revenues from private use could be reinvested into the system.	▪ Access to advanced medical treatment and diagnostics through telemedicine ▪ Increased government efficiency ▪ Community access points in National Guard facilities and public libraries ▪ Coordinated, efficient disaster and emergency response system • Properly implemented, this option could attract new business to Iowa, help existing businesses expand and become more productive, and provide new services to citizens in a restricted environment. • The State would continue to fund the system, but revenues from private use could be reinvested into the system.		▪ Community access points in National Guard facilities and public libraries ▪ Coordinated, efficient disaster and emergency response system • The State would continue to fund the system, but revenues from private use could be reinvested into the system.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Business/Citizens				
21. What are the positive & negative impacts of this option on the ability of authorized users to access the Internet through the ICN?		**Considerations** • The Internet provides citizens and businesses with a link to a variety of information services. • The network's status as an Internet access provider would not be precluded. • Providing Internet services is already very competitive. • This option could affect the price and speed of Internet transmissions. **Effects** • State no longer provides Internet at affordable rates to authorized users. • Competitively-determined prices for Internet services are likely. • Private Internet services may be available to all Iowans.	**Considerations** • The Internet provides citizens and businesses with a link to a variety of information services. • The network's status as an Internet access provider would not be precluded. • Providing Internet services is already very competitive. • This option would probably not affect the price or speed of Internet transmissions. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • Competition between state-supported Internet services and other Internet services is likely. • Private Internet services may be available to all Iowans.	**Considerations** • ICN-based Internet services would provide citizens and businesses with a link to a variety of information services. • The ICN's status as an Internet access provider would not be precluded. • Providing Internet services is already very competitive. • This option would probably not affect the price or speed of Internet transmissions. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • Competition between state-supported ICN-based Internet services and other Internet services is likely. • Competitively-determined prices for Internet services are possible. • ICN-based Internet services may be available to all Iowans.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Business/Citizens				
21. How does this option affect a user's ability to access the Internet through the ICN?		**Considerations** • ICN-based Internet services would provide citizens and businesses with a link to a variety of information services. • The ICN's status as an Internet access provider should not be precluded. • Providing Internet services is already very competitive. • This option would probably not affect the price or speed of Internet transmissions. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • Competition between state-supported ICN-based Internet services and other Internet services is likely. • Competitively-determined prices for Internet services are possible. • ICN-based Internet services may be available to all Iowans.	**Considerations** • ICN-based Internet services would provide citizens and businesses with a link to a variety of information services. • The ICN's status as an Internet access provider should not be precluded. • Providing Internet services is already very competitive. • This option would probably not affect the price or speed of Internet transmissions. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • Competition between state-supported ICN-based Internet services and other Internet services is likely. • ICN-based Internet services may be available to all Iowans. • Competitively-determined prices for Internet services are possible.	**Considerations** • ICN-based Internet services would provide authorized users with a link to a variety of information services. • The ICN's status as an Internet server would not be precluded. • Providing Internet services is already very competitive. • This option would probably not affect the price or speed of Internet transmissions. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • Competition between state-supported ICN-based Internet services and other Internet services is likely.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Business/Citizens					
21. How does this option affect a user's ability to access the Internet through the ICN?		**Considerations** • ICN-based Internet services would provide citizens and businesses with a link to a variety of information services. • The ICN's status as an Internet access provider should not be precluded. • Providing Internet services is already very competitive. • This option would probably not affect the price or speed of Internet transmissions. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • Competition between state-supported ICN-based Internet services and other Internet services is likely.	**Considerations** • ICN-based Internet services would provide citizens and businesses with a link to a variety of information services. • The ICN's status as an Internet access provider should not be precluded. • Providing Internet services is already very competitive. • This option would probably not affect the price or speed of Internet transmissions. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • ICN-based Internet services may be available to more user groups, depending on who the lessee decides to serve.	**Considerations** • ICN-based Internet services would provide authorized users with a link to a variety of information services. • The ICN's status as an Internet access provider should not be precluded. • Providing Internet services is already very competitive. • This option would probably not affect the price or speed of Internet transmission. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • Competition between state-supported ICN-based Internet services and other Internet services is likely.	**Considerations** • ICN-based Internet services would provide citizens and businesses with a link to a variety of information services. • The ICN's status as an Internet access provider should not be precluded. • Providing Internet services is already very competitive. • This option could affect the price or speed of Internet transmissions. **Effects** • Affordable, ICN-based Internet services for authorized users continues to be provided. • Competition between state-supported ICN-based Internet services and other Internet services is likely.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
		• ICN-based Internet services may be available to more user groups, depending on who the lessee decides to serve.			• ICN-based Internet services would be available to all Iowans.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Business/Citizens				
22. Does this option preserve or encourage collaboration?		**Consideration** • State no longer makes assurances or is involved in decision-making. • Users may work directly with providers to coordinate projects, reserve capacity, and arrange for affordable equipment and technology, subject to external regulations. **Effects** • There is no private-state collaboration in this option. • There is the potential for collaboration between private industry and the user.	**Consideration** • State and buyer work together to assure that all authorized users have affordable access to and specified capacity on a well-maintained fiber optic system. **Effects** • Private-State collaboration is preserved in this option.	**Consideration** • Revenues from the sale of excess capacity could be reinvested into the system, creating an indirect form of collaboration. • The State may get a return on its investment. **Effects** • This option indirectly preserves collaboration.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Business/Citizens				
22. Does this option preserve or encourage collaboration?		**Considerations** • Private industry is given the opportunity to make a profit. • The State may get a return on its investment. • Citizens and businesses are given access to the network. • This entity would be comprised of public and private sector representatives, and could be funded by both the public and private sector. • Private and state goals may conflict. Balancing objectives could be a difficult task. For this option to work, the State and private enterprise will need to work together and recognize the importance of each other's goals. **Effects** • This option encourages cooperation among the community, government, and private enterprise.	**Considerations** • Private industry is given the opportunity to make a profit. • The State may get a return on its investment. • Citizens and businesses are given access to the network. • Private and state goals may conflict. Balancing objectives could be a difficult task. For this option to work, the State and private enterprise will need to work together and recognize the importance of each other's goals. **Effects** • This option encourages cooperation between government and private enterprise.	**Considerations** • State continues to establish network policies, and directs the private manager to implement those policies. • The private manager would probably not have control over the decisions made by the State, but could be required to implement those decisions. • Private and state goals may conflict. Balancing objectives could be a difficult task. For this option to work, the State and private enterprise will need to work together and recognize the importance of each other's goals. **Effects** • This option preserves ongoing public-private cooperative efforts.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Business/Citizens					
22. Does this option preserve or encourage collaboration?		**Considerations** • State government is in competition with private industry. • Private enterprises may not wish to be partners with their competitors. **Effects** • This option does not encourage public-private cooperation.	**Considerations** • The State restricts competition with private enterprise by providing services where currently unavailable. • The State develops demand for services in new markets, then leaves after private enterprise begins to provide the same services. **Effects** • This option encourages and preserves public-private cooperation.	**Considerations** • Ongoing public-private and intergovernmental collaborative efforts would be preserved. • Ongoing public-private telecommunications collaborative efforts would be preserved. • Users may pair up with a private vendor or other entity to fund their portion of the connection. **Effects** • This option preserves ongoing collaborative efforts. • This option does not preclude other public-private collaborative efforts.	**Considerations** • State government is in competition with private industry. • Ongoing public-private and intergovernmental collaborative efforts could be preserved. • Private enterprises may not wish to be partners with their competitors. **Effects** • This option does not encourage public-private cooperation.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
Risk Analysis				
23. As it applies to the parties to the transaction, who assumes the risk? Is this entity capable of bearing this risk? Who are the beneficiaries of success?		**Considerations** • A decision to subsidize use by other means at a later date could cost the State more or less than if it continued to operate the ICN. • Sale price may reflect today's opportunities, rather than future value, as usage of advanced telecommunications applications increases. ICN users may find it necessary to buy back capacity. **Effects** • Private buyer assumes the risk. • In the case of the ICN, the investment opportunity is lost to the successful buyer. • The State should make sure the entity is capable of bearing the risk prior to the sale. • The buyer would be the direct beneficiary of success.	**Considerations** • The State's risk factor is reduced. The State would be liable for its obligation to authorized users, which may include appropriations. • Vendors may well decide they are not able to manage the risk associated with the required assurances, and may discount the amount they will pay for the network. **Effects** • Private buyer assumes the risk associated with operating the entire network. • The State assumes the risk for its portion of the contract. • The State should make sure the buyer is capable of bearing the risk prior to the sale. • The buyer would be the direct beneficiary of success. • Authorized users would benefit from continued access to the private enterprise network at affordable rates.	**Considerations** • The State's risk factor is reduced if its revenues are reinvested in the system. • Assuming additional investment is required, the State's risk factor could increase. **Effects** • The State retains the risk. • The purchaser of excess capacity and new users would benefit by being able to access the ICN's technology platform. • The purchaser may benefit from indirect tax subsidization, which allows it to compete unfairly with existing telecommunications providers. • Authorized users would benefit from continued access to the private network at affordable rates.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Risk Analysis				
23. As it applies to the parties to the transaction, who assumes the risk? Is this entity capable of bearing this risk? Who are the beneficiaries of success?		**Considerations** • The new private-public entity assumes the risk. • The State should make sure that only entities capable of bearing their portion of the risk be considered as partners. **Effects** • The State and its private partners could benefit from returns on their investments. • The State benefits by continuing to meet its commitment to authorized users. • Authorized users would benefit from continued access to the private network at affordable rates. • Businesses and citizens benefit by being allowed access to the ICN.	**Considerations** • Private operator assumes operating risk. • It is not possible to assign all financial risk to the operator. Ultimately, the State, as the owner, will retain some of the risk. • This is the model used in many states for short-line railroads where the State owns the roadbed and rails, but leases to operating companies. With such a model, the risk to the vendor is measurable. • The State should make sure that the private operator is capable of bearing the risk prior to contracting with them. **Effects** • Private operator would benefit from success.	**Considerations** • State retains all risk. • The State is capable of bearing the risk. **Effects** • The State benefits by continuing to meet its commitment to authorized users. • Authorized users would benefit from continued access to the private network at affordable rates.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
			• The State benefits by continuing to meet its commitment to authorized users. • Authorized users would benefit from continued access to the private network at affordable rates.	

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Risk Analysis					
23. As it applies to the parties to the transaction, who assumes the risk? Is this entity capable of bearing this risk? Who are the beneficiaries of success?		**Effects** • State retains the risk. • The State is capable of assuming this risk. • The State benefits from the additional revenues from expansion of the user base. • The State benefits by continuing to meet its commitment to authorized users. • Additional revenues could directly benefit authorized users if reinvested into the system.	**Effects** • State retains the risk. • The State is capable of assuming this risk. • Lessee assumes the largest portion of risk *(The lessee would be making an uncertain investment in the fiber connection).* • The State benefits from the additional revenues from expansion of the user base. • The State benefits by continuing to meet its commitment to authorized users. • Additional revenues could directly benefit authorized users if reinvested into the system. • Private industry benefits from the creation of market demand in areas where service is not currently available.	**Effects** • State retains the risk. • The State is capable of assuming this risk. • The State benefits by continuing to meet its commitment to authorized users. • Authorized users continue to benefit from low ICN rates.	**Effects** • State retains the risk. • The State is capable of assuming this risk. • The State benefits from additional revenues from expansion of the user base. • The State benefits by continuing to meet its commitment to authorized users. • Additional revenues could directly benefit authorized users if reinvested into the system.

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House File 461
Directive

- Directs the ITTC to study the feasibility of selling the network or converting it to a public utility.

- The Study should include the following considerations:

1. Effect of sale on the tax-exempt bonds
2. Impact on existing telecommunications providers
3. Ability to provide affordable access to network for public agencies, including Part III users not yet connected
4. Compliance with state laws
5. Use of public rights of way by potential buyers
6. Benefits to Iowa businesses and citizens
7. Provide long-term lease capacity sufficient to meet existing and future educational users
8. Review whether sale should be through RFP or auction
9. Impact of FCC policy and regulations on full or partial sell of the network and review merits of both
10. Other issues as identified by ITTC.

- ITTC must submit the report, along with their recommendation, to the Legislature and Governor by November 1, 1995

HOUSE FILE 461

AN ACT

RELATING TO THE IOWA COMMUNICATIONS NETWORK BY DIRECTING THE IOWA TELECOMMUNICATIONS AND TECHNOLOGY COMMISSION TO CONDUCT STUDIES CONCERNING THE POSSIBLE SALE OF THE NETWORK, AND THE POSSIBLE CONVERSION OF THE NETWORK INTO A PUBLIC UTILITY.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

Section 1. STUDIES.

1. a. The Iowa telecommunications and technology commission established in section 8D.3 shall initiate and complete a study concerning the possible sale of the network. The study shall include a review of legal and practical issues which may affect whether the sale of the network should be approved or rejected, or which may affect the terms under which a sale should be completed. The study shall include a review of issues including all of the following:

(1) The effect of the sale on the tax-exempt bonds which were issued for purposes of financing certain parts of the network.

(2) The impact on existing telecommunications providers.

(3) The protection of state interests including the assurance of affordable access to the network for public entities, including Part III users which are not yet connected to the network.

(4) The necessity of compliance with other applicable state law.

(5) Issues relating to the use of public rights-of-way by any potential buyer of the network.

(6) Benefits to Iowa businesses and citizens.

(7) Providing for a long-term lease of capacity sufficient to meet the needs of existing and future educational users of the network identified in chapter 8D.

(8) A review of whether a sale of the network should be completed pursuant to a request for proposals or by auction.

(9) A review of the impact of federal communications commission policy and regulations on the potential sale of the network in its entirety or in parts, and a recommendation as to the manner in which the network should be sold as a result of this review.

(10) Other relevant issues as identified by the commission.

b. The commission shall consult with other state agencies, appropriate federal agencies, and private associations and vendors in completing this study.

2. The commission, in consultation with the utilities division of the department of commerce, shall study the possible conversion of the Iowa communications network into a public utility. The study shall include a review of legal and practical issues identified by the commission and the division which may affect such conversion.

3. The commission, prior to November 1, 1995, shall complete the studies required by this Act and deliver a written report including any recommendations related to each study to the members of the house of representatives committee on technology and the senate committee on communications and

HF 461 Study
Critical Path

General Assembly
HF 461
Requires ITTC to study feasibility of sale or conversion to public utility

⇩

ITTC
Appoints task force to conduct feasibility study

⇩

461 Task Force
Joan Axel, Chair
Robert Halford
Yale Kramer
Gen. Warren Lawson
Todd Linden
Jim Meyer
Ben Norman
David Roederer
Ed Stanek
George Strawn
Allan Thoms
Emmett Vaughan
Teresa Wahlert

⇦ ⇨

Facilitator & Support
State Public Policy Group
Tom Slater, Project Director
Amy Campbell, Project Lead
Robert Fleming
Arlinda McKeen
Joe Shannahan
Tori Squires
Shannon Tyler
Sally Johnson
Ben Grimley

⇩

ITTC
Reviews options studied by task force and makes recommendation

⇩

Recommendation

⇩

General Assembly

Definitions

Affordable

Affordable, as it applies to rates for authorized ICN users, is the current rate structure. The Task Force agreed on this definition for the purposes of this study, but agreed that state legislators, the Governor, and the ITTC will need to make a policy decision on what is considered *affordable*. The Task Force was able to obtain information on what *affordable* means to authorized users and the business community *(see Report Appendix for Opinion Survey Summary)*.

Prepared by: *461 Task Force*

Capacity

Capacity is the quantifiable measurement of a telecommunications facility's ability to carry communications. In a digital network, capacity is measured in the amount of bits of digital information transmitted over a period of time. Typically the measurement is in bits per second.

Prepared by: Dick Vohs, *Iowa Network Services*; Ed Stanek, *Iowa Lottery Commission*; Tommy Thompson, *Iowa Communications Network*

Dark Fiber

Dark Fiber is fiber that has not been activated by electronics.

Prepared by: *461 Task Force*

Excess Capacity

Excess Capacity is capacity in addition to that which is required to transmit a communication. In immediate terms, the excess capacity of the ICN would be the difference between existing capacity and the forecast of needs for authorized users.

Capacity can be increased by upgrading the electronic equipment which transmits digital impulses over the fiber. In a fiber optic system, capacity is limited only by this transmission equipment. Although the fiber in the ICN has potentially limitless capacity, the electronics currently in place limits the capacity so that there is no excess capacity currently available.

Provided by: Dick Vohs, *Iowa Network Services*; Ed Stanek, *Iowa Lottery Commission*; Tommy Thompson, *Iowa Communications Network*

Minimum Capacity

Minimum Capacity is the capacity required to transmit a communication.

Provided by: Dick Vohs, *Iowa Network Services*; Ed Stanek, *Iowa Lottery Commission*; Tommy Thompson, *Iowa Communications Network*

Public Utility

Public Utility, as the term is used in HF 461 § 1(2) (Iowa Acts 1995), means any entity, public or private, furnishing an extensive range of two-way communications services to the general public for compensation.

Iowa Code § 476.1 defines a "public utility" as any entity "owning or operating any facilities for...furnishing communications services to the public for compensation." In practice, regulated communications services under the definition have been two-way services, thus eliminating broadcasting and cable television from Utilities Board jurisdiction. Entities covered by this definition can be governmental units or private companies.

Provided by: Allan Kniep, *Iowa Utilities Board*

Telecommunications

Telecommunications is the electronic transmission of voice, data, or video communications. Telecommunications includes various technologies and provides real time communications or interactivity.

Provided by: Bob Halford, *Clear Lake Independent Telephone Company*; Dick Vohs, *Iowa Network Services*

Telecommunications Provider

A ***Telecommunications Provider*** is any individual, partnership, association, joint-stock company, trust, governmental entity, or corporation engaged for hire in communication, through a telecommunications medium, between two or more locations. Telecommunications can involve copper wire, fiber optics, coaxial cable, radio, microwave, satellite, and cellular technologies.

Examples of Telecommunications Providers:

1. Iowa Department of General Services (Communications Team)
   IDGS provides communications services for state agencies and receives payment through accounting procedures. Their mission statement is "to provide, through an ongoing commitment to user needs, effective, integrated communications services."

IOWA DEPARTMENT OF JUSTICE

TO: 461 TASK FORCE

FROM: Chris Scase, Assistant Attorney General C. Scase

RE: Study of the ICN -- Legal Issues

DATE: September 26, 1995

The legal issues discussed below are those identified on the Matrix developed by the task force. An executive summary is provided for the reader's convenience. The summary is followed by a more detailed analysis. In each instance, an overview of the issue, including relevant contract terms, statutory provisions, and legal principles; will be followed by a discussion of the impact of each of the various options under consideration by the task force. The options under consideration, as set forth in the task force matrix, are as follows:

Option 1 - Sale of Network (No Assurances)
Option 2 - Sale of Network (With Assurances)
Option 3 - Sale of Excess Network Capacity
Option 4 - Private/Public Ownership
Option 5 - State Ownership Private Operations
Option 6 - State Ownership Private Management
Option 7 - State Lease to Private Companies (Competitive)
Option 8 - State Lease to Private Companies (Not Competitive)
Option 9 - State Ownership and Operation (No Changes)
Option 10 - State Ownership and Operation (No Limits)

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EXECUTIVE SUMMARY
461 TASK FORCE - LEGAL ISSUES

1. Public Rights of Way - What is the effect of each option on public rights of way?

Public right of way issues do not present barriers to the sale or alternate ownership or management of the network. All but Options 6 and 9 would likely trigger DOT right of way fees for non-governmental use of the network. Annual fee for current urban and rural freeway use would be approximately $ 700,000.

- **Options 1-3**: A sale of the network, with or without assurances of access for current authorized users, or a sale of excess capacity would likely result in significant non-governmental use of the network. In this event, the purchaser would be responsible for payment of DOT right-of-way fees, which are currently waived for governmental purposes.

- **Options 4-5, 7-8**: Each of these options (joint private/public ownership, state ownership with private operations or management, and state ownership with lease of excess capacity to one or more private entities) will trigger the imposition of right of way fees to the extent they result in non-governmental use of the network.

- **Option 6**: Utilizing a private entity to manage the network without expanding the user base will not impact the current fee waiver.

- **Option 9**: The DOT fee waiver will remain in effect for up to 26 more years if neither owners nor authorized users change.

- **Option 10**: If the state retains ownership and removes limitations on access, the resulting private use will generate DOT fees.

2. Contracts - What is the effect of each option on existing 28E agreements, federal grant compliance language, licenses, and contracts currently in effect?

The contracts reviewed to date would not present barriers to the sale or alternate ownership or management of the network, but some could trigger significant demands for recoupment.

- **Phase I & II Agreements**: The state's obligations under the maintenance contract with McLeod would transfer to the purchaser in the event of a sale under Options 1 and 2, could be shared with a private entity under option 4, and would remain with the state under Options 3, 5-10. Current annual cost approximately $ 2,900,000.

5. STARC Armory - What is the status of the ICN Hub (currently housed in a federal facility)?

The state has no ownership interest in the STARC Armory facility. Rather, the state has the right to use the building under a license agreement which may not be transferred or assigned to another party. The need for a purchaser of the network to construct alternative facilities would entail substantial cost.

- **Options 1-3**: The state owns equipment in the hub, but not the hub itself. The state's right to use the hub under a license agreement can not be transferred without the consent of the National Guard - consent it is unlikely to be provided to a private entity. If the hub is relocated, it must meet FEMA survivable crisis standards to avoid a recoupment demand of almost $3.5 million. The cost of such an alternative site could be substantial.

- **Options 4-6**: Federal ownership of the hub would not preclude public/private ownership or contracting management or operations. However, any such option must accommodate state personnel staffing of the hub. It is unlikely the Guard will permit non-state contractors to provide personnel to staff the hub.

- **Options 7-10**: The sale or lease of excess capacity, or continued state ownership and operation would not be significantly impacted by the federal ownership of the hub.

6. Regional Switches/Points of Presence - Under each option, what is the status of and effect on the state facilities housing the regional switches and county points of presence access locations?

Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. While no written agreements are in place defining state use of these facilities, the state legislature has authority to enact legislation mandating that the community colleges, local schools, and other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network.

7. Phase III - What is the status of Part III facilities under each option?

The Part III contracts include assignment provisions and should not present a significant barrier to a sale or alternate ownership or management of the network.

1. Public rights of way.

What is the effect of this option on the public rights of way?

A. Current status

1. DOT 28E Agreement

   a. Parties Iowa Department of Transportation [DOT], Iowa Department of General Services [DGS].
   b. Date September 24, 1991
   c. Duration Initial term is 20 years, agreement may be renewed for an additional 10 year period.
   d. Terms:
      -- DGS allowed to construct and operate fiber optic transmission lines on highway rights of way
      -- DGS obligated to comply with DOT policy for accommodating utilities
      -- Fee: $ 1.00 per year "as long as General Services' fiber optic system is used solely for governmental purposes . . ."
      -- Any other, nongovernmental users, must obtain separate DOT permits and approval and will be subject to all fees.
   e. Amount of right-of-way fees at issue
      Based on the calculations provided by ICN staff, annual fee waivers for buried fiber for Parts I & II are:

Urban freeways (22.28 miles)	$ 113,895.
Rural freeways (351.34 miles)	$ 583,320.
	$ 697,215.

2. County roads - DGS has permits in place for use of county road rights of way. The county agreements are not in a standard format. The vast majority of these agreements do not address fee imposition or assignment.

3. City streets - county road comments are applicable.

4. Railroads - DGS also has a number of railroad license agreements in place. The terms of these agreements vary. Some are assignable on notice, others are assignable only with consent of the railroad. The fees applicable to these licenses are negligible.

2. 28E agreements, federal grant compliance, licenses and other contracts.

What is the effect of this option on existing 28E agreements, federal grant compliance language, licenses, and contracts currently in effect?

There are literally hundreds of agreements and contracts in place relating to construction, maintenance and use of the ICN. The bulk of these contracts concern right-of-way usage. These have been discussed in response to issue 1. Of the remaining agreements and contracts, the following have been identified as having the most significant impact on the options for sale, lease, or alternate disposition of the network or excess capacity therein.

A. Phase I & II Maintenance Agreement (Addendum A to the construction contract).

1. Parties Kiewit Network Technologies, Iowa Department of General Services (Kiewit interest was assigned to McLeod Telecommunications, Inc. 10/9/92)

2. Date Original contract - April 15, 1991; Addendum A - October 9, 1992

3. Duration 10 years from the end of the last warranty period on Phases I & II. DGS has option to renew for two additional five-year terms.

4. Terms:
-- Scope of work: McLeod obligated to provide work necessary to service ICN equipment (all Phase I and II fiber and circuitry) according to manufacturer's recommendations, perform periodic tests to assess performance levels and degradation, conduct remedial maintenance, monitor alarms and dispatch technicians as appropriate, and maintain accurate records on network performance. McLeod provides dispatching operations for maintenance and repair on a 7 day per week, 24 hour per day basis.
-- State provides facilities (trouble desk and Network Service Center), located at STARC armory hub.
-- Contract may be terminated by the State only in the events of nonperformance by McLeod or nonappropriation.
-- Assignment/successors [¶7]: "The responsibilities of the State included herein, shall be binding upon the State's successors, or assigns in the event of the sale, transfer or any other change in the State's interest in the system."
-- Fees/annual cost: base cost, $ 2,559,313; plus annual adjustment for inflation based on Consumer Price Index; additions increase maintenance cost at annualized rate of 3% of the installed value of additional cable and equipment. Per report from Tommy Thompson, current annual cost is approximately $ 2,900,000.

B. **Federal Funding**

1. **Federal Emergency Management Agency [FEMA] – discussion under issue 3.**

2. **National Guard / Televideo Communications Network**

a. Cooperative Agreement for federal funding (direct appropriation)

1. Parties State of Iowa/Dept. Public Defense, National Guard Bureau. (Iowa Department of General Services is also signatory).
2. Duration through September 30, 1998
3. Terms:
-- Federal funding, not to exceed $ 9,323,000. provided by National Guard Bureau as agent for Advanced Research Project Agency.
-- purpose, establish connections between the Defense Simulation Internet, State fiber optic infrastructure, and National Guard sites within the state [Iowa National Guard Telecommunications Network].
-- the agreement may not be assigned without consent of the other party [§ 704]
-- Section 712 addresses change of circumstances, providing as follows: "In the event the [ICN] network is sold then the state agrees to include in the terms of such sale an assurance that the purposes for which research and development funding is being made available under this agreement, will proceed in accordance with provisions cited in Section 101 of this agreement."

b. 28E Agreement re: Iowa DGS role

1. Parties Department of Public Defense, Dept. General Services
2. Duration through September 30, 1998
3. Terms:
-- allows DGS, subject to Cooperative Agreement and Statement of Work, to execute contracts for design, construction, equipment, operation, and maintenance and repair of Iowa National Guard Telecommunications Network.
-- terms and conditions of Cooperative Agreement are incorporated by reference.

c. Impact of Options

Options 1-10: Under the terms of governing federal regulations, ownership and management structure of the network have no direct impact on this grant. As long as the equipment purchased with funds under this grant is used for to enhance distance education in the schools, the structure of the ICN will have no direct impact.

4. U.S. General Services Administration / ICN Pilot Project

a. Memorandum of Understanding

1. Parties U.S. General Services Administration, Iowa Telecommunications and Technology Commission
2. Duration Executed March 1995; period of performance extends through June 30, 1996. May be cancelled by either party upon 30 days written notice.
3. Terms:

-- ITTC agrees to conduct ten specified projects for GSA, projects include establishing model federal/state joint use facility, installing video conferencing systems connected to the ICN for Social Security Filed Offices, Hearing Office, and DDSB; Federal Courthouses; Dept. of Veterans Affairs; VA Medical Centers; studying viability and cost of IRS connections; coordinate Internet access.

-- ITTC retains title to network equipment purchased by the ITTC with GSA funding, with the exception of Kansas City and Washington D.C. connections.

-- Access limited to "authorized users" as defined by chapter 8D.

-- GSA funding, $ 2,952,500 federal appropriation.

-- ITTC agrees to make ICN access to federal agencies available at a maximum charge of $ 40/hour per end point.

b. Impact of Options

Options 1-10: The ITTC owns equipment purchased and installed on the network in Iowa. The agreement may be cancelled upon 30 days written notice. Under these provisions, the state may sell, lease, or retain ownership of those portions of the network built out with this federal funding. Obligation to provide access at $40/hour rate continues through term of the contract, until June 1996.

C. Use Agreements

1. Board of Regents

a. 28E Agreement re: utilization of ICN

1. Parties Iowa State Board of Regents, Iowa Department of General Services
2. Date May 10, 1993
3. Duration unstated, agreement may be transferred to successor entities upon mutual consent and may be terminated by either party upon 90 days notice.
4. Terms:

-- Regents institutions will use ICN for telephonic, data and video transmissions.

-- ICN will provide service at rates equal or lower than other carriers.

-- Regents agree to pay equipment and cabling costs needed for conversion to ICN.

b. Construction and maintenance memorandum of understanding

1. Parties Board of Regents, Dept. of General Services
2. Date March 21, 1994
3. Duration May be terminated by either party upon 30 days notice. Upon termination, DGS agrees to remove all ICN equipment at its expense and be responsible for any damage to university facilities or equipment caused by the removal.
4. Terms:

-- DGS allowed to install fiber optic transmission lines to connect universities to ICN.

-- DGS retains ownership of Utility facilities and obligation to maintain.

c. Impact of Options

Options 1-10: The 28E agreement for ICN use may be transferred to a successor/purchaser if the Board of Regents consent. In addition, both the use agreement and construction/maintenance MOU include termination provisions. These agreements provide no barrier to sale of the network or the other options under consideration.

3. **Federal Emergency Management Agency [FEMA]**

Will the terms of the FEMA agreements be fulfilled under this option? Will FEMA require reimbursement for their investment? Are there consequences to the state's emergency response activities?

A. Grant awards

1. Survivable Crisis Management [SCM] / Phase II - State Alternative Emergency Operations Center [AEOC] - construction
   a. Parties FEMA and State [Emergency Management Division]
   b. Funding 1990 award - $ 1,650,000
      1992 award - $ 1,500,000
      $ 3,150,000
      These awards required equal dollar match by State, FEMA accepted a portion of the State's investment in construction of the ICN as an in-kind match. No additional State expenditure was required.
   c. Terms:
      -- State justified use of ICN construction and SCM enhancements of the ICN for match to federal investment in Armory construction on basis of availability of ICN as direct communication link.

2. SCM enhancements of ICN system
   a. Parties FEMA and Emergency Management Division
   b. Funding 1993 award - $ 500,000
      This was a federal allocation to the ICN to contribute to cost of SCM enhancements of ICN specifications to enable the completed ICN project to meet State Emergency Management communications needs/FEMA EOC communication requirements (primary expenditure was for alternate power source/generators). ICN was appropriated $ 500,000 of state funds to provide cash match.

3. Alternate EOC equipment
   a. Parties FEMA and Emergency Management Division
   b. Funding 1994 award - $ 255,000
      Funds allocated for furnishing/equipping the Alternate Emergency Operations room in the basement of the Armory. The state's ICN construction expenditures were used as in-kind match.

B. Discussion:

As noted, a direct state appropriation of $ 500,000 was used as match for federal funding of the SCM enhancements of the ICN system itself. The remaining FEMA allocations, totalling $ 3,405,000, were directed to constructing and equipping the SEOC in the basement of the Armory. The connection to the ICN is in that the state was allowed to use ICN construction expenditures as an in-kind match for the funds. Rather than expending a matching $ 3,405,000 toward the armory project, FEMA allowed us credit for ICN expenditures.

4. Federal agency, telemedicine, and National Guard build-out.

State law requires federal agencies, telemedicine, and National Guard federal grant programs to pay for system-wide buildout. What are the ramifications of this option on this arrangement, and what is the state's obligation to provide this service in the future?

As discussed in relationship to Issue 2, federal grant awards and/or appropriations have been and are being used to connect federal agencies, hospitals, clinics, and National Guard facilities to the ICN. In each case, the funding agreements define the services which the state is obligated to provide. Given the specific terms of these agreements with regard to network access, it is unlikely that further access obligations would be inferred.

A. Controlling agreements.

1. Federal agency buildouts - U.S. General Services Administration funding

a. Memorandum of Understanding

1. Parties U.S. General Services Administration, Iowa Telecommunications and Technology Commission
2. Duration Executed March 1995; period of performance extends through June 30, 1996. May be cancelled by either party upon 30 days written notice.
3. Terms:

-- ITTC agrees to conduct ten specified projects for GSA, projects include establishing model federal/state joint use facility, installing video conferencing systems connected to the ICN for Social Security Filed Offices, Hearing Office, and DDSB; Federal Courthouses; Dept. of Veterans Affairs; VA Medical Centers; studying viability and cost of IRS connections; coordinate Internet access.

-- ITTC retains title to network equipment purchased by the ITTC with GSA funding, with the exception of Kansas City and Washington D.C. connections.

-- Access limited to "authorized users" as defined by chapter 8D.

-- GSA funding, $ 2,952,500 federal appropriation.

-- ITTC agrees to make ICN access to federal agencies available at a maximum charge of $ 40/hour per end point.

b. Impact of Options

Options 1-10: The ITTC owns equipment purchased and installed on the network in Iowa. The agreement may be cancelled upon 30 days written notice. Under these provisions, the state may sell, lease, or retain ownership of those portions of the network built out with this federal funding.

No explicit provision regarding the ongoing provision of the connection to the ICN is included in the state's agreement with GSA. Further, the agreement expires on June 30, 1996.

3. National Guard

a. Cooperative Agreement for federal funding

1. Parties State of Iowa/Dept. Public Defense, National Guard Bureau. (Iowa Department of General Services is also signatory).
2. Duration through September 30, 1998
3. Terms:
-- Federal funding, not to exceed $ 9,323,000. provided by National Guard Bureau as agent for Advanced Research Project Agency.
-- purpose, establish connections between the Defense Simulation Internet, state fiber optic infrastructure, and National Guard sites within the state [Iowa National Guard Telecommunications Network].
-- the agreement may not be assigned without consent of the other party [§ 704]
-- Section 712 addresses change of circumstances, providing as follows: "In the event the [ICN] network is sold then the state agrees to include in the terms of such sale an assurance that the purposes for which research and development funding is being made available under this agreement, will proceed in accordance with provisions cited in Section 101 of this agreement."

b. 28E Agreement re: Iowa DGS role

1. Parties Department of Public Defense, Dept. General Services
2. Duration through September 30, 1998
3. Terms:
-- allows DGS, subject to Cooperative Agreement and Statement of Work, to execute contracts for design, construction, equipment, operation, and maintenance and repair of Iowa National Guard Telecommunications Network.
-- terms and conditions of Cooperative Agreement are incorporated by reference.

c. Impact of options

Options 1 & 2: The State agreement with the National Guard Bureau does not preclude a sale of the network. The agreement does, as noted above, require that any sale be made with assurances that the Guard project will proceed. If a sale took place without such assurances (Option 1), the National Guard Bureau would be entitled to seek recoupment of the funds which they have invested in the system. Potential recoupment may be mitigated if an alternate mechanism for continuation of the project is available.

5. Status of the ICN Hub

What is the status of the ICN Hub (currently housed in a federal facility)?

A. STARC Armory

1. Federal - State agreement (construction and occupancy)

   a. Parties National Guard Bureau - Departments of the Army and Air Force, and State of Iowa
   b. Date April 18, 1990
   c. Duration concurrent with License Agreement ("indefinite period of time, commencing on 1 July 1989")
   d. Terms:
   -- cooperative agreement for joint design, construction operation, maintenance and repair of armory
   -- State agrees to be fund construction of State's portion of the project (Enhanced Criteria Space and State Emergency Operations Center, approximately 52,000 square feet)
   -- State agrees for fund operation, maintenance and repair (separate 28E agreement divides these expenses among the State Agencies utilizing the facility, DGS/ICN assumes 18%)
   -- Title to all real property constructed vests in the U.S. Government; State has right to use pursuant to the license agreement
   -- Termination: either party may terminate agreement upon 30-days notice, if the State terminates, the State has no right to reimbursement of funds provided for design and construction of facility

2. License agreement

   a. Parties Secretary of the Army, State of Iowa
   b. Date effective July 1, 1989
   c. Duration indefinite, may be terminated by State upon 30-days notice
   d. Terms:
   -- authorized state use and occupancy subject to terms of agreements between state and National Guard Bureau
   -- may not be transferred or assigned

3. State agency 28E

   a. Parties Iowa Department of Public Defense -- Military Division and Disaster Services [Emergency Management] Division, Iowa Department of General Services, Iowa Public Broadcasting Board
   b. Date filed May 11, 1990
   c. Duration indefinite

6. Status of state facilities housing the regional switches and county points of presence access locations.

Under this option, what is the status of and effect on the state facilities housing the regional switches and county points of presence access locations?

ICN staff indicates that there are not written agreements or easements in place defining the state's use of these local facilities. The fifteen regional switches and all county points of presence are located in publically owned facilities. It is my understanding that the switches are located in the community colleges and the county points of presence are primarily in local schools, but occasionally in other public facilities.

In the absence of agreements which potentially could provide for assignment of the state's right to use the facilities housing the switches and county points of presence, it will be necessary for the legislature to provide direction regarding these facilities if the status of the network changes. The legislature has authority to enact legislation mandating that the community colleges, local schools, or other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network.

B. **Contracts with Single End Point Vendors**

1. Parties: Numerous
2. Date: Varies
3. Duration: Same as contracts with major vendors.
4. Terms:
   --Same as contracts with major vendors except that these contracts do not include a nonsubstitution provision.

5. Impact of Options: Same as contracts with major vendors

Options 4-6: Current section 8D.13(18) exempts the ICN, but not a privately-owned or operated network from Board regulation. Presumably, if a private co-owner, operator, or manager were allowed to generate an independent customer base, they would be subject to Board jurisdiction.

Options 7 & 8: The effect of chapter 476 with respect to that portion of the network leased to a private company with assurances would be the same as in the circumstance of sale of the network with assurances under Option 2.

Options 9 & 10: The section 8D.13(18) exemption of the ICN from Board jurisdiction is not conditioned upon limitation of the access to current authorized users. If the network remains state owned and operated, section 8D.13(18) exempts it from Board regulation.

A preliminary review of case law reveals no authority to supporting such a claim. See 12 E. McQuillen, Municipal Corporations, § 35.13 (3d Ed. 1986) (discussing well-recognized principle that, absent an exclusive franchise, a municipality may construct and operate a utility in direct competition with an existing privately owned public utility). The United States Supreme Court has held that no compensable taking occurred when a city acted to establish a rail service in competition with a private rail service previously granted a non-exclusive franchise to operate within the city. United Railroads of San Francisco v. San Francisco, 249 U.S. 517, 39 S.Ct. 361, 63 L.Ed. 739 (1919). Similarly, the courts have uniformly found municipalities exempt from antitrust liability based upon the establishment of a municipal service pursuant to expressed statutory authorization. See Paragould Cablevision v. City of Paragould, Ark., 930 F.2d 1310 (8th Cir. 1991) and cases cited therein.

There is no apparent basis to distinguish between municipal governments and state government for purposes of applying these principles. Therefore, a challenge to ICN competition with private enterprize based upon either the 5th Amendment or antitrust law would be highly unlikely to succeed.

RESEARCH FOR 461 TASK FORCE
PREPARED BY UTILITIES BOARD STAFF
JULY 20, 1995

8. **Identify any conflicts in compliance with the policies and regulations of the Iowa Utilities Board, Interstate Commerce Commission, and the Federal Communications Commission.**

The portion of the research concerning the Iowa Utilities Board (Board) was done by Board staff. The Board's Washington counsel prepared a memo, summarized in this document, concerning the Interstate Commerce Commission (ICC) and the Federal Communications Commission (FCC). Our counsel discussed their memo with FCC staff. The research is based on our understanding of the ICN and assumes current statutory language relating to the regulatory authority of the Board, the ICC, and the FCC.

Based on our current understanding, the ICC would not be concerned with changes in ownership or operation of the ICN. The significant concerns of federal agencies, other than the FCC, would be areas such as grants and rights-of-way, which are being considered as separate issues by the task force. Because the ICN provides telecommunications services, the FCC would be the primary federal agency that would regulate the proposed transactions.

None of the ten options appears to conflict with the 1934 Communications Act, which is the basic grant of regulatory authority to the FCC. The Act does not prohibit any telecommunications entity from selling or leasing all or part of its facilities. It also does not prohibit combining state and private ownership or management of facilities. As long as regulatory requirements are met, the state should be free to pick among the options without concern that any option would violate the Communications Act.

At the same time, many of the options require regulatory compliance or approval, which may delay or complicate implementation of a particular option. FCC licenses or authorizations issued under § 214 of the Communications Act may have to be transferred. If the state retained ownership, but opened the ICN to all users, it probably would become what the FCC classifies as a non-dominant common carrier and would have to comply with FCC regulatory requirements associated with that status. Certificates and tariffs also may be required by the Board.

One issue for both the FCC and the Board raised by several of the options would be how to handle the ICN's offering of discounted services to distance learning or distance medicine users. However, if the discounts could be justified as reasonable, both the FCC and the Board would have the discretion to approve them.

If the ICN becomes a common carrier offering interstate service to all users, it would have to comply with the following sections of the Communications Act:

exchange service to the public and not to provide service to authorized ICN users.

OPTION 4 Private/Public Ownership

Board: Depending on the role of the state in the joint venture, this option might lead the legislature to amend IOWA CODE § 8D.13(18), which currently eliminates the Board's jurisdiction over a public utility providing a service or facility to the ICN or over a user's connection to the ICN. If the joint venture operates like any other for-profit utility, it probably would not be appropriate for it to operate free of regulation when its competitors must comply with regulatory requirements.

FCC: Similar to option 2. Transfer of the § 214 certificate may not be necessary, or may be easier, because the state would remain a part owner.

OPTION 5 State Ownership/Private Operations

Board and FCC: Essentially the same as option 4.

OPTION 6 State Ownership/Private Management

Board and FCC: Depending on the authority given to the manager, and provided that the user group is not expanded, this probably would not change the status quo.

OPTION 7 State Lease to Private Companies - Competitive

Board: From the standpoint of the Board's regulation, lease of excess capacity would be very similar to sale, as in option 3. The Board generally regulates the entity providing service to end user customers, without much concern for whether it owns or leases the facilities to provide the service.

FCC: This would vary from option 3, in that transfer of the § 214 certificate probably would not be necessary because it is a lease, not a sale.

OPTION 8 State Lease to Private Companies - Not Competitive

Board and FCC: For regulatory purposes, this is similar to option 7.

FINAL REPORT TO THE 461 TASK FORCE

on

BONDS AND CREDIT CONSIDERATIONS
(Issues #10 & #11)

October 9, 1995

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OVERVIEW AND GENERAL CONSIDERATIONS

The following are some general observations regarding the issues that are presented. These comments may be of assistance to you in reading our individual conclusions in the Matrix.

I. Limitation Imposed on the State by reason of the Tax-Exempt Bond Issue:

The State has issued two (2) Tax Exempt Certificates of Participation Issues to pay for a substantial portion of the costs of the Network totaling 114,530,000. For ease o reference, these will be collectively referred to as the "bond issue". Except in one area, the bond issue, and its tax exemption, would not prevent the state from taking any course of action. The state may always pay off the bond issue (except in that one situation) and may, if it needs to continue a debt obligation, replace it with a taxable bond issue or with some combinations, if the option would otherwise create a tax exemption problem. These may be expensive alternatives, but they are alternatives.

II. The Single Limitation Imposed by the Bond Issue:

There is one area where the action of the State is limited by the bond issue:

- The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding.
- By the terms of the Bond Documents, all of the bonds may not be prepaid until July 1, 2003.
- For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until July 1, 2003.
- A sale or change of use of the ICN (except as a general utility) including sale or lease of certain portions of the network of more than 10% of the network capacity, to selected private businesses, or the placing of the network in certain types of management contracts, could result in such an adverse effect on the tax-exempt status, therefore such could not be done until July 1, 2003.

However, there are two exceptions to that limitation:

1. Coming within the Federal Tax Exempt "safe haven guidelines" for change of use of a facility financed with tax exempt Bonds.

Under the conditions material to these discussions, if the Bonds were to be Private Activity Bonds, they would not be tax exempt.

Private business use means direct or indirect use in a trade or business carried on by any person other than a governmental unit (except the federal government). Use as a member of the general public under conditions prescribed in the Internal Revenue Service regulations is disregarded.

As a practical matter, however, if the use by the general public turns out to be insubstantial, it will not exempt the Bonds if they otherwise are Private Activity Bonds.

Restricting the use of the network to certain types of businesses would not comply with the General Public Use Exception; however, under certain circumstances where only certain segments of the population may, as a practical matter, use a facility, it may not violate the General Public Use Exception (i.e., parking garages and toll roads as a practical matter may only be used by members of the general public having vehicles).

Independent of the foregoing, certain 501(c)(3), not for profit entities use of the network may not affect the tax exempt status of the Bonds. There are special IRS rules with respect to 501(c)(3) usage. The Bonds were issued complying with those provisions (with respect to the not for profit entities then proposed to use the facilities). The restriction by the Iowa ICN statute to use by private hospitals and colleges (which are 501(c)(3) entities) is permitted by this exception.

It is for this reason that generally special attention must be given when use by private entities exceeds 10% of the use of the facility. However, when publicly owned facilities which are intended for general public use, such as toll roads or bridges, are constructed with the proceeds of a bond issue and used by nonexempt persons in their trades or businesses on the same basis as other members of the public, such use does not constitute a use in the trade or business of a nonexempt person for the purposes of this test.

V. **Sale of Excess Capacity;**
Lease of Excess Capacity;
Expanded Use:

The different options involving the foregoing may generally be treated the same for tax exempt purposes. The tax exempt regulations generally deal with the issue of whether or not there is private use of the network regardless of the form of the transaction (sale, lease, access contracts or operation or management contracts not in compliance with IRS regulations) which allow that use.

2. Definitions must be made of where the network "ends" and the facilities of the user (school district, armory, etc.) begin. Related to this are the legal rights of the state, or a purchaser, with respect to equipment rooms (generally in school facilities) and rights-of-way from the public rights-of-way through school or private property to the equipment rooms. Of particular concern to the parties acquiring a security in the network was that in foreclosure, the security holder must have rights to continue switching operations through those equipment rooms which then numbered somewhat over 100.

VIII. Certain Use of Terms (Definitions):

"Pay the Bonds" means payment by placing sufficient funds in escrow sufficient to pay interest until the first call date and to pay the bonds on the first call date.

"Defease the Bond Documents" means placing funds in escrow sufficient to pay interest and the bonds through their first call date and thereby relieving the State of the obligations of the covenants of the Bond Documents (except for the covenant whereby the State agrees not to take any action which would affect the tax-exempt status of the bonds).

"Bonds" for ease of reference means the "certificates of participation" which is the debt instrument used in this lease purchase financing rather than an instrument actually entitled "bonds".

"Refunding the Bonds" means issuing a new series of Bonds, which could be either tax-exempt or taxable, and using those proceeds to pay the outstanding Bonds and defease the covenants of the Bond Documents.

"Bond Documents" includes all of the bond documents entered into by the State in relation to the sale and issuance of the Bonds including the lease purchase agreement, the trust agreement, the offering statements (and representations), the ground use agreement and the mortgage and security agreement.

"General Public Use Exception" means that exception that whereby such use is not considered in applying the prohibition against 10% or more use by nonexempt persons in their trade or business.

"5-Year Safe Haven" means the safe haven referred to in Discussion Paper I relating to subsequent change of use or sale generally providing that the tax exemption of bonds will not be affected by the sale or change of use which violates the 10% rule where the issuer reasonably expected to continue the governmental use of the facility when the bonds were issued and the use

ISSUES	Reference Materials	OPTION 1 *Sale of Network* *(No Assurances)*	OPTION 2 *Sale of Network* *(With Assurances)*	OPTION 3 *Sale of* *Excess Network Capacity*
Bonds/Credit				
10. What is the effect of this option on the status of the tax exempt bonds used to finance Parts I and II of the network? Does this option result in a violation of any provisions of the bond documents?	Bob Helmick (for Dorsey & Whitney) Analysis *(in Report Appendix)*	**Considerations** • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).* • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until their first prepayment date. • A sale or change of use of the ICN (except as a general utility) would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date. **Constraints** • The State may not sell the network unless it makes provision that interest on the Bonds will remain tax exempt.	**Considerations** • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).* • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until their first prepayment date. • A sale or change of use of the ICN (except as a general utility) would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date. **Constraints** • The State may not sell the network unless it makes provision that interest on the Bonds will remain tax exempt.	**Considerations** • Under IRS regulations, the sale of more than 10% of excess capacity is the same as a sale. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).* • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until the first prepayment date. • A sale of more than 10% of the excess capacity would result in such an adverse effect on the tax exempt status, therefore such could not be done until the first prepayment date.

ISSUES	Reference Materials	**OPTION 1** *Sale of Network (No Assurances)*	**OPTION 2** *Sale of Network (With Assurances)*	**OPTION 3** *Sale of Excess Network Capacity*
				• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the Bonds at the first prepayment date. **Effects** • Excess capacity can be sold to the general public. • If under some circumstances there is little direct use by the general public, a sale of more than 10% excess capacity could not be made unless the State complies with the actions outlined in "responses to constraints."

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*

		Constraints
		• The State may not pursue this option unless it makes provision that interest on the Bonds will remain tax exempt.
		Responses to Constraints
		• This option is prohibited before the first prepayment date, unless the State:
		  • Pays the Bonds and comes within the Five-Year Safe Haven (1998), OR
		  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
			Constraints
			• The State may not pursue this option unless it makes provision that interest on the Bonds will remain tax exempt.
			Responses to Constraints
			• This option is prohibited before the first prepayment date, unless the State:
			  • Pays the Bonds and comes within the Five-Year Safe Haven (1998), OR
			  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
				Constraints
				• Under IRS regulations, this option would be the same as a sale, unless there is compliance with the IRS Management Agreement Rules.
				• The management of the network by a private entity would not have an effect upon the tax exempt bonds so long as the management agreement complies with IRS regulations.
				• IRS regulations generally prohibit long-term management contracts which in effect would give the benefit of ownership to the manager. *(See Discussion Paper III for more information)*
				Responses to Constraints
				• Comply with IRS Management Agreement Rules *(see Discussion Paper III)*, OR
				• This option is prohibited before the first prepayment date, unless the State:
				  • Pays the Bonds and comes within the Five-Year Safe Haven (1998), OR

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Bonds/Credit					
10. What is the effect of this option on the status of the tax exempt bonds used to finance Parts I and II of the network? Does this option result in a violation of any provisions of the bond documents?	Bob Helmick (for Dorsey & Whitney) Analysis *(in Report Appendix)*	**Considerations** • Selected leases to private users for purposes of tax exemption has the same effect as a sale. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).* • For this reason, the State may not take any action which would adversely affect the tax exemption of the bonds until the first prepayment date.	**Considerations** • For the purposes of tax exemption, a lease of excess capacity is the same as a sale. • As the State would be eliminating a segment of the general public (those in areas already served by private utilities), such an arrangement would violate the General Public Use Exception and could affect the taxability of the bonds. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding. • By the terms of the Bond Documents, the bonds may not be prepaid until their first option date *(July 1, 2002 with respect to the 1992 bonds, and July 1, 2003 with respect to the 1993 bonds).*	**Considerations** • This option provides no change in the use of the network. The present network configuration and use complies with bond documents and IRS regulations. **Constraints** • There would be no constraints other than present arrangements. **Effects** • The legality of the bonds and compliance with their terms would not be affected .	**Considerations** • If the State desires to widen the permitted users to the network, it must do so in a manner that will not affect the tax exempt status of the bonds, or it must pay off the bonds. • If private non-exempt users are permitted so that their use is more than 10% of the ICN, that use must be the same as for members of the general public (i.e. the IRS General Public Exception must be complied with). In effect, the network would become a public utility. • The State has covenanted with the bondholders that it will maintain the tax exempt status of the bonds so long as the bonds are outstanding.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*

		• Unless the State complies with the General Public Use Exception, this option will be the same as a sale.
		
		• This option is prohibited before the first prepayment date, unless the State:
		
		  • Pays the Bonds and comes within the Five-Year Safe Haven (1998), OR
		
		  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
		
		• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the Bonds at the first prepayment date.
			• Obtains a private letter IRS ruling confirming the continuing tax exempt status.
			
			• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the Bonds at the first prepayment date.
			
			Effects
			
			• The legality of the bonds and compliance with their terms would not be affected, so long as the State complies with the "responses to constraints."
					Response to Constraints
					
					• The State must comply with the General Public Use Exception by having the network open to all *(see Discussion Paper II)*, OR
					
					• This option is prohibited before the first prepayment date, unless the State:
					
					  • Pays the Bonds and comes within the Five-Year Safe Haven (1998), OR
					
					  • Obtains a private letter IRS ruling confirming the continuing tax exempt status.
					
					• After completing one of the above options, the State can then relieve itself of the obligations and covenants under the Bond Documents by escrowing funds sufficient to call and pay the Bonds at the first prepayment date.

ISSUES	Reference Materials	OPTION 1 *Sale of Network* *(No Assurances)*	OPTION 2 *Sale of Network* *(With Assurances)*	OPTION 3 *Sale of* *Excess Network Capacity*
Bonds/Credit				
11. Would the State's credit rating be adversely affected by this option? Does this option adversely affect the security or revenues pledged to the bonds?	Bob Helmick (for Dorsey & Whitney) Analysis *(In Report Appendix)*	**Constraints** • As long as the State complies with the "responses to constraints" in Issue 10, there is no effect on the security and revenues pledged to the bonds. • If the State properly executes its responses in Issue 10, there will be no effect on the State's credit rating.	**Constraints** • As long as the State complies with the "responses to constraints" in Issue 10, there is no effect on the security and revenues pledged to the bonds. • If the State properly executes its responses in Issue 10, there will be no effect on the State's credit rating.	**Constraints** • This option will not affect the security and revenues pledged to the bonds. • This option will not affect the State's credit rating.

ISSUES	Reference Materials	**OPTION 4** *Private/Public Ownership*	**OPTION 5** *State Ownership Private Operations*	**OPTION 6** *State Ownership Private Management*
Bonds/Credit				
11. Would the State's credit rating be adversely affected by this option? Does this option adversely affect the security or revenues pledged to the bonds?	Bob Helmick (for Dorsey & Whitney) Analysis *(in Report Appendix)*	**Considerations** • Creation of a public-private entity, and the transfer of ownership and benefits of ownership to the entity, would have the same effect as the sale of the network. • As long as the State complies with the "responses to constraints" in Issue 10, there is no effect on the security and revenues pledged to the bonds. • If the State properly executes its responses in Issue 10, there will be no effect on the State's credit rating.	**Considerations** • A lease to a private operator who assumes the risks and benefits of ownership would have the same effect as the sale of the network. • As long as the State complies with the "responses to constraints" in Issue 10, there is no effect on the security and revenues pledged to the bonds. • If the State properly executes its responses in Issue 10, there will be no effect on the State's credit rating.	**Constraints** • This option will not affect the security and revenues pledged to the bonds. • This option will not affect the State's credit rating if the State complies with the "responses to constraints" in Issue 10.

ISSUES	Reference Materials	**OPTION 7** *State Lease to Private Companies (Not Restricted)*	**OPTION 8** *State Lease to Private Companies (Restricted)*	**OPTION 9** *State Ownership & Operation (Limited)*	**OPTION 10** *State Owned Public Utility (No Limits)*
Bonds/Credit					
11. Would the State's credit rating be adversely affected by this option? Does this option adversely affect the security or revenues pledged to the bonds?	Bob Helmick (for Dorsey & Whitney) Analysis *(in Report Appendix)*	**Constraints** • The State's credit rating would not be affected. • The State's security and revenues pledged to the bonds would not be affected.	**Constraints** • The State's credit rating would not be affected. • The State's security and revenues pledged to the bonds would not be affected.	**Constraints** • The State's credit rating would not be affected. • The State's security and revenues pledged to the bonds would not be affected.	**Constraints** • The State's credit rating would not be affected, if the State complies with the "responses to constraints" listed in Issue 10. • The State's security and revenues pledged to the bonds would not be affected, if the State complies wit the "responses to constraints" listed in Issue 10.

DISCUSSION PAPER I

Discussion of Factors Impacting a decision to sell all or a portion of the Iowa Communications Network

October 9, 1995

I. Introduction

This is a discussion of the factors that would affect a disposition by sale, lease or otherwise of the Iowa Communication Network, or a portion of it, to a private entity, and what ramification it would have on the outstanding tax exempt Certificates of Participation (the "COPs") issued to finance the project.

II. Overview

There are two major considerations related to a disposition of the Network:

(a) Maintaining the tax exemption of any outstanding COPs.

(b) Satisfying the terms of the loan documents (the Lease Purchase Agreement, the Trust Agreement, the Land Use Agreement and the Mortgage and Security Agreement).

III. Provisions of the loan documents

The following provisions limit a disposition:

Section 11.2 of the Lease Purchase Agreement which provides that the Network may not be assigned or subleased without the written consent of the Iowa Communications Network Finance Corporation (now the Trustee) and AMBAC.

Section 11.3 of the Lease Purchase Agreement which provides that the state may not sell, assign, transfer or convey its interest in the Network or any portion thereof during the term of the Lease without the written consent of the Trustee and AMBAC.

Section 9 of the Indenture which provides that the lien of the Trust Indenture (and other financing documents) may be discharged only upon the payment in full of the COPs (or by irrevocably depositing funds sufficient to pay the COPs at their earliest possible payment date whether by maturity or optional

2. The actual prepayment premium of two percent 2% of the face amount of the COPs called on their earliest prepayment date, July 1, 2002 for the 1992 Series, and July 1, 2003 for the 1993 Series. The state's financial consultant could compute the exact amount of this prepayment premium. Funds sufficient to provide for payment of this amount must be added to the escrow at the time of the sale.

3. Any "negative arbitrage" on the escrow of the funds necessary to pay the COPs at their earliest call date. The COPs were issued at very favorable interest rates in 1992 and 1993 (6.58% as to the 1992 COPs and 5.28% for the 1993 COPs). If interest earned by the state on the funds in the escrow is less than the interest the state must pay on the COPs the difference (the "negative arbitrage") would have to be added to the escrow so there would be funds sufficient to call the COPs on the call dates.

All of the foregoing costs would be paid by the state at the time of the disposition.

V. Federal tax exemption considerations

A disposition of the Network prior to it being owned and used by the State for five (5) years will result in interest on the COPs becoming taxable, unless the State is able to obtain a private letter ruling from the Internal Revenue Service that the COPs will remain tax exempt.

In 1993 the Internal Revenue Service issued Rev. Proc. 93-17 that sets forth new standards under which a change in use (sale) of a facility financed with tax exempt COPs will not result in the COPs becoming taxable. The safe harbor criteria are the following:

1. **Reasonable expectations**. As of the date of issue the state must have had reasonably expected to continue the qualified use of the Network for the entire term of the issue.

2. **5-year actual use**. The qualified use must have actually continued for at least 5 years from the date of issue or the date the facility placed in service (whichever was later). This is perhaps the most significant point which will adversely affect a sale of the Network.

   (a) The 5-year minimum use standard makes no distinctions based on the reason that the nonqualifying use occurs. Involuntary dispositions, such as dispositions in a foreclosure or bankruptcy proceeding, or severe change of circumstances or economics

(ii) There is no "temporary period" for investment at an unrestricted yield, notwithstanding the length of the escrow or the elapsed time to the redemption date.

(b) **Alternative use of disposition proceeds.** As the COPs are governmental purpose COPs, the disposition proceeds can be used in an alternative manner that would result in a qualified use. If this approach is taken, redemption is not required.

(i) The determination of qualified use is made as of the date of the original issuance. Curative action may be possible to demonstrate compliance.

(ii) The disposition proceeds must be allocated to the alternative use within 1 year after the change in use.

(iii) Disposition proceeds not used for the alternative use must be used for redemption purposes.

(iv) If the amount of disposition proceeds allocable to the alternative use is less than the amount of the proceeds of the issue allocated to the nonqualified COPs (because the facility was sold at a loss), the issuer must use its own money to redeem a pro rata portion of the nonqualified COPs.

(c) **Alternative use of facility**. As the COPs are governmental purpose COPs, the affected facilities can be used in an alternative manner that would have resulted in qualified use of the affected facilities and other facilities financed by the same issue.

This determination is also made as of the date of original issuance. Curative action may be possible to demonstrate compliance.

VI. Disposition of a portion of the Network.

A portion of the Network may be disposed of only under the same condition as outlined for a <u>complete</u> disposition of the entire Network.

Under some strict limitation, a portion of the Network may be disposed of without necessarily providing for the prepayment of all of the COPs.

Section 11.3 of the Lease Purchase Agreement provides that the Lessee "will not sell, assign, transfer or convey its interest in the leased property <u>or any</u>

4. The Network control center is an integral part of the STARC Armory. The state, the National Guard, and the federal government all have interests in this facility. The practicality of moving it or the renegotiated arrangements for leaving it there will have to be explored.

5. A portion of the Network was paid for through a FEMA grant. Consideration will have to be given as to the obligation of the state to comply with the terms of that grant for the continuation of emergency service provided by the Network.

6. Most of the end points are located in publicly owned school property. The "line of demarcation" of the Network property and the school property is on the user side of the CODEC located on the school property. Contractual arrangements would have to be made between the new owner and the owner of each of these sites.

7. With the completion of the Network the state purchased a local tandem switch to connect all state phone traffic from and to the capitol complex and Des Moines facilities to the Network. The local tandem switch is a part of the pledged security of the Network. However, special consideration should be given as to whether or not the state could transfer title to the local tandem switch to a private purchaser or if arrangements should be made for the state to retain that switch as part of its capitol complex phone system.

8. Consideration must be given to the terms of a disposition and the guaranty to the state of continued services to it and other public entities.

VIII. Conclusion

It is legally and practically possible to dispose of the Network to a private entity. However, there will be difficulties.

The first hurdle would be to obtain a private ruling from the Internal Revenue Service that the interest on the bonds would remain tax exempt.

Thereafter arrangements would have to be made for escrowing funds to pay the bonds, complying with the loan documents and working out the physical transfer arrangements as well as the term of sale.

DISCUSSION PAPER II

Discussion of Potential of Use of Over 10% of the ICN by Private Entities (including the Federal Government) by establishing the ICN as a Public Utility

October 9, 1995

I. *Summary.*

This discussion is an analysis of a potential expansion of the use of the ICN by transforming it into a telecommunications utility or through a disposition of the ICN, and an analysis of the impact of either on the existing tax-exempt financing.

There are no Federal tax prohibitions on this expanded use (within certain limitations not necessarily material here) so long as the utility is open to all citizens of the same class. The disposition of the ICN to a commercial interest has certain adverse tax consequences under Internal Revenue Code provisions.

II. *Creation of a State Telecommunications Utility.*

The ICN may be transformed into a public utility if the Legislature desires to expand revenues from the ICN by opening it up for commercial and private use. There generally would be no impediment to such a decision. The following points are considerations:

(a) There is no Internal Revenue Code prohibition of the ICN being used as a utility, although tax-exempt financing was utilized. There are many examples:

- Parking garages may be built, financed and managed by government entities (including the Federal Government) with the use of tax-exempt bonds so long as the garage is available to all citizens of the same class (i.e. citizens driving cars, but not to citizens driving trucks, buses, or motorcycles). Conversely, if the government entity leases substantial portions of the garage to private companies for their exclusive use, then financing becomes a "private activity bond" and either taxable or subject to complex regulations.

of individuals using it (as an example, it may not be practical for a single individual citizen to use it for a single transmission -- instead, regulations could be established regarding minimum ongoing uses that are commercially viable). All private or commercial citizens of the same class (i.e. phone companies, data transmission companies, etc.) must have equal access on an equal basis.

The ICN could establish rates and revenues for commercial use. These could be, or could not be, subject to regulation.

The expanded use would have no adverse effect on present financing, particularly since it would increase revenues.

DISCUSSION PAPER III

Management Contracts and their Effect on Whether or Not a Managed Facility is Thereby Used in the Trade or Business of the Manager

October 9, 1995

I. Summary

A contract between a manager and a government unit to operate bond-financed governmental facilities may result in "private business use" which would affect the tax-exempt status of the bonds, depending upon the terms of the contract.

The IRS has set out guidelines for "Safe Harbor" for contracts that will not affect the tax-exempt status, that is the taxpayer knows that if such rules are met, private business use will not result. Contracts that do not follow the guidelines may still not result in private business use but the taxpayer will not have the certainty offered by the "Safe Harbor" tests.

The elements of the "Safe Harbor" tests are:

1. A compensation arrangement must satisfy both a "reasonable compensation" and a "permitted compensation arrangement" requirement.

    - The contract cannot provide any compensation for services based upon the net profits of the facility, thereby giving the manager some ownership-type interest in the facility.

    - The compensation agreement must satisfy at least one of the following:

        a. 50% or more of the compensation for services for each annual period must be based on a periodic fixed fee; or

        b. 100% of compensation for services must be based on capitation fee or combination of the capitation fee and a period fixed fee and capitation; or

In sum, any proposed contract by the State with a private business entity or the federal government must be carefully examined to determine whether the contract, either alone or with other contracts relating to the Project, would cause the Bonds to be treated as private activity bonds. These limitations must be observed so long as the Bonds are outstanding in order to preserve the tax exemption of interest on the Bonds. The Service regards changes in use at any time, even if the original expectations of the State have changed, as potentially affecting tax exemption adversely.

Management and Other Service Contracts

In Revenue Procedure 93-19, the Service prescribes guidelines for management and other service contracts of bond-financed facilities so that such contracts will not give rise to private business use under the Code.

If the following requirements are met, a management or service contract will not give rise to private business use:

1. *Compensation.*

The contract must provide for reasonable compensation for services rendered. No part of the compensation may be based on a share of net profits of operation of the Project. Apart from these general requirements, the Revenue Procedure outlines four permissible compensation arrangements:

(a) Periodic Fixed Fee. At least 50 percent of the compensation for services for each annual period are based on a periodic fixed fee. A fixed fee, expressed as a stated amount for a specific period, may be increased if the increase is automatic and based on a specified, objective standard (such as the Consumer Price Index) not linked directly to the operation of the Project.

(b) Per-Unit Fee. Compensation is based on a "per-unit" fee or a combination of per-unit fee and a periodic fixed fee. A "per-unit" fee is a fee based on a unit of service provided, such as a stated amount for each car parked at the Project.

Notwithstanding the discussion under "Contract Term" below, a per-unit fee may be used only if the contract has a term, including renewal options, of three years or less, and the State must have the

The State must have the contract right to cancel the contract upon reasonable notice at the end of the third year of the contract term, again, unless a shorter period is required because of the particular compensation arrangement used. (See discussion of "Compensation" above.) Examples of forbidden contract penalties for cancellation include a limitation on the right to compete, a requirement that equipment, goods or services be purchased from the service provider or the payment of liquidated damages. Generally, however, the contract may provide that in the event of cancellation the ordinary and necessary expenses of the service provider may be reimbursed or key personnel of the service provider may not be hired by the State.

4. *Unrelated Parties.*

In general, the service provider must not have any role or relationship with the State that, in effect, substantially limits the State's ability to exercise its rights under the contract. Given the status of the State as a municipal corporation and state law conflict of interest rules, we would not expect that this limitation would have much relevance to a contract relating to the Project.

Effect of Compliance. If a management or service contract meets the foregoing guidelines, the manager or other service provider is not deemed to have used the Project in its trade or business.

Incidental Uses

The Internal Revenue Service has also provided guidance relating to the "incidental use" by private parties of bond-financed governmental facilities. Use is "incidental" if (i) it does not involve the transfer to the user of possession or control over space that is separated from other areas of the Project by walls, partitions or other physical barriers (such as a night gate affixed to a structural component of the Project), (ii) the use is not related to any other use of the Project by the same user, and (iii) all such "incidental uses" of the Project, in the aggregate, do not involve use of more than two and one-half percent of the Project. (Notice 87-69, 1987-2 Cum. Bull. 378, Section (b).) Examples offered by the Service include coin-operated telephones, advertising displays, vending machines, a newspaper stand or shoeshine stand located in common areas. All incidental uses are disregarded for purposes of the private business use test.

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR

OFFICE FOR STATE-FEDERAL RELATIONS
WASHINGTON, D.C.
PHILIP C. SMITH, DIRECTOR

TO: 461 Task Force Members

FROM: Phil Smith Phil Smith

SUBJECT: Summary of Majpr Federal Grants and Contracts Associated with the Iowa Communications Network

DATE: September 6, 1995

Thank you for the opportunity to meet with you on September 8, concerning federal support for the Iowa Communications Network and its users.

Since its inception in the 1980's, the ICN has attracted a considerable amount of federal interest by a variety of federal agencies. However, it was not until 1991 when the construction of the network actually began that we started to see specific opportunities for federal funding and federal participation. By the end of FY'96, we will likely obtain over $50 million in federal support for ICN related activities.

For your information, I have prepared the enclosed summary of the major federal grants and contracts received by ICN users since 1991. This is not an inclusive list, but it will give you a sense of the types of opportunities available to enhance the capability of the Iowa Communications Network.

I look forward to meeting with you on the 8th, and discussing these matters with you.

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TELEPHONE (202) 624-5442/TELEFAX (202) 624-8189

FEDERAL FINANCIAL ASSISTANCE

FOR ICN RELATED ACTIVITIES

Major Contracts and Awards

The Iowa Communications Network has provided its users with several new opportunities to seek federal funding to support initiatives which employ the advanced telecommunications technology offered by the Network. To date, a total of $38,366,000 in grant or contract awards have been given to eight ICN users. These include:

1. *The Iowa National Guard*: The Iowa National Guard has received approximately $9.5 million in FY 1994 funds from the Department of Defense Advanced Research Projects Agency (ARPA) for the development of its Community Learning Center and Information Network. This will enable the Iowa National Guard to connect 51 of its armories (with a combined total of 57 classrooms) to the ICN for a full range of voice, data, and video services. Because of this project, the Iowa National Guard will be able to participate in the development of new military applications for distance education, training, and emergency response programs. In addition, community organizations and public agencies will have access to the video conferencing resources when not in use by the Iowa National Guard.

2. *Disaster Services*: The Iowa Department of Public Defense received $3,405,000 to help construct the Emergency Operation's Center Complex at the STARC Armory, and $500,000 in direct match for the Network. Matched by $2,059,138 in State funds, this facility also serves as the headquarters of the ICN.

3. *Iowa Public Television*: To date, IPT has received $8 million in Star Schools funding from the U.S. Department of Education to aid Iowa Schools with the implementation of distance education programs. This was divided into two $4 million grants covering the FY'93 and FY'94 periods.

4. *University of Iowa Hospitals and Clinics*: The University of Iowa has received a three-year, $7.3 million grant from the National Library of Medicine to develop a National Center for Rural Telemedicine. It's initial effort has focused on linking together hospitals in Davenport, Ottumwa and Van Buren County to the UIHC for a demonstration of rural telemedicine.

5. *Iowa Methodist Medical Center:* The Iowa Methodist Medical Center has received $700,000 from the Health Care Financing Administration (HCFA) to develop a pilot

Madison.

OTHER PROGRAMS

In addition to the eight major federal contracts or grant awards identified in this report, it is anticipated that ICN users will receive at least two FY'95 - FY'96 awards. These are:

- *Star Schools*: Iowa Public Television is now negotiating with the U.S. Department of Education on a FY'95 $4 million grant for a distance education Star Schools Award. This should be available by September 30, 1995.

- *GSA/ICN Pilot Projects*: The FY'96 Treasury, Postal Services House of Representatives appropriations bill contains a $6 million line item to continue and expand the FY'95 pilot projects. The outcome of this legislation should be known by September 30, 1995.

Added to the $38,366,000, these two projects will bring the total to $48,366,000. This figure does not include funding for the research being done by the Iowa National Guard on behalf of the Department of Defense (about $2 million per year), nor does it include grants received by other Iowa entities such as the private colleges and universities, community colleges, and some state agencies. Likewise, it does not reflect the direct and indirect contributions made by federal agencies using the ICN. If all of these were combined, the total figure of federal financial assistance for ICN users would easily exceed $50 million.

FUTURE ACTIVITIES

Although future specific priorities for ICN users and the State of Iowa will vary, there are some common on-going areas where there will continue to be opportunities for federal participation. These include:

1. Building linkages with federal agencies choosing to do telecommunications research projects via the ICN. Law enforcement functions, judicial applications, telemedicine and citizen services are a few of the areas most likely to get support.

2. Promoting the continual development of the Iowa National Guard telecommunications system. This will include increasing infrastructure capacity for such items as connecting more sites and adding key electronics to the system for increased capacity. (ATM switching and a video server are seen as key elements important to the National Guard Project). Research opportunities will also be pursued.

3. Seeking opportunities to expand our telemedicine program, with an emphasis on research activities for Iowa hospitals and the University of Iowa Hospitals and Clinics. Efforts will be made to expand telemedicine services within the VA Medical Centers in Iowa

IOWA COMMUNICATIONS NETWORK

Assumptions underlying the preparation of the "Facility Investment Estimate"

The Iowa Communications Network ("ICN") has been constructed with funding coming from several different sources. The attached "Facility Investment Estimate" has been put together to give the users a summarized look at the sources of investment in the ICN. The summary is not, however, designed to give an interpretation of ownership, but merely a look at the investment sources. In completing the document, the following assumptions have been used.

Furthermore, this document is intended to display a source of user investments in the Iowa Communications Network, relating to transmission equipment, classroom equipment and fiber facilities. The ICN has not polled any of its authorized users to determine actual investments, but rather has estimated those investments.

1. The original construction contract between the State of Iowa and Kiewit Network Technologies (n/k/a MFS Network Technologies), as amended 39 times, is included in its entirety. all remaining costs are assigned based on estimates as is detailed in the following.
2. The ICN "hub" is located at the Starc Armory. Major pieces of equipment that are located at the hub include voice, data, and video switches, 3/3, 3/1 and 1/0 DACS switches, coder/decoders, software management systems, channel banks, fiber facilities, generators, the network control center, and the facility. All costs related to the original construction contract have been allocated to each electronic site based on the link allocation referenced in the contract.
3. Part I of the ICN built the hub, 15 regional switching centers, and 5 stand alone switching centers.. Common equipment at the regional switching centers include 3/3 video switches; 3/1 administrative switches, fiber transport systems, AC generators, DC power plants, propane tanks, channel banks, OC-12 or OC-48 equipment, codec shelves, codecs, and multiplexers. All costs related to the original construction contract have been allocated to each electronic site based on the link allocation referenced in the contract. Furthermore, a classroom set was placed in each of the 15 regional switching center locations. These Part I sites also act as a primary county point of presence. The three Regent Universities and IPTV were also added as part of Part I. They have OC-48 FOTS gear and a classroom set.
4. Part II of the ICN provided for 84 county points of presence. Common equipment at each of these sites include OC-12's, multiplexers, AC generators, DC power plants, channel banks, codec shelves and fiber facilities. A classroom set was placed at each location.
5. Regen sites were also built as part of the original construction contract. Common equipment at regen sites include OC-48's or OC-12's, propane tanks, AC generators, DC power plants, channel banks, fiber facilities, land, fencing, and housing huts.
6. A change order to the original construction contract provided for the construction of 8 transmitter sites for Iowa Public Television. Common equipment at each of these sites include an FMT-150, DB45 shelves, codec, DC power plant and fiber facilities.
7. A change order to the original construction contract provided for alternate routing of administrative traffic. This primarily included fiber connections between remote sites, designed to close a fiber loop.
8. Most classrooms are assumed to have an average equipment cost of $48,000. For each of the original 104 classrooms, a portion of the equipment investment was received from a federal Star Schools Grant. The remaining investment was made by the site host. Investment in classroom equipment added after the original 104 sites was made by the site host.
9. Sites that have been added to the ICN subsequent to the original construction have been funded from sources other than construction and/or ICN investments. This includes the electronic equipment, fiber facilities, and classroom equipment. Please note that the ICN has not polled its authorized users relative to the addition and costs of classroom equipment. For purposes of this document, it is assumed that the **site host is the investing party**, which may not be the case in all circumstances.
10. The planned additions for FY1996 are included in the summary based on existing projections of cost. Included in this list are Part III, National Guard Armory additions, Federal Agency additions, and the Department of Human Services. Please note that Part III has been included for FY1996 exclusively. Additional implementation of Part III is dependent upon legislative funding, and has been excluded.

IOWA COMMUNICATIONS NETWORK
HF 461 TASK FORCE
FACILITY INVESTMENT ESTIMATE

Source of Funds	Hub-Starc Armory			Part I & II End Points			Part III Sites (2)		
	Electronics	Classroom Equipment	Fiber	Equipment	Classroom Equipment	Fiber	Equipment	Classroom Equipment	Fiber
State of Iowa (1)	$13,013,000	$ -	$ 5,610,000	$ 58,095,000	$ -	$ 17,836,000	$ 13,516,000	$ -	$ 756,000
Federal Funds	-	-	-	-	-	-	-	-	-
Star Schools Grant	-	-	-	-	2,020,000	-	-	-	-
FEMA	500,000	-	-	-	-	-	-	-	-
National Guard	-	-	-	-	-	-	-	-	-
Hospitals	-	-	-	-	-	-	-	-	-
State Universities	-	-	-	-	-	-	-	-	-
Private Colleges	-	-	-	-	56,000	-	-	-	-
Area Community Colleges	-	-	-	-	1,568,000	-	-	-	-
K-12 Schools	-	-	-	-	1,428,000	-	-	4,416,000	-
Area Education Agencies	-	-	-	-	56,000	-	-	624,000	-
State Agencies	-	-	-	-	-	-	-	-	-
Total Sources of Funds (estimated)	$13,513,000	$ -	$ 5,610,000	$ 58,095,000	$ 5,128,000	$ 17,836,000	$ 13,516,000	$ 5,040,000	$ 756,000

(1) State of Iowa funds includes proceeds of the 1992A and 1993A COPS, as well as appropriations from the state general fund

(2) Part III is included for FY 1996 only, as funding status for the remaining years is unknown.

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IOWA COMMUNICATIONS NETWORK
HF 461 TASK FORCE
FACILITY INVESTMENT ESTIMATE

	Universities & Colleges			State Agency Sites			Federal Agency Sites		
Source of Funds	Equipment	Classroom Equipment	Fiber	Equipment	Classroom Equipment	Fiber	Equipment	Classroom Equipment	Fiber
State of Iowa (1)	$ 1,852,000	$ -	$ -	$ 33,000	$ -	$ -	$ -	$ -	$ -
Federal Funds	-	-	111,000	148,000	-	-	1,891,000	509,000	966,000
Star Schools Grant	-	60,000	-	-	-	-	-	-	-
FEMA	-	-	-	-	-	-	-	-	-
National Guard	-	-	-	3,662,000	2,621,000	2,500,000	-	-	-
Hospitals	-	-	-	-	-	-	-	-	-
State Universities	149,000	420,000	-	-	-	-	-	-	-
Private Colleges	285,000	240,000	1,966,000	-	-	-	-	-	-
Area Community Colleges	-	-	-	-	-	-	-	-	-
K-12 Schools	-	-	-	-	-	-	-	-	-
Area Education Agencies	-	-	-	-	-	-	-	-	-
State Agencies	-	-	-	1,063,000	737,000	99,000	-	-	-
Total Sources of Funds (estimated)	$ 2,285,999	$ 720,000	$ 2,077,000	$ 4,906,000	$ 3,358,000	$ 2,599,000	$ 1,891,000	$ 509,000	$ 966,000

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HF 461 TASK FORCE
FACILITY INVESTMENT ESTIMATE

Source of Funds	Hospitals			Total Equipment by Type			
	Equipment	Classroom Equipment	Fiber	Equipment	Classroom Equipment	Fiber	Total
State of Iowa (1)	$ -	$ -	$ -	$ 86,509,000	$ -	$ 24,202,000	$ 110,711,000
Federal Funds	-	-	-	2,039,000	509,000	1,077,000	3,625,000
Star Schools Grant	-	-	-	-	2,080,000	-	2,080,000
FEMA	-	-	-	500,000	-	-	500,000
National Guard	-	-	-	3,662,000	2,621,000	2,500,000	8,783,000
Hospitals	553,000	565,000	-	553,000	565,000	-	1,118,000
State Universities	-	-	-	149,000	420,000	-	569,000
Private Colleges	-	-	-	285,000	296,000	1,966,000	2,547,000
Area Community Colleges	-	-	-	-	1,568,000	-	1,568,000
K-12 Schools	-	-	-	-	5,844,000	-	5,844,000
Area Education Agencies	-	-	-	-	680,000	-	680,000
State Agencies	-	-	-	1,063,000	737,000	99,000	1,899,000
Total Sources of Funds (estimated)	$ 553,000	$ 565,000	$ -	$ 94,760,000	$ 15,320,000	$ 29,844,000	$ 139,924,000

Business Valuation 101 for 461 Task Force

I. Cost/Asset Approach

A. Original cost

B. Book value
   1. Difference between total assets (net of depreciation, depletion and amortization) and total liabilities of an enterprise as they appear on the balance sheet. Synonymous with net book value, net worth and shareholders' equity.
   2. Strength - simplicity.
   3. Weakness - based on historical data which may not approximate fair market value (FMV).

C. Adjusted book value
   1. Restates historical financial data to FMV.
   2. Strength - takes into consideration the changes in FMV of the corporation's assets since acquisition.
   3. Weakness - FMV of specific groups of assets difficult to determine and may require additional appraisals.

D. Liquidation value
   1. Net amount expected if assets are sold off and proceeds used to satisfy liabilities. Considers liquidations costs. Assumes the company is no longer a going concern.
   2. Strength - indicates a minimum value. Especially useful when there are low profits and/or losses and there is some question about ability to continue as a going-concern.
   3. Weakness - excludes intangible assets and may understate value of other assets for a going concern.
      a. Forced liquidation
      b. Orderly liquidation
      c. Partial liquidation

II. Income/Earnings/Cash Flow Approach

A. Discounted future earnings/Discounted cash flow
   1. Earnings (cash flow) are projected into the future and discounted to the present through the use of an appropriate discount rate.
   2. Strength - focuses analysis upon the subject company's earning capacity each year for a period of years.
   3. Weakness - inherent difficulty of projecting earnings and determining the discount rate.

B. Capitalized normalized earnings/Capitalized normalized cash flow
   1. Divide expected future earnings (or cash flow) for one year by an appropriate capitalization rate which reflects the risk of investment in the business.

E. Strong financial position such as strong working capital position, strong equity position

F. Modern, well-kept facility

G. Management depth/skilled labor force

H. How many knowledgeable buyers

I. Little competition

J. Large capital expenditures to enter the business

K. Reliable historical financial information

VI. Some Indications of Lower Value (higher risk)

A. Poor outlook for industry

B. Distress circumstances where the owner needs to sell

C. Heavy debt load

D. History of problems such as employee turnover, customer complaints, regulatory problems and litigation which impact the company's reputation

E. Lack of management depth, dependence on a keyman

F. Competitive disadvantages

G. Dependence on a single large customer

H. Dependence on a single large supplier

I. Uncertainty about the future

J. Rapidly changing technology

K. Inadequate historical financial information

Prepared by Yale Kramer

SELZER ✧ BODDY

IOWA COMMUNICATIONS NETWORK SURVEY
FINAL SUMMARY



September, 1995

Communication Research
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2501 Grand Avenue · Des Moines, IA 50312
Phone 515/281-1480 · FAX 515/281-1484

IOWA COMMUNICATIONS NETWORK SURVEY
SUMMARY OF FINDINGS

During the first week of September nearly 2,800 Iowans received a four-page survey to gauge their use of the Iowa Communications Network and to assess their opinions regarding changes to the state's fiber optic network. All currently authorized users received the survey as well as more than 2,000 businesses around the state. The business sample was drawn from listings in the directory of the Iowa Association of Business and Industry.

Of the 2,797 surveys mailed out, 479 were returned by September 12th, yielding an overall response rate of 17%. The response rate for all authorized users is generally strong at 38%, while business response, at 9%, is lower. Authorized users are broken into five categories and each groups' individual response rates is as follows:

	Response Rate %
State Government Agencies	71
Libraries	54
Institutions of Higher Education	47
K-12 Educational Institutions	34
Hospitals	32

Like a census, all authorized users of the Iowa Communications Network received a survey. Thirty-eight percent, or 295, completed the survey, and their results can be interpreted with confidence even though total subgroup base numbers of respondents may be low. A total of 184 businesses responded to the survey, providing an adequate base for findings.

This report summarizes the finding from the survey. The first part is a narrative discussion of the key findings; it is divided into four parts: an overview, a discussion of the nature of technology use among authorized users; a discussion of authorized users' opinions regarding changes to the system and their preferences; and a final section on findings among business respondents. An appendix follows the narrative report and includes tables highlighting responses to questions involving the tested changes to the system, a filled-in questionnaire for authorized users and one for businesses.

OVERVIEW

The survey is designed to assess opinions on future restructuring of the Iowa Communications Network among two key constituencies: current ICN authorized users and Iowa businesses. Two findings are clear: authorized users favor minor adjustment options that have the least impact on them, and businesses prefer some private sector control over the network. Generally, current users are apprehensive of an unfettered, privately owned system, focusing on cost and scheduling concerns. However, the current status of the network receives some criticism also, mainly involving concerns about limited systemic improvements and service option expansion.

Overall, about half of authorized users actually use the system. Some are more savvy when it comes to telecommunication technologies than others, but skill level does not seem to affect the degree to which an organization uses such technology. In other words, among authorized users, there does not exist a two-tiered market for the ICN. Both experts and novices use the same services to roughly the same degree. As a counter point, businesses do present just such a two-tiered market: some are heavy users of telecommunication technology and some are unversed. Authorized users are aware of the current hourly rate charged by the ICN, and do not favor much of an increase. Business persons, on the other hand, offer a wider range of what they consider an affordable price for use of a statewide fiber optics network. Both authorized users and businesses agree on one thing though: Telecommunication technology is a key to their future success.

TELECOMMUNICATION TECHNOLOGIES USE

Findings in this section deal only with authorized users.

About half of authorized users actually use the Iowa Communications Network. A plurality of authorized users (48%) say they are non-users of the ICN; another 38% consider themselves low-level ICN users. Eleven percent say they are mid-level users of the ICN, and only 3% consider themselves heavy users of the state's fiber optic network.

Authorized users perceive the state's fiber optic network as a good value. A majority (51%) say the hourly cost for the ICN is a fair value for the money. Another 27% think it a bargain, and 22% say it is too expensive for what it delivers. Those most likely to perceive the system as a bargain include the heaviest ICN users: government agencies (44% consider the cost a bargain compared to the average of 27%); libraries (35%) and institutions of higher education (35% say it is a bargain). Those who do not use telecommunication technologies are most likely to look critically at the cost of the ICN: 52% of this group say the system is too expensive for what it delivers (probably because it doesn't delivery anything to them).

Authorized users know the current hourly video rate of the system. Two rate groups pay two different amounts for video access on the ICN: libraries, educational institutions and state agencies pay five dollars an hour, while the medical community pays forty dollars an hour. The five dollar an hour rate group feels their amount is fair: 56% say five dollars an hour is affordable. Another 26% fall into the six to ten dollars an hour range, and 12% say more than ten dollars is affordable.

The second rate group, medical organizations, are willing to pay a bit more than the first group but would like to pay less than the current forty dollar rate. A plurality (37%) feel five dollars is the most appropriate rate. Twenty-one percent feel six to ten dollars is an affordable amount, and 20% say eleven to twenty-five dollars an hour is affordable. Only 22% would be willing to pay more than twenty-five dollars an hour for video services.

Levels of technological sophistication do not appear to influence the types of services respondents use. Overall, telecommunication technology use among authorized ICN organizations is light. Still, both more and less technologically savvy respondents use the

same services in roughly the same proportions. We may infer from these data that less sophisticated authorized users may be utilizing the technology in more basic ways than more savvy users. Several data points paint a portrait of authorized users who have basic telecommunication technology skills, and rely on the basic services of the ICN.

- Overall technology use is light: 53% describe their use of telecommunication technologies as low-level. One-third (32%) are mid-level users and 7% say they are heavy users of the technology.

- The most popular telecommunication technologies include: operation on the Internet (56% use the service); other online data services (39%); and distance learning (video) (31%). These percentages do not vary significantly between heavy and low-level users.

- Use rates for ICN features and services are: video conferencing and distance learning (24% and 22% of authorized users respectively say they use these services); access of the Internet (15%); voice services (10%); access to other online data services (6%); and telemedicine (2%). A majority of authorized users (53%) report not using any ICN services.

Though use may be low, the value of telecommunication technology is high. Nearly three-quarters of authorized users (74%) say increased use of telecommunication technology in their organization is very important. Another 23% say it is fairly important and just 1% say it is not important.

Authorized users can speak with some authority about their own interests. A substantial number of authorized users (42%) consider themselves at least fairly knowledgeable about the issues discussed in the survey, including 12% who say they are very well informed about the current debate. Forty-three percent say they are somewhat knowledgeable about these issues, and 15% admit they are not well informed at all. In general then, authorized users can be expected to express an informed opinion of their own interests regarding the Iowa Communications Network.

OPTIONS

Findings in this section deal only with authorized users.

Authorized users resist change to the current state control of the fiber optic system. Authorized users fail to settle on one single restructuring option that they perceive as most beneficial to them, though four options receive the most support:

- 17% say expanding the current system to include all Iowans is most beneficial to them;

- 16% find the greatest advantage in leasing excess capacity under state ownership;

- 15% say selling the excess capacity of system under state ownership works for them; and,

- 11% would like the state to sell the system with assurances of affordable access.

The other six options garner support from fewer than one in ten respondents. Authorized users make one clear point in these findings: They do not want any ownership changes that affect their current use of the system, particularly regarding cost changes.

Even the #1 choice—a fully democratic system, accessible to all Iowans—has downsides for authorized users. If the state of Iowa were to expand authorized use to all Iowans, scheduling time would become a nightmare and overall quality would decline, according to current authorized users. Seventy-nine percent say scheduling would be more difficult with tens of thousands of additional users, and 36% perceive diminished overall quality (the highest percent of any of the ten options tested).

Those who know the most have a clearer vision: deal only with excess capacity. Authorized users who are very or fairly knowledgeable about the issues tested in this survey settle more clearly on a favorite reconfiguration than do other authorized users. More knowledgeable users find the strongest appeal in leasing the ICN's excess capacity; 21% say this option provides the greatest benefit to them. Further, they are more likely than average to imagine more frequent system improvements and expansion of service options if excess capacity is leased. That the state retain overall ownership while selling excess capacity earns second place among the more informed, with 19% envisioning the greatest benefit from this option.

Authorized users soundly reject the idea of an unfettered private system. Seven in ten authorized users (70%) say a privately owned fiber optics system with no assurances of affordable access would pose the greatest hardships on their organization. Another 7% reject the current ownership and authorization limits, and 6% say expanding the current system to include all Iowans poses the greatest burden to them.

Affordability and scheduling times are the greatest concerns under private ownership. Authorized users are almost certain private ownership without assured affordable access will result in significant price increases; 77% say the price will increase significantly under such a scenario, and another 17% expect a more moderate price increase. These respondents are not as pessimistic about price increases for any of the other nine options tested. In addition, more than half of authorized users (57%) expect more difficulty scheduling time on the network under private ownership. Cost and scheduling concerns force one-third of authorized users (34%) to imagine themselves losing their authorized user status under complete private ownership.

Though private ownership arouses the greatest concerns, respondents expect an increase in cost no matter what happens. Solid majorities of authorized users expect some price increase under each future structure option tested, including no change to the current system (74% anticipate a price increase under this scenario). Selling excess capacity conjures up the weakest sense of increasing prices among authorized users, with 56% envisioning some price increase under this option (including only 8% who anticipate a significant increase, the least of any of the ten options).

The current structure receives some criticism. Under current state ownership, authorized users expect few system improvements and slow service option expansion. Thirty-nine percent say system improvement would happen less often if no changes are made. And 28% think the current structure is going to result in fewer service options.

Some groups of authorized users are more wary of change than others. In their opinions of the ten future changes tested, patterns emerge for the different types of authorized users:

Libraries are the most apprehensive about any type of change. Compared to other groups of authorized users, they consistently:

- Foresee greater prices increases for each of the tested options;
- Imagine greater scheduling difficulties; and,
- Perceive an increased likelihood that they would lose their authorized usership status.

More savvy users, like government agencies, and institutions of higher education are more impervious to change. Compared to other groups of authorized users, they:

- Express confidence that they will retain their authorized usership status under any of the future system configurations;
- Are less concerned about scheduling problems under a new ownership or operations arrangements; and
- Anticipate less dramatic price increases.

The most informed users express stronger concerns over private ownership. Authorized users who say they are very or fairly knowledgeable about the issues surrounding changes to the Iowa Communications Network are more likely than average to be critical of those options involving at least some private ownership of the system (options #1, 2, and 4).

- They are more likely than average to feel that system improvements will happen less often under these three options;

- They are more likely than average to believe that the service options available to them will decline; and

- They are more likely than average to imagine declines in the overall quality of the service they currently receive from the ICN.

Interpretation

Clearly, authorized users are expressing strong self-interest in their opinions of the changes under consideration. They recognize some benefit to leasing or selling excess capacity, capacity they are not currently using. These findings suggest authorized users find the greatest appeal in changes employing modest adjustments to the current system that have the least impact on them.

BUSINESS RESPONDENTS

As a point for comparison, this section discusses findings among business respondents. Keep in mind, only 9% of business's who received a questionnaire, participated in the survey. This is a low response rate and may signal something about the level of interest among this group.

Telecommunication technology use is two-tiered among Iowa businesses. More than one-quarter of business respondents (28%) say they are non-users of telecommunication technologies, while 32% say they are either heavy users (12%) or mid-level users (20%). One-in-four businesses (40%) consider themselves low-level users of the technology. By way of comparison, current authorized users cluster around the mid (32%) to low (53%) use levels.

The most popular telecommunication services among Iowa businesses include: non-Internet online data services (43% report current use of such services); voice services (32%); the Internet (25%); and video conferencing (10%). More than one-third (36%) are not using any telecommunication technology, compared to only 17% of authorized users who say the same.

Iowa businesses value high technology. Though some Iowa businesses lack expertise with telecommunication technologies, most see the technology as an integral part of their future. One-third of business respondents (34%) say increasing use of the technology in their business is very important, and 37% say it is fairly important. Another 16% say such technology is not important in their business. This compares to current ICN authorized users, who are more enthusiastic about telecommunication technology, with 74% saying it is very important to the future of their organization.

Iowa business's lack of experience with the ICN may result in a perception of poor value. While Iowa businesses are not authorized to use the ICN, some do have access through continuing education programs, and perhaps some of their clientele. Nearly nine in ten business respondents (88%) say they are non-users of the state's fiber optic network. Two percent say they are mid-level users of the system, and 10% say they are low-level users. No business respondents consider themselves high-level users of the ICN. With limited experience on the state system, forty percent of business respondents say the ICN is too expensive for what it delivers. Slightly more (46%) say it is a fair value for the money. Fourteen percent say the system is a bargain.

Business experience with other telecommunication technologies translates into a willingness to pay more for access to the state's system. When asked what they would consider an affordable hourly rate for use of the ICN, many businesses say they would pay significantly more than current authorized users. A majority of all authorized users (57%) say the current rate of five dollars an hour is affordable. By comparison, 49% of business would be willing to pay $15 an hour or more, including 12% who consider the service worth more than $100 dollars an hour.

Compared to authorized users, Iowa businesses are more enthusiastic about private ownership of the state's system. Four of the ten options tested involve some form of private ownership of at least some part of the ICN (option #3 involves private ownership of excess capacity), and business respondents clearly prefer these options. Half (50%) of businesses say one of these four options would be most beneficial to them. One-quarter (25%) say one of the other six options would be to their greatest advantage, including 11% who would like to see the current system expanded to include all Iowans. The remaining 25% of businesses either don't know or think none of the ten options would be to their greatest advantage.

Business perceptions of private ownership scenarios that hold the greatest benefit for them are as follows:

- 21% find the greatest advantage in private ownership with some price regulation by they the state (option #2).
- 17% say complete private ownership is the best route (option #1).
- 9% perceive the most benefit in privately owned excess capacity (option #3).
- 3% say a jointly owned ICN between the state and a private entity would offer the most benefit to them (option #4).
- Of the six remaining scenarios (options #5 through #10), only one garners more than 5% of the vote among business respondents.

Businesses imagine higher quality with complete private ownership (option #1). In four different measures, businesses express the greatest affinity for a privately owned system, without assurance for currently authorized users. Option #1 gains the most support from business respondents in the following measures:

- 64% envision greater system improvements under complete private ownership.
- 66% say more service options would result from a complete sale of the system.
- 52% say overall quality of service would improve under option #1.
- 40% say unfettered private ownership would result in easier scheduling.

Some businesses, however, image problems with unfettered private ownership of the ICN. Although complete private ownership of the ICN (option #1) is perceived as the most beneficial option by 21% of business respondents, another 23% say it would present the most hardships to their business. An identical 23% say the current system (option #9) presents the most disadvantage to them, and another 23% do not know which option would pose the most hardship for them. Ten percent say the expanding authorized user status to all Iowans (option #10) would be the most disadvantageous.

Interpretation

While the low response rate among businesses may indicate less interest in the topic, and colors all other findings, one conclusion is clear: Compared to authorized users, businesses place greater trust in the private sector than in the state when it comes to owning a statewide fiber optics system. And still, some businesses have reservations about such an ownership scenario. As a secondary option to private ownership, business respondents find some benefit to price controls or wide-sweeping expansion of authorization status.

State Research

Executive Summary

At the July meeting, the 461 Task Force requested information about distance education, telemedicine and other telecommunications projects in other states. Specifically, the Task Force wanted to know how other state telecommunications projects were funded, how user rates were set, and what types of technology were used.

In order to provide this information within a relatively short time frame, staff and an outside researcher concentrated on those states which had statewide video networks, since information about such networks is especially relevant to the Iowa Communications Network.

Nine states -- Arizona, Georgia, Maine, Maryland, Nebraska, North Carolina, Michigan, Oregon, and Utah -- were selected for the purpose of an in-depth review. Information for this review was gathered through telephone interviews with state officials, documents posted to World Wide Web and Gopher sites, and relevant recent literature. Details about technologies used, funding, and user rates in these states are presented in this review.

Statewide video networks included in the review include the Georgia Statewide Academic and Medical System (GSAMS), the Maryland Information Highway (MIH), Nebraska's NEB*SAT, the North Carolina Information Highway (NCIH), Oregon Ed-Net, Utah EDNET, the University of Maine System's Education Network of Maine (ENM), and the University of Maryland System's Interactive Video Network (IVN).

Education & Telemedicine Projects
In the states surveyed, K-12 and post-secondary education offer a wide variety of courses, degree programs, and non-credit offerings over video networks. State government often acts as a partner with educational institutions in order to obtain federal funding for educational or medical projects. Telemedicine demonstrations are underway in four of the nine surveyed states. In North Carolina, the VISTAnet pilot used high-speed data transfer (through a prototype ATM switch) for dynamic radiation therapy. Outside of state participation, many educational institutions take part in regional or national satellite videoconferencing consortia, and many colleges and universities have strong independent networks.

State & Federal Government Projects
State governments are using telecommunications for projects or activities in several of the surveyed states. In Maryland, the Department of General Services compressed video network added sites in July 1995 that will allow the Department of Justice to begin conducting video arraignments over the system.

Federal demonstration projects have played an important role in the development of some

Methodology

This review was designed to highlight several state telecommunications projects and provide the 461 Task Force with information on other states' experiences in telecommunications activities. Because a national review would take months to complete accurately, staff and an outside researcher conducted a smaller search on states with statewide networks. The methodology is reviewed below.

Selection

Selected states were limited to those in which significant levels of two-way video activity were conducted by multiple user groups, over statewide or integrated regional telecommunications networks currently in place, or currently being implemented. About 12 states fit these criteria.

Of these 12 states, eight states responded to our inquiries. The nine remaining states were surveyed through telephone interviews with state officials. These eight states -- Arizona, Georgia, Maine, Maryland, Nebraska, North Carolina, Oregon, and Utah -- were selected for this survey.

Survey Questions

Several central research questions were included in the survey. These are restated below. Additional questions were asked to provide context for the central research questions.

Question 1 Is the state currently conducting any distance education, telemedicine or other telecommunications projects? Using what technologies?

Specifically,

(1a). Projects or activities at *educational or medical institutions,* in which a state agency is directly involved;

(1b). Projects or activities within *state government,* such as court or agency data uses;

(1c). *Independent* projects or activities in which educational institutions are involved, but in which a state agency is not directly involved;

(1d). *Public-private* collaboration projects or activities;

(1e). Federally sponsored *demonstration projects.*

Question 2 Are there plans to expand existing projects or activities, or to definitely undertake new projects or activities? Using what technologies?

Question 3 How are the above projects or activities funded?

Question 4 Does the state subsidize user rates? (if so, who is subsidized, and at what rate?)

calculates child-support for up to six children, and contains a resource and referral listing. This pilot project was implemented in May 1993. During the first demonstration year, more than 24,000 transactions took place at the information kiosk.

Georgia

Education

Georgia is served by the Georgia Statewide Academic and Medical System (GSAMS), a compressed video fiber optic network. The Georgia Department of Administrative Services administers GSAMS and the Distance Learning and Telemedicine Governing Board acts as the governing board. It is estimated that 300 additional sites will be added to GSAMS by the end of 1996. These sites will be hooked-up with funding from the over earnings of Southern Bell, user fees, and federal grants.

GSAMS is utilized by both the public and private sectors. Network lines were paid for and are owned by local telephone companies. The State of Georgia paid for and owns network equipment. Classrooms and the equipment in them are owned by each site although the State provided funds to set up the classrooms.

Rates

For two-way compressed video non-telemedicine member institutions (limited to K-12 public schools, colleges, universities, technical schools, prisons, Georgia Public Television, and zoos) are to begin paying $1120/month in their third operational year while telemedicine users pay $1500/month from their first year of operation for 62 hours of video use.

Capacity

100 simultaneous sessions.

Telejustice

The Superior Court of Fulton County in Atlanta uses conducts interactive video arraignments.

Telemedicine

Educational and diagnostic assistance to rural areas is coordinated by the Georgia Center for Advanced Telecommunications Technology. The Medical College of Georgia is linked with the Dodge County Hospital in Eastman, and provides consultations for cardiology, dermatology, pathology, radiology, urology, and orthopedics. The Medical College also provides video consultations for prisoners in the Augusta Correctional Medical Institute and the Milledgeville Correctional Institute.

By late 1994, 25 homes in Augusta were hooked into an "electronic household." Persons served by this system are "revolving door" patients or have chronic illnesses. This interactive system enables physicians at a remote site to conduct several tests on patients without them leaving their homes. The system uses a television or a personal computer

Maryland

Education

The Maryland Information Highway (MIH) was developed by the Maryland Department of General Services (DGS) in cooperation with Bell Atlantic. MIH is a full-motion, two-way video network which spans Maryland which is administered by DGS. Through MIH, K-12, University of Maryland, and community colleges are participating in full-motion two-way video networking.

Network lines and equipment were paid for and are owned by telephone companies. Although classrooms and equipment were funded through the state, telephone companies, and sites, they are now owned by each site.

Rates

For two-way full-motion video, subsidized users pay $1365/month/site to Bell Atlantic for unlimited use in the local calling area, while they pay $2000/month/site to AT & T outside the local area for unlimited use. Non-member rates have not been established.

Distance education, telemedicine, and telejustice projects are currently being conducted in Maryland. All project costs are covered by users and/or subscribers through usage charges. Maryland telecommunications systems use DS3, satellite, and copper technology; however, there is a growing emphasis on DS3 technology.

Telejustice

Maryland recently began implementing a cooperative computer network that combines the large storage capacity of the mainframe computer with the immediate processing abilities of personal computers. Three Judicial Circuit Courts and one District Court conduct video arraignments.

Michigan

The Michigan Information Technology Network (MITN) is a satellite-based, not-for-profit corporation which was formed by the Michigan State Legislature. Two networks are operated by MITN: EdNet which currently serves 59 schools; and Business Network which serves businesses.

Post-Secondary Education

MICHNET provides nine of Michigan's four-year public universities access to a statewide data network. In cooperation with corporate partners, MICHNET manages and operates the National Science Foundation Network.

The Michigan Collegiate Telecommunications Association (MiCTA) provides a clearinghouse for telecommunications development and research for Michigan colleges and universities. MiCTA helped purchase compressed video codecs for 26 colleges.

network. The North Carolina State Legislature appropriated $4.4 million for the installation of the initial 104 sites which included medical centers, schools, and universities. NCIH is administered by the Office of the State Controller.

Network lines and equipment were paid for and owned by North Carolina telephone companies. Classrooms and equipment were paid for by the state and sites and are owned by each site.

Impact North Carolina, a demonstration project which links Appalachian State university, one high school, two elementary schools, AT&T, and Southern Bell, is providing participating schools with distance education courses.

Rates

NCIH users are charged $4,000/month/site for 64 hours. The North Carolina State Legislature appropriates $1.3 million/year to subsidize the operation of school satellite dishes.

Capacity

OC3 backbone with three DS3 channels/site. Twelve simultaneous sessions possible. A single session can include more than 100 sites.

Telemedicine

The University of North Carolina is currently conducting research into the feasibility of remote consultation through the Medical Information Communications Applications program.

Since 1989, long-distance learning has been provided through the North Carolina Rural Education Network (NCREN) which originates at the East Carolina University School of Medicine and its Center for Health Sciences Communications. NCREN is a two-way, statewide video network which links more than 30 sites at 11 institutions. A telemedicine and educational network between the University and sites in Ahoskie and the Coastal Carolina College in Jacksonville has been in operation since January 1993. Since August 1992, the University has operated a telemedicine link between the medical college and the Central Prison in Raleigh using compressed video over T1 lines and a portion of NCREN. Initially established to provide emergency consultations, the link has been expanded to include 25 physicians.

Utah

Education

Several systems comprise the Utah Education Network including:

1) Utah EDNET, a full-motion video network via microwave which serve 35 educational institutions. Utah EDNET is the UEN's interactive system that brings teachers and strides together using fiber optics and microwave links. By early 1996, 100 sites will be connected with funding from state appropriations and federal grants.

2) UtahLINK which serves 120 K-12 schools. UtahLINK connects public and higher education teachers and students with access to the Internet, curriculum services, and data bases.

Network lines were paid for and owned by local telephone companies. Network equipment was purchased and are owned by the State of Utah. Classroom renovation was paid for by each site. While the state paid for classroom equipment, it is owned the each site.

US West and Utah State University have joined for a three-year project to develop uses of telecommunications in distance learning.

Rates

Educational users pay $15/hour/site while non-educational users pay $100/hour/site.

Telejustice

The Third and Seventh Judicial District Courts conduct video trials, video arraignments, and video conferencing. The Third Circuit Court also uses video arraignments on a limited basis.

Telemedicine

In June 1995, the University of Utah began providing teleradiology services to a clinic in Wendover, Nevada, which is owned and operated by the University. This system uses a dedicated T1 line and broadband radio technology.

Colorado

Distance education and telemedicine are the primary users of telecommunications in Colorado. Four rural schools are currently linked for distance learning using DS3 technology. Currently, US West holds 95% of the Colorado telecommunications market. On July 1, 1996, the telecommunications market will be opened to allow for greater competition.

Telejustice

The Four District Courts currently conduct video arraignments, while the Twenty-First District Court in Mesa County conducts both video arraignments and video conferencing.

Florida

Telejustice

With trial court approval, arraignments can be conducted using a closed circuit television. The eight Circuit Court in Gainesville established an extensive computer network which ties together the five counties in the judicial circuit. Law enforcement officers, prosecutors, public defenders, court clerks, judges, prison personnel, and probation staff use the network to send and receive electronic mail, enter and review data, and conduct extensive research quickly. In addition to Florida's Supreme Court, thirteen Circuit Courts and seven County Courts conduct video arraignments.

Hawaii

Telejustice

The First Judicial Circuit Court in Hawaii conducts video arraignments and video conferencing.

Telemedicine

The Tripler Army Medical Center currently provides care through video teleconsultation mainly to American citizens working for the United States Department of Defense in the Marshall Islands.

Through a one-way video and two-way audio system, The University of Hawaii at Manoa offers a Master of Science in Nursing outreach program. The program is provided through the Hawaii Interactive Television System (HITS) which is available on the islands of Hawaii, Kauai, Maui, and Oahu. Since the 1980s, Hawaii has utilized hospital fax networks in assisting with: patient transfers, telephone patient consultation, instant medical records transfer, instant ECG interpretation, distribution of information from a central source, multicenter research links, central data collection and organization, instant retrieval of medical literature, sending inpatient medication orders to pharmacies, sending lab and radiology reports to patient floors, and sending supply requests to central supply.

Louisiana

Telemedicine

In an effort to promote telecommunications in the rural swampland communities of Louisiana, the Southwest Louisiana Health Education Center (SWLAHEC) has been meeting with providers and health care facilitators to discuss its financial and accessibility advantages. SWLAHEC has also been conducting a statewide survey on telemedicine in which approximately 8,000 individuals will participate.

Massachusetts

Telemedicine

In the late 1960s, Massachusetts General Hospital provided one of the first video consulting programs in the nation by connecting Boston's Logan Airport and the hospital.

Currently, Massachusetts General Hospital, Harvard's Brigham and Women's Hospital, The Children's Hospital, and the New England Medical Center are conducting a telemedicine trial which involves a variety of telemedicine applications.

Minnesota

With a state legislative appropriation of $4.8 million, Minnesota is currently activating a compressed video network connecting six regional digital networks.

The Minnesota Equal Access Netowrk Services, Inc. (MEANS) is a statewide fiber company which is devloping MedNet which will be able to send interactive video transmissions to colleges, universities, government, businesses, and hospitals across Minnesota. This will be the state's first statewide commercial videoconferencing network.

The Higher Education Coordinating Board (HECB) recently received $4.8 million to support a statewide compressed video network for the universities, community colleges, and technical colleges. Through this system, adult education courses, continuing education, and other courses are transmitted.

Approximately half of Minnesota's K-12 school districts use interactive video networks. In 1994, the state legislature approved a two-year $400,000 appropriation to connect K-12 schools with the Internet.

Telemedicine

The Mayo Clinic links clinics in Rochester, Minnesota; Scottsdale, Arizona; and Jacksonville, Florida, and is used for a variety of applications including catheterization imaging, radiology, pathology, ultrasonography, and the transmission of echocardiograms, and ultrasound. The clinics have most recently looked into acoustic analysis, transcranial doppler examination, clinical speech pathology, and remote dialysis monitoring.

the original films, provide formal interpretations.

Many benefits have been identified through the project including a reduction in costs, increased access to radiologists and diagnostic accuracy, increased support for rural physicians, and the use of telemedicine as a recruitment tool for physicians.

This system uses fiber optic, copper, and satellite technology. The system receives reduced rates through its telecommunications provider.

New Hampshire

Legislative

During the 1995 session, the New Hampshire Legislature passed a bill which creates within the Department of Employment Security a three-year pilot project known as "The Laboratory for New Ideas in Information Technology." This project will develop and test a local and statewide computer network prototype designed to allow prompt and efficient access and exchange of public and non-proprietary private information within the state. The project will be funded by federal funds and by private donations.

In addition, a bill which would establish a distance learning commission to examine issues relating to the transmission of educational information and interaction of geographically dispersed individuals or groups through voice, video, and data was deferred to the 1996 legislative session.

Education

NYNEX, a telecommunications provider, reduces its Internet service charges to schools.

In Dover, New Hampshire, Cabletron Systems donated $68,000 in networking equipment to help offset the costs of creating DoverNet. This system links schools, the public library, City Hall, and homes in the community of 26,000 residents.

In southeastern New Hampshire, Southeastern Regional Education Service Center (SERESC) provides internet services to K-12 schools free of charge. SERESC is funded primarily through federal, state, and private grants.

New Jersey

Education

In April 1995, the New Jersey General Assembly awarded $350,000 grants to ten school districts across the state to establish interactive classrooms.

Telejustice

The Morris County Superior Court's Criminal, Appellate, and Criminal Divisions conduct video arraignments.

North Dakota

The University of North Dakota operates an extensive compressed video network which is used for distance learning. The University also has a partnership with the State of North Dakota to provide voice, data, and video services. T1 technology is used for the majority of services.

Telemedicine

Through a grant from the Department of Agriculture, the University of North Dakota and North Dakota State University have established the Rural Health Distance Education Project, a fiber optic, two-way interactive educational network consisting of 14 sites. The project is also working to link 32 receive-only mode sites.

Ohio

Three projects are currently being conducted in Ohio: 1) Beginning in July 1995, 39 Department of Human Services sites were connected 39 for training purposes using T1 technology; 2)Three prisons have connected to medical sites for telemedicine purposes using T1 technology; 3) Beginning in April 1996, 14 public television and K-12 sites will be linked for distance education using microwave and satellite technology, which will be converted to leased fiber.

Leased capacity is included in the Department of Administration Services budget. T1 video sites are all leased circuits

Telejustice

The Montgomery County Court of Common Pleas, the Municipal Court of Fostoria, the Municipal Court of Fairborn, and the Municipal Court of Delaware conduct video arraignments.

Oklahoma

Telemedicine

Through a public/private partnership, the Oklahoma Telemedicine Network (OTN) links more than 60 hospitals. The project is funded through a $3.4 million grant from the Department of Commerce and memberships. The OTN uses T1/DS1-3 technology.

Pennsylvania

Telejustice

Pennsylvania's Administrative Office of the Courts (AOC) completed the first phase of an ambitious Judicial Computer Project in 1992, which linked 541 district justice courts into a computer network. Upon completion of Phase II, Pennsylvania will have one of the nation's largest multi-jurisdictional automation networks.

The Telehealth Project at the Texas Children's Hospital in Houston provides pediatric consultations, education, and research to remote areas.

The University of Texas Health Science Center is currently linking San Antonio and several remote practices on the Texas-Mexico border with will provide patient exams.

Vermont

Telemedicine

The Department of Pathology at the Fletcher Allen Health Care Center in Burlington connects three hospitals for telepathology consultation.

Virginia

Telejustice

Virginia's Eastern District has started using public broadcasting studios to remotely interview trial witnesses. In addition, three Circuit Courts in Virginia currently conduct video arraignments.

Telemedicine

The Virginia Commonwealth University-Medical College of Virginia in cooperation with the Blackstone Family Practice Center is developing a telemedicine system for consultation and education. The project is funded through the Higher Education Equipment Trust Fund and the University 21st Century.

Using $150,000 in state funds, the Medical College of Virginia is developing a telemedicine program for the Powhatan Correctional Center.

The Southwestern Virginia Telepsychiatry Project, a consortium of mental health providers, used federal funds to establish a telecommunication network that provides health services between Southwestern Virginia Mental Health Institute and three rural community service boards sites.

Washington

Telejustice

Currently, four County Superior Courts and three District Courts conduct video arraignments.

Telemedicine

Through the WAMI (Washington, Alaska, Montana, Idaho) program, the University of Washington School of Medicine is evaluating the advantages of diagnosis and treatment at rural hospitals and clinics as opposed to referring patients to tertiary hospitals.

RESEARCH FOR 461 TASK FORCE
PREPARED BY THE IOWA UTILITIES BOARD
SEPTEMBER 28, 1995

FEDERAL LEGISLATION
PENDING REGULATORY CHANGES

Federal Communications bills passed thus far that may have an impact on the ICN are H.R. 1555 and S. 652. While these bills differ in the details of how and when telecommunications reform will occur both bills share the common goals of an open telecommunications market and a phase out of regulation.

There are three major areas that may have an impact on the ICN. They are 1) telecommunications and video competition 2) universal service and 3) the deployment of new technology. I will discuss how each bill addresses each of the subjects and the possible significance to the ICN.

Telecommunications and Video Competition

Theoretically both bills promote competition, however, they differ in the details of the transition to an open telecommunications market. The following are some of the provisions that are intended to foster competition:

A. Removal of Monopoly Restrictions
Both bills preempt state or local regulations that would prohibit the ability of any entity to provide telecommunications.

B. Interconnection of Networks
The bills require telecommunications carriers to provide interconnection to the networks of other providers of telecommunications. They must provide on an unbundled basis all of the features and functions of the telecommunications network. These provisions will allow competition to develop from the resale of the local exchange carriers network and services and also from other facility based carriers.

C. Rural Exemptions
Both bills set up a procedure that allows rural or small local exchange companies to request a waiver of the interconnection requirements. The House bill specifically states that a rural telephone company does not need to comply with the interconnection rules until they receive a bona fide request for services. The State PUC must determine if the request would be unduly economically burdensome, technologically infeasible and be consistent with the principles of universal service.

is a school with an endowment of more than $50 million, or it is a library ineligible for public funding.

The House bill is silent regarding providers of universal service and who would be eligible to receive assistance. The Senate bill limits those who may receive assistance from the universal fund to "essential telecommunications carriers".[1] There may be more than one essential telecommunications carrier in a service area.

Both bills state that all telecommunications carriers must contribute to the universal service fund. The house bill does not define telecommunications carrier. The Senate bill defines the term very broadly as a provider of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available to the public. Currently universal service is funded through payments from long distance companies to local exchange companies and by large local exchange companies charging average rates.

ICN Considerations

The proposed legislation addresses the provision of advanced telecommunications to the schools only in terms of telecommunications carriers. The telecommunications carriers are required to provide the services, are eligible to receive the universal service funds for that provision, and are required to support the universal service fund. Since the ICN is not an essential telecommunications carrier or a telecommunications carrier as defined by the Senate bill it does not appear that the ICN would be eligible to receive universal service funds or have to pay into a universal service fund. It is not known,

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[1] "(3) Essential Carrier Obligations - A common carrier may be designated by the Commission, or by a State, as appropriate, as an essential telecommunications carrier for a specific service area and become eligible to receive universal service support under section 253. A carrier designated as an essential telecommunications carrier shall -

"(A) provide through its own facilities or through a combination of its own facilities and resale of services using another carrier's facilities, universal service and any additional service (such as 911 service) required by the Commission or the State, to any community or portion thereof which request such service;

"(B) offer such services at nondiscriminatory rates established by the Commission for interstate services, and the State, for intrastate services, throughout the service area; and

"(C) advertise throughout the service area the availability of such services and the rates for such services using media of general distribution. (S652 p 51)

MAJOR TELCO PROVISIONS - H.R. 1555 AND S. 652

ISSUE	H.R. 1555	S. 652
Universal Service	• Establish Federal/State Joint Board • Board to make recommendations to FCC within 9 months, reflecting these principles: - just and reasonable rates - access to advanced services - sustainable support mechanisms - all carriers contribute - education access • Board sunsets in 5 years	• Establish Federal/State Joint Board • Board to make recommendations to FCC within 9 months • Evolving definition • All carriers contribute • Only essential telecom carriers may receive support • Board to review universal service issues every 4 years

Prepared by: Teresa Wahlert, USWEST Communications

MAJOR TELCO PROVISIONS - H.R. 1555 AND S. 652

ISSUE	H.R. 1555	S. 652
Education and Rural Health Obligations	No provision	Snowe-Rockefeller Amendment: • Telecom providers must connect and serve non-profit K-12, public libraries and rural health facilities at preferential rates • May recover lost revenues through universal service fund
Privacy of Customer Information	• CPNI may not be used, without customer approval, except to deliver service to customer • CPNI may not be disclosed to third parties, including business affiliates of carrier	No requirement for all common carriers, just Bell Companies

Overview of Iowa Utilities Board Study
Impact of the ICN on the Telecommunications Industry

Prepared by:
Iowa Department of Commerce
Iowa Utilities Board

The Iowa Utilities Board has entered into a contract with Economics and Technology, Inc. to conduct a study pursuant to the authority granted in Senate File 2089, which requires the Board to conduct the study and provide a written report to the Legislature no later than January 15, 1996.

CONTRACT NAME: STUDY OF THE OVERALL IMPACT OF THE IOWA COMMUNICATIONS NETWORK ON THE PRIVATE TELECOMMUNICATIONS INDUSTRY IN IOWA

The contract requires the vendor to prepare a report to the Board on or before November 15, 1995. The report will include the following:

1. Analysis of the existing and emerging Iowa telecommunications industry as it intersects with the mission of the ICN. The analysis will elicit qualitative views on the impact of the network, and on the best role for the network, in the future mix of networks in Iowa.

2. Estimation of the potential for telecommunications industry competition to serve the market segments targeted by the ICN and the economics of such service.

3. A determination of where the provision of different types of services by both the telecommunications industry and the ICN are complimentary.

4. Identify the stimulation of the telecommunications industry by the ICN.

Study Conducted by:
Economic and Technology, Inc.

Study Completion Date:
November 15, 1996

Task Force Member Bios

Joan Axel, Chair of the 461 Task Force, is Director and Partner in the Stanley, Lande & Hunter law firm based in Muscatine. Ms. Axel is a member of the Iowa Telecommunications and Technology Commission (ITTC) and is a Trustee and Executive Committee member of the Hoover Presidential Library Association. Ms. Axel has also served as Chair of the Iowa Lottery Board and as Executive Committee Member and Board Director of the Iowa State University Foundation.

Robert Halford is the General Manager of the Clear Lake Independent Telephone Company and has over 41 years of experience in the telecommunications industry. Mr. Halford is former President and currently a board member for OPASTCO *(Organization for the Protection and Advancement of Small Telephone Companies)*, a national organization representing small telephone companies serving rural areas. Mr. Halford was formerly President of the Iowa Telephone Association, is First Vice President of Iowa Network Services, and was named one of the top 150 telecommunications executives in the United States by Telephony magazine in 1991.

Yale Kramer, President and Founder of the Reiss Corporation, specializes in appraisals of closely held businesses, appraisals for federal gift and estate tax purposes, estate planning, employee stock ownership plans, tender offers, mergers and acquisitions, and dissolution litigation. Mr. Kramer has been involved in valuation matters in over 20 states and was appointed a Special Master and arbitrator by the Iowa District Courts. Mr. Kramer has spoken internationally on business valuation, and has held several leadership positions in associations representing the business appraisal industry.

Major General Warren (Bud) Lawson serves as the Adjutant General of the Iowa Army National Guard. Gen. Lawson taught military science at the University of Nebraska, was a Platoon Leader and Liaison Officer in Germany, and served as a Company Commander in Korea. Gen. Lawson served with the 196th Light Infantry Brigade in Vietnam, and was assigned to a number of posts upon his return. In 1979, Gen. Lawson was appointed to Deputy Adjutant General of Iowa, and Adjutant General in 1985. Gen. Lawson is active in a variety of military and community organizations, and has received numerous awards and decorations.

Todd Linden is the President and CEO of the Grinnell Regional Medical Center. Mr. Linden is the former CEO of the Greene County Medical Center, where he directed the first national healthcare fiber optic demonstration using the ICN. In 1994, Mr. Linden was appointed by the Governor to Chair the Iowa Telemedicine Advisory Council and currently serves as Chair of the Iowa Telemedicine Advisory Committee.

Jim Meyer is Vice President, Assistant Secretary, and Corporate Counsel for Hy-Vee Food Stores, Inc. Mr. Meyer began his career as a lawyer in the Meyer Law Firm in Chariton and later became the Chariton City Attorney, and counsel for the Chariton Community School District. Mr. Meyer serves as the director of Lomar Distributing, Inc and is a member of the Iowa Department of Transportation ISTEA State Plan Advisory Committee.

Ben Norman is the Superintendent of Schools for the Ankeny Community School District. Dr. Norman began his career in the Des Moines School District as an internal auditor, distributive education teacher, adult education principal, and building administrator for the alternative education program. Dr. Norman is active in a number of community organizations, and was named the Ankeny Citizen of the Year (1991), Iowa Superintendent of the Year (1991), Community Educator of the Year (1991), and Drake University's College of Education Outstanding Alumnus (1992).

State Public Policy Group
Project Team Information

State Public Policy Group (SPPG) is an Iowa-based issue management and technical assistance consulting firm that provides organizations with the tools they need to affect public policy, facilitate change, increase organizational performance, and stimulate cooperative efforts. SPPG was founded by Tom Slater in 1984 in response to increasing demands from public and private agencies and organizations for strategic planning, organizational support, advocacy training, and policy assistance.

Tom Slater, Project Director
Slater is the founder and President of State Public Policy Group. He has been involved in public policy and organizational development for more than twenty years. Since founding State Public Policy Group, Slater has provided professional services to a broad range of clients from the private and public sectors throughout the United States and several foreign countries.

Amy Campbell, Project Lead
Campbell directs SPPG's legislative and research efforts, including policy analysis, strategy development, and all SPPG client policy development. Campbell has led a number of SPPG research projects.

Robert Fleming
Fleming is SPPG's Executive Director and is responsible for the day-to-day administration of SPPG, as well as client strategic planning, policy development, and organizational management.

Arlinda McKeen
McKeen directs SPPG's international projects, which focus on policy planning, program development, and international trade training.

Joe Shannahan
Shannahan directs projects requiring federal, state, regional, and local cooperation, and assists with client media planning and advocacy trainings.

Tori Squires
Squires directs a number of community and economic development projects, primarily in the areas of housing, local government planning, and rural development.

Shannon Tyler
Tyler provides staff support for SPPG's design projects, including the publication of several association newsletters and the development of specialized promotional materials.

Sally Johnson
Johnson provides organizational and clerical support on a number of SPPG projects.

Ben Grimley
Grimley provides staff support on a variety of SPPG's human services and international projects.

Volume II:
Supporting Materials
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The following information is contained in the separate folder entitled "Volume II: Supporting Materials." If you wish to have a copy of this binder, or copies of specific reports contained in it, please contact the Iowa Communications Network at 515/323-4692.

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- Task Force Review -- *Telecommunications Industry: Fiber Optic Market & Historical Review*
- Task Force Review -- *Telephone Association Response on Fiber Infrastructure*
- ICN Authorized Users List

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461 Update

461 Task Force • Iowa Communications Network Study • August, 1995

Task Force Begins to Study ICN's Future

During the 1995 legislative session, Iowa lawmakers passed several critical pieces of legislation as they deliberated the future of the state-owned fiber optic network.

Legislators and the Governor accepted a $95 million plan to connect 474 new sites - most of them high schools - to the Iowa Communications Network. All but 22 of those sites will be privately leased connections.

In addition, the Iowa General Assembly passed and the Governor signed House File 461, a bill which required the Iowa Telecommunications and Technology Commission (ITTC) to study the feasibility of two options -- selling the ICN to a private operator or converting the ICN into a public utility.

Current Authorized Users

- Education
- Telemedicine
- Federal Government
- State Government

To comply with this legislation, the ITTC appointed a fourteen-member task force *(see bios in article below)* to review the issues involved in the study and assemble their findings in a useable format. The 461 Task Force will not make a recommendation on a course of action, but will provide the framework from which a policy decision can be made.

The study will be completed on October 13, 1995. The ITTC will make a recommendation based on the Task Force's report. The study report and the ITTC's recommendation must be submitted to the Governor and General Assembly by October 31, 1995. ■

Meet the 461 Task Force...

Joan Axel, Chair of the 461 Task Force, is Director and Partner in the Stanley, Lande & Hunter law firm based in Muscatine. Ms. Axel is a member of the Iowa Telecommunications and Technology Commission (ITTC) and is a Trustee and Executive Committee member of the Hoover Presidential Library Association. Ms. Axel has also served as Chair of the Iowa Lottery Board and as Executive Committee Member and Board Director of the Iowa State University Foundation.

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Yale Kramer, President and Founder of the Reiss Corporation, specializes in appraisals of closely held businesses, appraisals for federal gift and estate tax purposes, estate planning, employee stock ownership plans, tender offers, mergers and acquisitions, and dissolution litigation. Mr. Kramer has been involved in valuation matters in over 20 states and was appointed a Special

(Continued on Page 2)

The 461 Task Force Premise

All options studied must assure the following:

- Affordable access to currently authorized users
- The availability of a well-maintained fiber optic system and delivery of a specified bandwidth
- Completion of Part III as specified in legislation

The ICN Study

Legislature Defines ICN Study Process

When Iowa lawmakers begin their next legislative session in January, they will come armed with the tools they need to set ICN policy.

Following the direction provided by the Legislature in House File 461, the Iowa Telecommunications and Technology Commission (ITTC) appointed a task force to study the Iowa Communications Network (ICN).

This task force will not make a recommendation. Rather, it will provide the ITTC and ultimately the Iowa Legislature with a valuable document that can be used as a practical policy setting guide. ■

General Assembly
HF 461 directs ITTC to study the feasibility of an ICN sale or conversion to public utility

↓

ITTC
Appoints a study task force

↓

461 Task Force
Gather, analyze, and frame issues under each option

↓

ITTC
Reviews options outlined in study

↓

Recommendation

↓

General Assembly



461 Task Force Studies Ten Options

House File 461 required the Iowa Telecommunications and Technology Commission (ITTC) to study two options relating to the ownership and operation of the Iowa Communications Network (ICN). The ITTC was to analyze the impact of both options -- selling the ICN to a private operator and converting the ICN into a public utility.

At their first meeting, the 461 Task Force decided to expand the study to include several sale and public utility options. This list now includes ten options with over 25 issues under consideration.

It is important to note that the task force agreed on the premise that each option *(except Option 1)* would assure currently authorized users affordable access to fiber optic technology. The following is a list of those options and considerations.

Option 1
The ICN would be sold for private ownership and operation, but currently authorized users would not be assured affordable access to the technology.

Option 2
The ICN would be sold for private ownership and operation, but currently authorized users would be assured affordable access.

Option 3
The State would sell excess capacity for private ownership and operation. This sale would be open to any telecommunications provider.

Option 4
This option would allow for joint state-private ownership (e.g. partnership, corporation, joint-stock company)

Option 5
The State retains ownership of the ICN, but leases it to a private operator who will assume the risk.

Option 6
The State retains ownership of the ICN and contracts for private management. The state would continue to assume the risk.

Option 7
The State retains ownership and operation of the network, but leases excess capacity to private operators.

Option 8
The State retains ownership and operation of the network, but leases excess capacity to private operators *only* in markets where existing vendors are not capable or willing to provide the service.

Option 9
The ICN remains the same, but access is limited to the current list of authorized users.

Option 10
The State would retain ownership and operation of the ICN, but all limitations on use would be lifted.

(Continued on Page 4)

ICN Historical Timeline

1980 Community colleges planned for a small educational telecommunications network using a combination of technologies. The Legislative Council determined that a coordinated statewide plan for distance learning was needed.

1987 Senate File 162 authorized Iowa Public Television (IPTV) to coordinate the Iowa Educational Telecommunications Network *(Narrowcast Advisory Committee supervised the project).*

1990 The Legislature expanded the proposed network to include state agencies and libraries.

1991 Construction began on Part I *(15 community colleges, 3 regents institutions, IPTV and the State Capitol Complex).*

1992 Construction began on Part II *(connections from the community colleges to the remaining 84 county points of presence, known as CPOPs)*

1993 Parts I and II are completed.

1994 Senate File 2089 established a governance and management structure for the network *(the Iowa Telecommunications & Technology Commission)*; authorized hospitals, physician clinics, federal government, Judicial department, and US Postal Service to use the network; and established the guidelines for the development of Part III.

1995 Legislature agrees to a $94.7 million Part III plan that will connect 474 sites using primarily privately leased lines; provided $24.5 million for 1996 operating costs; and commissioned a study of the feasibility of selling the ICN or converting it to a public utility *(House File 461).*

The 461 Task Force appointed by the ITTC to conduct the ICN feasibility study mandated in House File 461. Joan Axel appointed Chair of the thirteen-member task force, and the State Public Policy Group is hired as staff.



If you want to continue receiving the 461 Update, please fill out this card and send it back to the address below. *If we do not hear from you, your name will be removed from the mailing list.*

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State Public Policy Group
Clemens Building • 200 10th Street, 5th Floor • Des Moines, Iowa 50309
515/243-2000 • FAX 515/243-5941

461 Update

461 Task Force • Iowa Communications Network Study • September, 1995

Task Force Begins to Define Options

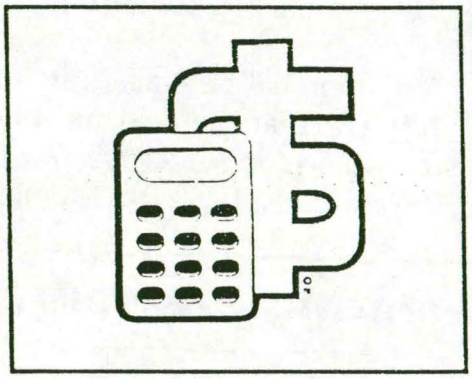
Business Valuation Procedures Reviewed by Task Force

The process on how a business is alued prior to a sale was eviewed by Yale Kramer during he August meeting of the 461 ask Force.

ramer, a task force member, has orked in the business appraisal idustry for over 20 years. His resentation -- Business Appraisal 01 -- was formatted to give task orce members a crash course in ile "deal makers" and "deal eakers."

his review provided task force embers with a checklist of ues that can create problems, enhance profit margins, when business is sold.

This review helped the 461 Task Force identify all the factors that could have an impact on the ICN's value in the marketplace.



A complete network appraisal or valuation is not within the scope of the 461 Task Force's study. However, the Task Force will outline the complexities of an appraisal or valuation, including the high cost of the process (current estimates from initial vendor contact is $1.8 million).

The Task Force will list and analyze all the factors that might affect the ICN's value -- both positively and negatively. This information will be helpful when analyzing the implications of each option.

By obtaining and analyzing all the information, the Task Force will be able to provide policy makers with a thorough analysis necessary to make informed public policy decisions. ■

Meeting Highlights

e 461 Task Force met on Thursday, igust 10 and Friday, August 11 to ntinue analyzing the impacts of e ten study options on various er groups in the State of Iowa.

embers of the Resource Panel re asked to clarify key issues d provided insight from a iety of perspectives. Chris Scase the Iowa Attorney General's assessment of the legal issues involved in several options. Scase will formally present her findings at the September 7-8 meeting.

Bob Helmick, bond counsel from Dorsey & Whitney, reviewed the effect each option has on the:

- The State's credit rating and financial bond reputation
- Status of the State's tax-exempt bonds *(used to finance Part I and II construction)*
- The legality of the bonds and compliance with their terms.

Helmick noted that while the bond issues create problems in several areas, it appears the bond issues would not preclude any of the options. ■

The ICN Study

Task Force Resource Team Expanded

The Resource Team is an integral part of the 461 Task Force. The current team includes:

Paul Bowers
Buena Vista University

Gary Feddern
Iowa Lakes Community College

Bob Helmick
Dorsey & Whitney, P.C.

Kent Jerome
Iowa Telephone Association

Kirk Kaalberg
McLeod Telecommunications, Inc.

Linda Kading
Iowa Association of
Municipal Utilities

Allan Kniep
Iowa Utilities Board Staff

Bob Lutz
Drake University

LTC Jim McCullough
Iowa National Guard

Perry Meyer
Iowa Hospital Association

Chris Scase
Iowa Attorney General's Office

Col. Roger Schultz
Iowa National Guard

Phil Smith
Iowa Office for
State-Federal Relations

Jim Sutton
Iowa State
Education Association

Tommy Thompson
Iowa Communications Network

Dick Vohs
Iowa Network Services

Craig Waskow
Iowa Cable
Television Association

Task Force Reviews the Internet

Issue Added as a Report Consideration

The Internet is fast becoming an essential tool for the modern world. At its August meeting, the 461 Task Force discussed the need to look at the Internet as a separate issue under each option.

George Strawn, a task force member and expert on the Internet, provided an overview of the Internet and its value to the ICN.

Strawn explained that the Internet will be one of the most important and widely used applications on the ICN, regardless of who owns it. The ICN is currently one of several Internet providers.

Strawn asked that, in light of the importance of the Internet to education and government, the Task Force agree to look at it as a separate issue in their analysis.

The Task Force agreed to add another issue -- the 26th -- to their study. It will read *"What are positive and negative effects of this option on the access to the Internet?"*

The Task Force agreed to add the Internet to the list of considerations. ■

461 Update

461 Task Force • Iowa Communications Network Study • September, 1995

The ICN Study

ICN Attracts Federal Grants

Due to the Iowa Communications Network's (ICN) affordability, accessibility, and availability statewide, nearly $50 million in federal grants, contracts, and direct federal assistance for projects will have been awarded in Iowa by the end of FY '96 according to Phil Smith, director of Iowa's Office of State and Federal Relations.

Smith contends the widespread availability of fiber optics in all parts of the state makes the ICN attractive. The ownership of the ICN does not directly determine access to federal funds. The ICN has provided its users with several new opportunities to seek federal funding. To date, a total of $38.4 million in grant and contract awards have been given to eight ICN users. These include:

The Iowa National Guard: 5 million from the Department of Defense for the development of its Community Learning Centers and Information Network that connects 51 of its armories to the ICN for full range voice, data, and video services.

Iowa Emergency Management Agency: $3.9 million from the Department of Defense to help construct the Emergency Operation's Center at the STARC Armory and a portion of the ICN.

3) **Iowa Public Television:** $8 million from the Department of Education to aid Iowa schools in the implementation of distance education programs.

4) **University of Iowa Hospitals and Clinics:** $7.3 million from the National Library of Medicine to develop a National Center for Rural Telemedicine.

5) **Iowa Methodist Medical Center:** $700,000 from Health Care Financing Administration to develop a pilot telemedicine project linking two rural hospitals to the Des Moines Medical Center.

6) **Iowa Mercy Medical Center:** $3.5 million from Health Care Financing Administration for a Telemedicine research project linking eight rural Iowa hospitals.

7) **State Library of Iowa:** $2.5 million from the Department of

Continued on page 2...

Matrix Updates Continue

The matrix developed to help Task Force members, the Telecommunications and Technology Commission, policy makers, and other readers sift through the volumes of information continues to develop. The matrix is constantly updated to reflect the deliberations of the Task Force. The matrix also reflects information from sources such as the Iowa National Guard, the Attorney General's Office, the Iowa Telemedicine Advisory Council and the Federal Emergency Management Agency (FEMA) Iowa Network Services (INS), telephone companies, and private business.

The Task Force matrix will present information in consistant categories to help make it more readable. These categories will allow the Task Force to point out considerations, effects, constraints, and responses to considerations.

Task Force members are reviewing the matrix issue by issue. They agree to review the material in this manner, and when all information is integrated, evaluate each option as a whole.

The ICN Study

Task Force Evaluates ICN Legal Issues

Chris Scase of the Iowa Attorney General's Office presented a preliminary report for review and discussion on the legal implications of the ten options being studied by the 461 Task Force. Scase highlighted legal constraints under each option and suggested responses to these constraints.

The legal issues examined by Scase include:

Public Rights of Way -- Scase noted that public right of way issues do not present barriers to the sale or alternate ownership or management of the network. All but Option 9 (state ownership and operation) would likely trigger Department of Transportation right of way fees for non-governmental use of the network.

Contracts -- The existing contracts, 28E agreements, federal grant compliance language, and licenses reviewed to date would not present barriers to the sale or alternate ownership or management of the network, but some could trigger significant demands for recoupment.

Federal Emergency Management Agency (FEMA) Requirements -- FEMA is currently assessing the impact of their agreements on each option. It is possible FEMA will seek recoupment of $3.4 million in matching funds used for the STARC Armory project if the state fails to provide assurance of emergency communication capabilities. A buyer could build a hub but, any alternative hub site would need to meet FEMA survivable crisis standards - a substantial cost for any purchaser.

System-wide Buildout -- The state law that requires federal agencies, telemedicine, and National Guard federal grant programs pay for a system-wide buildout may trigger some significant demands for recoupment.

STARC Armory Status -- The State of Iowa has no ownership interest in the STARC Armory facility. Rather, the state was granted use of the building under a license agreement, which may be transferred or assigned to another party with the consent of the National Guard. The need for a purchaser of the network to construct alternative facilities would entail substantial cost.

Regional Switches/Points of Presence -- Regional switches and county points of presence are located in public facilities, primarily community colleges and schools. While no written agreements are in place defining state use of these facilities, the state legislature has authority to enact legislation mandating that the community colleges, local schools, and other political subdivisions provide access to the purchaser of the ICN in the event of a sale of the network.

Part III Contracts -- Part III contracts will not preclude a sale or alternate ownership or management of the network.

Regulation -- A private owner of the network would be subject to the jurisdiction of the Iowa Utilities Board under current law, while the ICN is exempt from such regulation.

Other Laws -- To date, the Iowa Attorney General's Office has not found any state or federal law which would preclude any of the options. However, certain options may implicate the noncompetition provisions of Iowa Code chapter 23A, specifically where the state retains ownership but expands non-governmental users. Further, by constitutional prohibition, the state can not become a stockholder in any corporation. Any joint ownership arrangement would need to be carefully structured to avoid this prohibition.

Telemedicine Issues

continued from page 2...

- Availability of emergency access capabilities
- Equity of access (assuring rural access)
- Research focus for attracting grant funds
- Reinvestment (revenue vs subsidy) in Network
- Separate entities that provide coordination must preserve cooperation with health care
- Telemedicine should not be politicized
- Assurances of confidentiality

Each of these issues will be considered when assessing the impact of the Task Force's ten options.

DRAFT

Iowa Communications Network: An Overview

Advances in technology have launched the telecommunications industry into new territories of competition. Many telecommunications providers continue to be subject to regulatory restrictions, while others have carved out niches in the free market. Federal and state telecommunications policies have only recently begun to reflect these market shifts.

At the same time, increasing numbers of individuals and businesses are discovering the potential efficiencies offered by telecommunications technology. While demand for new telecommunications services has increased significantly over the last decade, costs remain high because of the constant need for equipment upgrades and system build-outs.

In the mid-1980s, the State of Iowa became a telecommunications provider. The entry of state government into the telecommunications industry has received mixed reviews. The following analysis will help frame the background of the ICN and the telecommunications industry as a whole.

Historical Review of the Iowa Communications Network

In the early 1980s, state policy makers and educational leaders began exploring options that would provide affordable distance learning opportunities to all Iowa schools, regardless of their location or size. During this time, the state was in the midst of a farm crisis which debilitated rural areas and led to increased outmigration. The proposed educational telecommunications network held hopes for rural economic revitalization through the preservation of quality educational opportunities in many remote areas of Iowa. School consolidations and closings could be averted.

The establishment of the Iowa Lottery Network in the late 1980's provided the opportunity the state needed to begin building a telecommunications network. The Iowa Department of General Services, as the owner and operator of the lottery network, expanded the network to include all state agencies. This network became known as the Iowa Telecommunications Network (ITN).

In 1989, Governor Terry E. Branstad proposed, and the Iowa General Assembly adopted, legislation that created and funded the first state-owned fiber optic communication system in the nation. Although this legislation funded construction of the system, it was not until early 1994 that a governance structure was established to manage the network. Until that time, the network was managed by the Iowa Department of General Services and Iowa Public Television's Narrowcast Advisory Committee.

In 1991, the Nebraska-based Kiewit Construction Company was awarded a contract by the State of Iowa to expand the ITN. The company's installation of a statewide Synchronous Optical Network (SONET) provided state agencies, universities, and

Executive Director, approved the Part III implementation plan, and directed the ITTC to conduct a feasibility study of options relating to the ICN's sale or conversion to a public utility.

Just as Robert Baur was leaving his post as commission chair, the ITTC lost a second commission member, Richard Westcott, to a serious illness. During the same month, the Governor appointed a new commission chair -- Richard Opie -- and Tommy Thompson became Chief Operating Officer for the ICN.

On June 22, 1995, Governor Branstad appointed Mary A. Nelson to fill the seat vacated by Richard Westcott. As with Richard Opie, Ms. Nelson's appointment will be subject to confirmation by the Senate in 1996.

In order to comply with the General Assembly's mandate, the ITTC appointed a twelve-member task force to study the disposition of the ICN and report on the feasibility of several options. This task force must complete its study and submit a report to the ITTC by mid-October 1995. The task force is not responsible for making a recommendation. Recommendations will be made by the ITTC after completion of the study.

The 461 Task Force, named after the legislation (HF 461) which created it, is headed by commission member Joan Axel and staffed by the State Public Policy Group.

Chronology of ICN Events

1980 Several community colleges began to plan for the development of a small educational telecommunications network using a combination of technologies. The Legislative Council simultaneously determined that a coordinated statewide plan for distance learning was needed.

1987 Senate File 162 was adopted to authorize Iowa Public Television (IPTV) to coordinate the Iowa Educational Telecommunications Network and establish the Narrowcast Advisory Committee to plan and supervise the project.

The first Request for Proposal (RFP) was issued to determine specific pricing for a variety of technologies. Three vendors bid on this initial proposal. The bid was awarded to a McLeod Telecommunications, but was later challenged and rejected.

1990 The Legislature expanded the proposed network to include state agencies and libraries. The Iowa Department of General Services was instructed to share management responsibilities with IPTV.

A second RFP was released to connect 356 sites, but proposals were rejected for high costs. Finally, a third RFP was issued with the number of

1995 Legislature began its review of Part III proposals, agrees to a $94.7 million plan to connect 474 Part III sites using privately leased lines, provided $24.5 million for Fiscal Year 1996 operating costs, and appropriated $250,000 for a study which looks at the feasibility of selling the ICN or converting it to a public utility (HF 461).

The Legislature also authorized the National Guard to lay additional state-owned fiber in its trenches to hook up 19 Part III sites. These connections are to be owned by the state.

The Senate rejected the confirmation of Robert Baur as ITTC Chair and Tommy Thompson as ICN Executive Director.

Governor appointed a new Chair of the ITTC -- Richard Opie -- and Tommy Thompson became Chief Operating Officer for the ICN.

461 Task Force appointed by ITTC to conduct the ICN feasibility study mandated in HF 461. Joan Axel appointed as Task Force Chair and State Public Policy Group hired as staff.

Iowa Communications Network -- Infrastructure Review

Construction of the Iowa Communications Network began in 1991 and has been ongoing since. The ICN currently owns more than 28,000 miles of fiber in the state. Of this fiber, approximately 10,270 miles is currently lit. New National Guard and federal projects will bring the total state-owned fiber miles up to 31,853 *(Source: Iowa Communications Network).*

The ICN construction plan called for three consecutive parts:

- Part I -- 21 sites *(owned)*
  15 community colleges, 3 regents institutions, IPTV, and the State Capitol Complex were connected to the hub at the National Guard's STARC Armory at Camp Dodge. This part was completed in 1993.

- Part II -- 105 sites *(owned)*
  These connections allowed each county to have an ICN endpoint. Connections from community colleges were extended to the remaining 84 county points of presence, known as CPOPs. This part was completed in 1993.

Currently, several community colleges offer ICN training sessions to state agency personnel. These trainings concentrate on methods for conducting effective meetings over the ICN. In addition, Iowa Public Television is currently updating their video guide to ICN use, entitled "How to Use the ICN." This videotape is available to educational users of the network.

The ICN recently established a toll-free ICN User Hotline, where users can call for assistance in ICN scheduling, use, and training.

Currently, four groups are authorized users of the network:

- Education
  This includes K-12, higher education, school administrative offices, and libraries. Educational users are authorized to use the network for voice, video, and data traffic. In 1994, the Legislature made it clear in SF 2089 that educational users are to remain the top priority of the network.

- State Government/Iowa National Guard
  State government and the Iowa National Guard are authorized to use the network for voice, video, and data traffic.

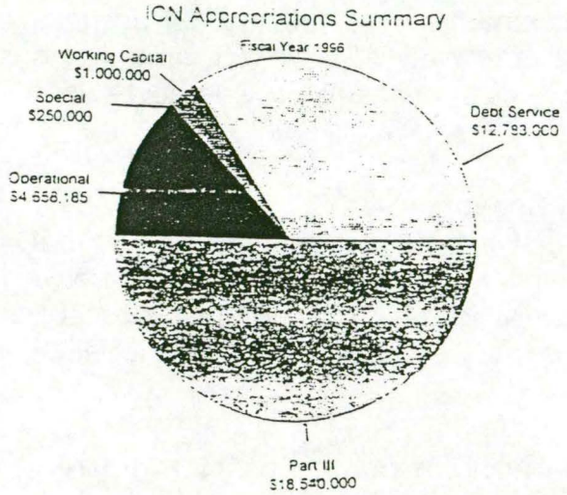
- Federal Government
  Federal government, community-based corrections, the judicial department, and the U.S. Postal Service (for pilot projects) are authorized to use the ICN for voice, video, and data traffic.

- Hospitals/Physician Clinics
  Hospitals and physician clinics are authorized to use the ICN for telemedicine purposes alone. They may use the ICN for video and data traffic related to telemedicine, but not for other (administrative) purposes. Telemedicine users are prohibited from using the ICN for voice traffic.

The Iowa Telecommunications and Technology Commission has appointed two committees to represent user groups.

- The Iowa Telemedicine Advisory Committee
  This group is comprised of telemedicine users, hospital administrators, health care professionals, insurance representatives, and consumers. They meet to review and make recommendations to the ITTC on issues relating to telemedicine.

The following pie chart demonstrates funding provided for the network during the last legislative session.



The ICN currently employs 48 personnel who manage, supervise, and maintain network operations.

- Administrative. 5
- Engineering 10
- Financial 8
- Outside Plant/Construction 7
- Technical 10
- Public Affairs 1
- Commissioners (part-time) 2
- Part-Time/Interns 5

Various other entities continue to provide services to the ICN. Iowa Public Television coordinates all video scheduling, provides technical troubleshooting for educational network classrooms, and coordinates a variety of educational activities on the ICN. The Iowa National Guard also provides services to users of the ICN, including assistance in scheduling sites and technical assistance.

ICN Technology

The ICN is a fiber optic system which offers its users a variety of technological options. While it is difficult to keep pace with technological innovations, the ICN makes it a priority to look at advances in switching systems and other hardware.

Frame Relay Services (FRS)

In cooperation with US West, the ICN has developed and deployed 32 FRS points around Iowa. FRS technology enables ICN users to improve their data speed capabilities significantly *(i.e. data speed is increased from 9600 bps to 56 kbs).* The Iowa Department of Human Services has successfully used this technology provided cooperatively by US West and the ICN to interconnect over 3,000 of their employees around the state.

Cable Television

Cable television providers are often left out of the telecommunications discussion in Iowa because they operate on a copper (co-axial) network which does not offer the same capabilities as fiber optics. However, many cable systems are currently replacing their backbones with fiber to position themselves as a diverse telecommunications provider.

Cable companies are subject to local franchise renewals, which may require local access channels, specify programming, and set rate ceilings. Cable companies operating in Iowa include TCI and Cox. Direct satellite providers are also placing themselves in a position to compete with cable companies in entertainment services. TCI has launched their own direct satellite service, Primestar.

Wireless Services

Companies providing wireless phone service in Iowa include US Cellular, US West Cellular, Sprint Cellular, AT&T Wireless, and ComNet.

Telecommunications Industry
Fiber Optic Market & Historical Review

The following information was gathered and summarized using literature received from Yale Kramer of the Reiss Corporation. The articles are on-file with SPPG staff and can be copied upon request.

Historical Review

Modern fiber optic technology originated in research conducted in the 1920s. The cooper coaxial cable was first introduced in 1928, and remained the mode of transmission for decades. In 1954, research in solid state physics led to the development of microwave transmissions, and six years later, laser technology emerged.

Fiber optic systems are made up of two components -- the optical fiber that carries the light pulse, and the electronics which send, receive, and convert the light pulse into information. Fiber optic systems have a number of recognized advantages over copper: they are low cost, physically flexible and lightweight, and are not affected by electromagnetic interference. Freedom from interference makes fiber optic systems more reliable, and their low cost makes them economically attractive. Their light weight makes them easier to transport and use *(200 reels of copper wire weigh 1,600 pounds; a single spool of optical fiber, which has the same message-carrying potential, weighs only 4.4 pounds).* The low cost of installing a fiber optic system continues to be a factor in its success. Fiber systems are only 5-10% more expensive than traditional copper coaxial cable. When factoring in fiber's capacity and ability to adapt to future applications, the choice of fiber over copper becomes more appealing to most of the world's network operators.

Fiber optic systems moved rapidly from research to deployment, largely due to their capacity and low cost. Advances in fiber optic technology have occurred very rapidly. It is important to note that the advances being made are in the fiber electronics -- no the optical fiber itself. These advances make it possible to upgrade the electronics and increase the capacity of the system without replacing or upgrading the optical fiber itself. Technological advancements in fiber electronics increases the amount and speed of information transmitted.

Fiber Optic Market Review

Over the past five years, markets in "information hardware" have expanded dramatically. 1993 was a pivotal year for the US fiber optics industry, as shipments of fiber optic equipment grew by over 11% to $3.1 billion. This growth reflects the increased deployment of fiber otic equipment (optical fiber and its electronics) in both developing and industrialized countries. *(US Industrial Outlook, 1994)*

Fiber Optic Projects

Below are examples of several large fiber optic projects currently being implemented around the world.

- In April of 1993, Sprint announced a ten-year, $500 million plan to install SONET equipment on its network, offering its customers rapid transmission speeds *(more than 13 times faster than the current network)*.

- In July of 1993, MCI Communications became the first network operator in the US to deploy optical switches, which are designed to improve the efficiency of fiber optic systems by providing reliable routing.

- Four investors have joined together in a privately-financed venture, called the Fiberoptic Link Around the Globe (FLAG) Project. These investors -- NYNEX, the Dallah Al Baraka Group (Saudi Arabia), Gulf Associates (US), and Maurbeni Corporation (Japan) hope to provide a high capacity undersea fiber optic system that will link Japan with the United Kingdom, via the Indian Ocean. Upon completion, FLAG will have links to 11 countries and be the longest undersea fiber system in the world. The project is expected to cost $1.2 billion and be operational by December, 1996.

- The Newly Independent States and Eastern European governments have expressed interest in fiber optic technology. Many of these governments have begun ambitious infrastructure overhauls to provide more reliable phone and data service, and provide their businesses with an electronic link to the world. The market for fiber optic equipment in these areas is expected to reach nearly $1 billion by the end of the decade, compared with $42 million in 1991.

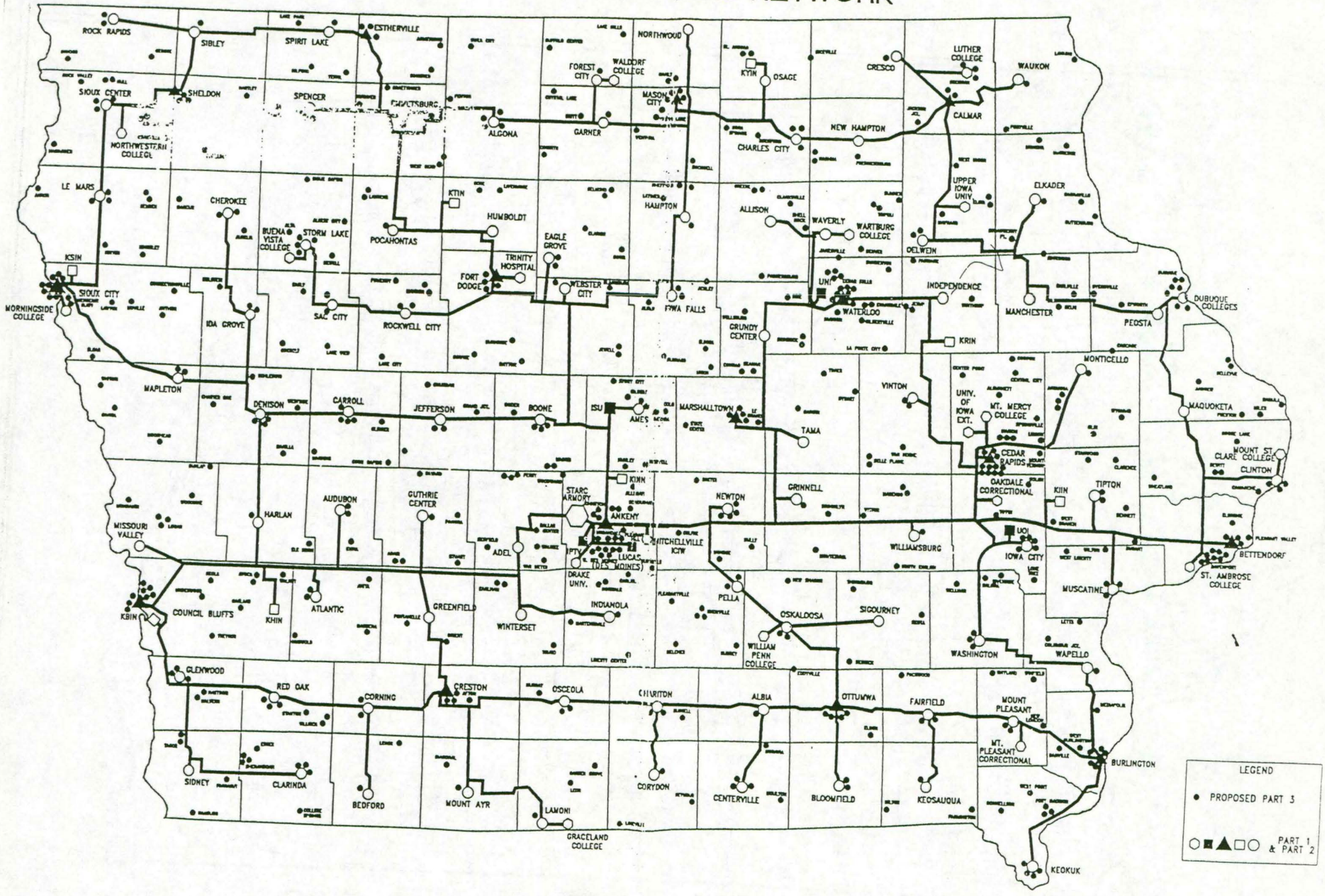
- In May of 1994, six Iowa companies formed a consortium to build a fiber optic and wireless telecommunications network that would use portions of the ICN. The consortium includes Midwest Resources Inc, Iowa-Illinois Gas & Electric, Pioneer HiBred International, Farm Bureau Life Insurance Company, Long Lines Ltd. (a northwest Iowa telecommunications company), and RACOM Corporation (a Marshalltown wireless communications company). Their plan would extend the ICN to homes and private businesses, opening the network to commercial use for the first time. While the Legislature would need to approve such a move, the consortium stated that such a move would infuse revenue into the ICN, allowing it to subsidize its commitment to the educational system. The consortium publicly announced that it is not interested in purchasing the ICN, preferring to build onto the network. Potential uses of this network include video conferencing, pay-per-view movies, access to the Internet, and electronic meter-reading. The group expects to work with Iowa's independent telephone companies and has allocated $1 million to a market research study.

Telephone Infrastructure
State of Iowa

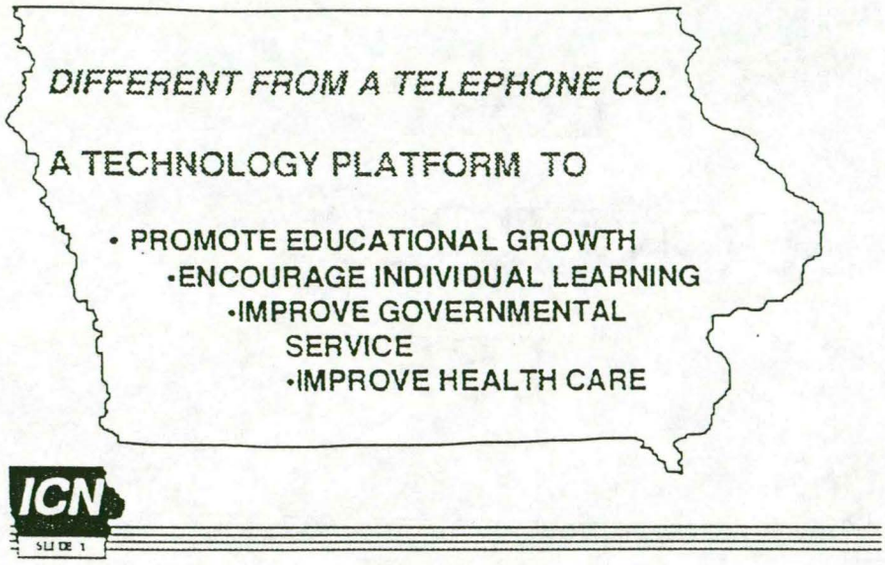
The following information was provided by the Iowa Telephone Association to supplement the ICN Overview presented at the last meeting. These figures are current as of 12/31/94.

Number of Exchanges:	825
Number of Access Lines:	1,419,157
Access Lines by Provider:	926,641 *(US WEST)* 261,859 *(GTE)* 51,417 *(Frontier)* 179,240 *(150 non-rate regulated telcos)*

IOWA COMMUNICATIONS NETWORK



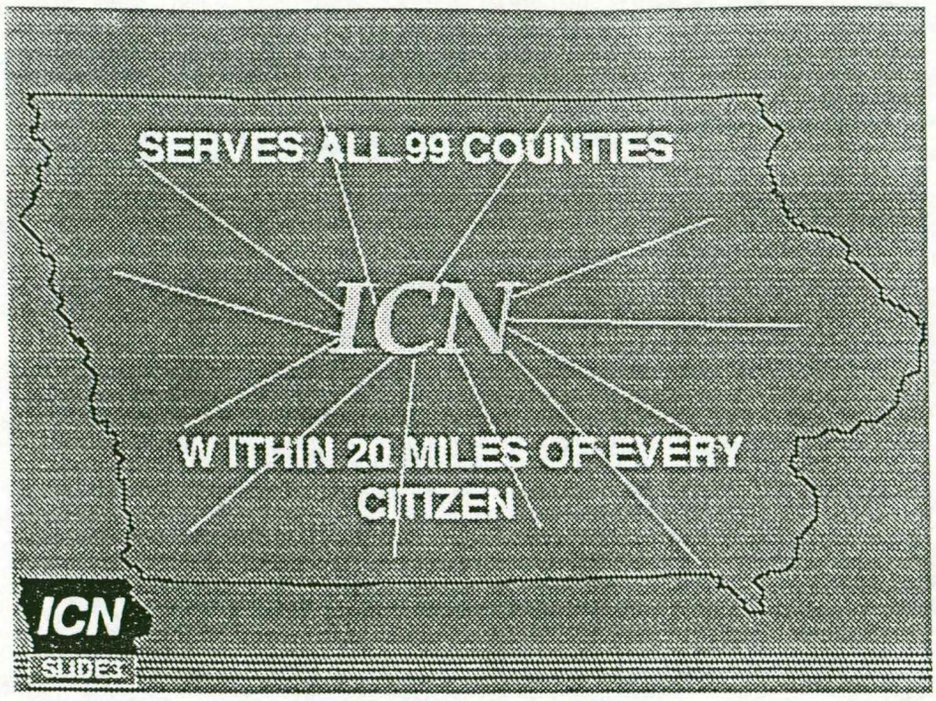

WELCOME TO THE
ICN
LEADING THE WAY IN
TECHNOLOGY
INTEGRATION



The Iowa Communications Network is a very unique initiative by the State of Iowa.

At a quick glance, the ICN looks like a telephone system, but actually it deals with a much broader spectrum of services.

The ICN is a technology platform capable of providing full-motion video, compressed video, high speed data, and voice transmissions for research and development of new procedures and applications with the purpose of improving education, government, and health services.



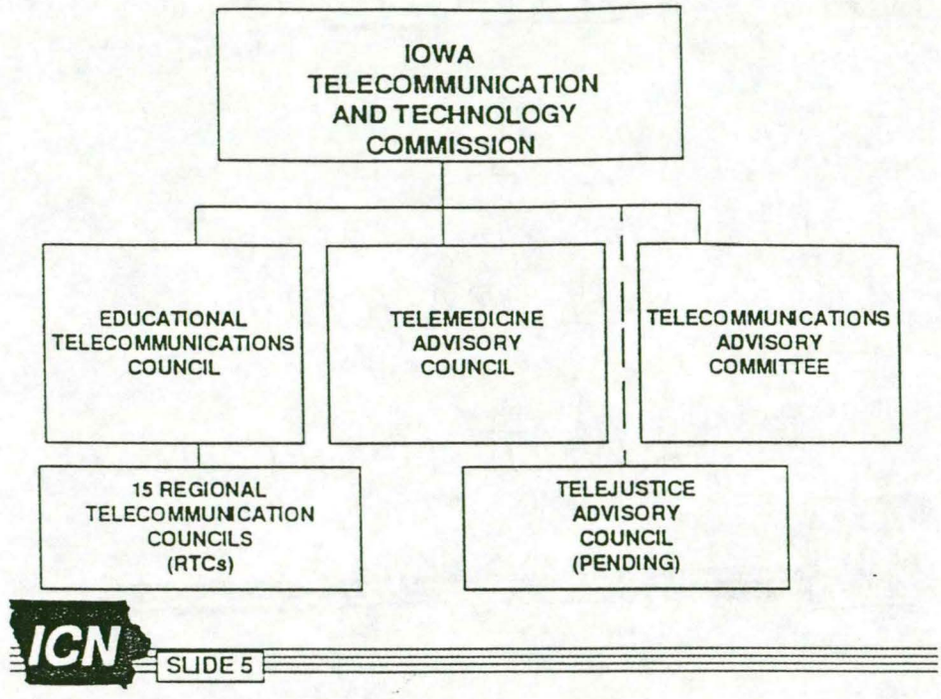
The Network has been designed in three parts.

Part I - connects the HUB of the Network located at STARC Armory at Camp Dodge (just north of Des Moines) to all 15 Community Colleges (regional switch sites) and the three State Universities.

Part II connects the regional switches to all 99 counties as well as to State and Federal Agencies.

Part III connects the county high schools and libraries to the Network (474 sites Statewide).

The Telemedicine initiative allows hospitals and clinics to connect to the Network as well.

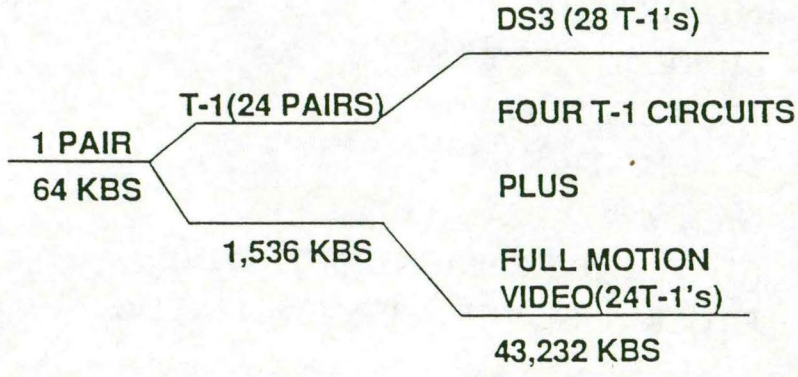


The Commission has four advisory councils that will ultimately provide policy advice from users prospective.

The education effort is supported by a council at every community college region by Regional Telecommunications Councils (RTCs) which provide input and coordination to the Education Telecommunications Council (ETC).

The role of the councils is to provide policy related information to the Commission for the decision making process.

ICN CAPACITY



ICN
SLIDE 7

The ICN brings 6,755 times the capacity of a regular telephone line into the user's site.

This enables multiple classrooms of computers to access the Network without downtime from waiting due to Network traffic delays.

Accessing file servers for research information for a student or instructional material for a teacher is only effective if it is responsive.

Downtime is wasted training time.

K-12 EDUCATION TECHNOLOGY INTEGRATION

- INTERACTIVE CLASSROOM FOR ACCESS TO NEEDED ACADEMIC COURSES
- INTERACTIVE CLASSROOM FOR DEBATE AND EXCHANGE OF RESEARCH
- WORLD WIDE CONNECTIVITY FOR FOREIGN LANGUAGE STUDENT INTERACTION
- INTERACTIVE COMPUTER ASSISTED TRAINING ON INDIVIDUALIZED BASIS
- COMPUTER ACCESS TO SUPER COMPUTERS AND COLLEGE/ UNIVERSITY COMPUTERS FOR RESEARCH
- INTERNET CONNECTIVITY FOR WRITING AND OTHER EDUCATIONAL INTERACTIVE ACTIVITIES
- COMPUTER ACCESS TO LIBRARY SERVERS FOR GENERAL ACADEMIC MATERIAL



There is a wide range of users to be incorporated into the learning process at the K-12 level.

Motivation of the student is an important goal.

Improved leaning is the desired outcome.

TELEMEDICINE

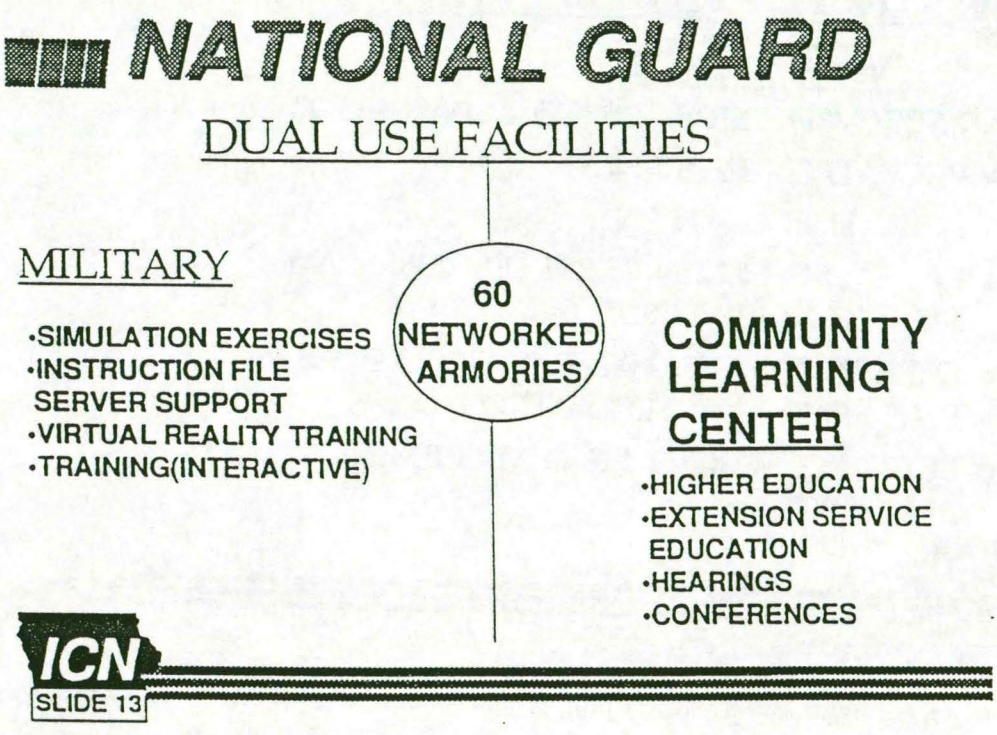
- PATIENT CONSULTATION
- CARDIOLOGY
- PATHOLOGY
- RADIOLOGY
- TRAINING/ EDUCATION



Telemedicine will equalize the medical care provided to rural Iowa.

Through networked hospitals and clinics, exchange of specialist services are easily facilitated over secure point to point video connections.

In-service training and new treatment training bring the latest information to rural medical personnel on a frequent basis.



The Advanced Research and Projects Agency (ARPA) provided the National Guard a $10 million grant to equip the National Guard Armories with interactive classrooms, connect the Armories to the Network, and conduct research in distance learning.

In addition, Armories will be used as a community learning center when not being used by the Guard.

This places an ICN community center in virtually every community Statewide with a population of over 10,000 with no cost to the State.

FEDERAL GOVERNMENT INITIATIVES

- IMPROVED SERVICES TO IOWA'S CITIZENS
- VETERAN AFFAIRS DISABILITY APPEAL HEARINGS
- VETERAN AFFAIRS BENEFIT SERVICE
- VETERAN HOSPITALS TELEMEDICINE SERVICES
- SOCIAL SECURITY DISABILITY HEARINGS
- INTERNAL REVENUE SERVICE INITIATIVES

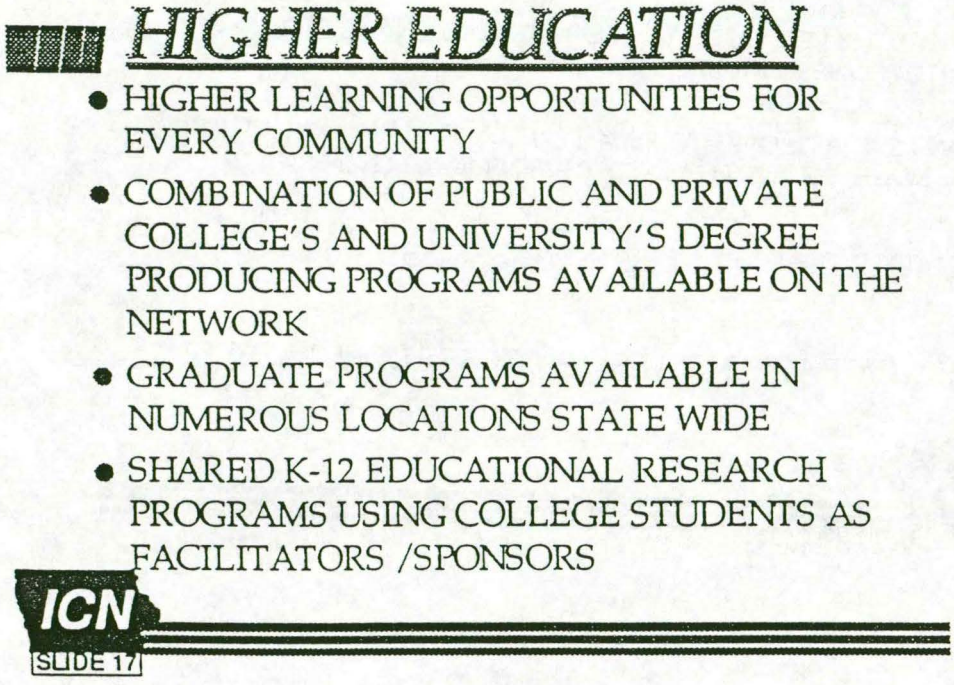


In developing National Information Highway programs, the Federal Government is using Iowa as a research center.

The first year of the three year initiatives are reflected on the slide.

Expediting difficult hearing issues is high on the desired outcome list.

Improving services to the citizens is an important goal as well. Use of file servers and interactive service centers are a big part of the test.



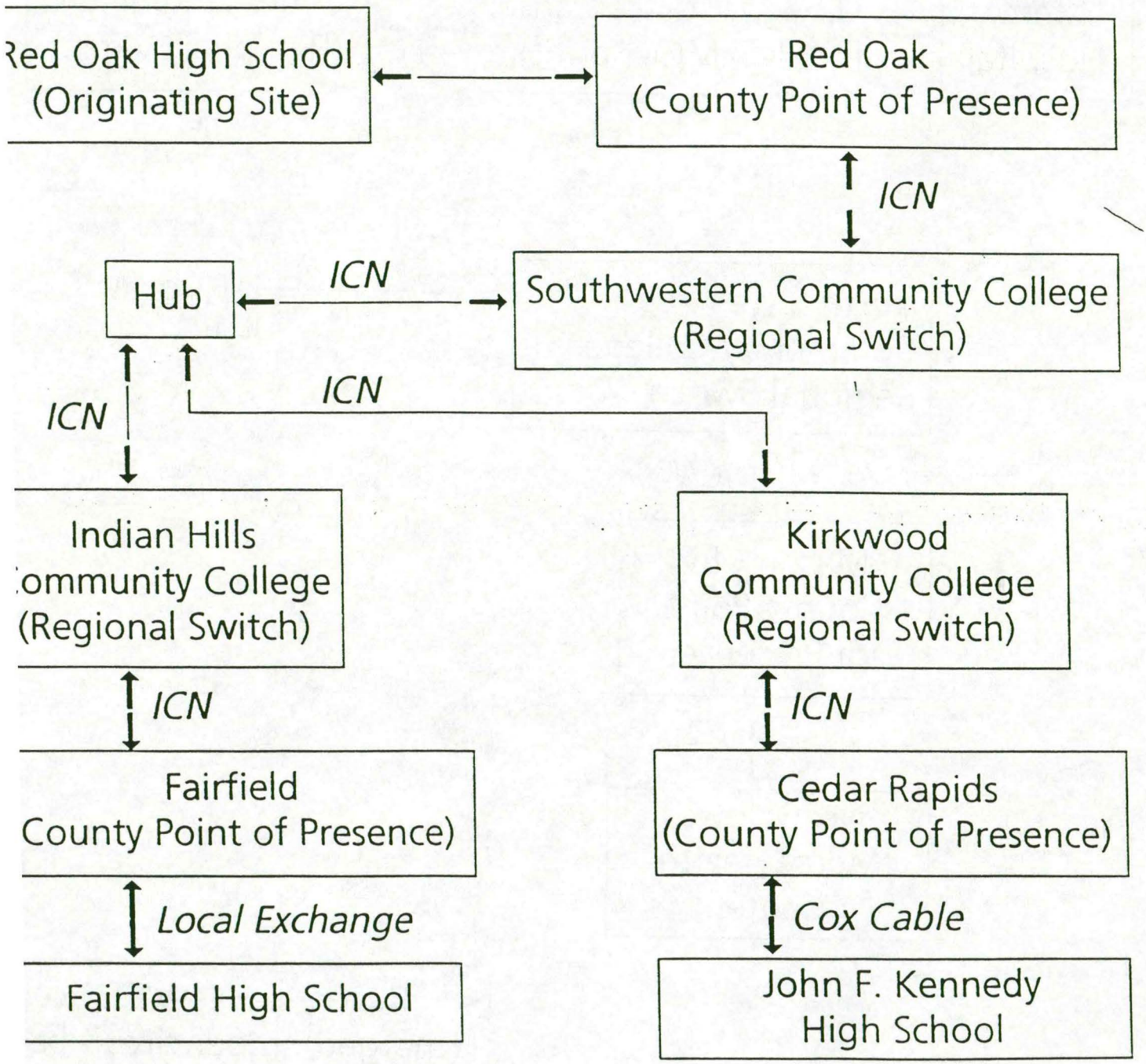
Higher education is an extensive user of the interactive classroom.

Bringing higher education to the user in the local community is a key goal.

This educational goal is a positive incentive to economic development in the smaller communities.

Full Motion Video Circuits

Example: High School Russian Class



Y96 Projection

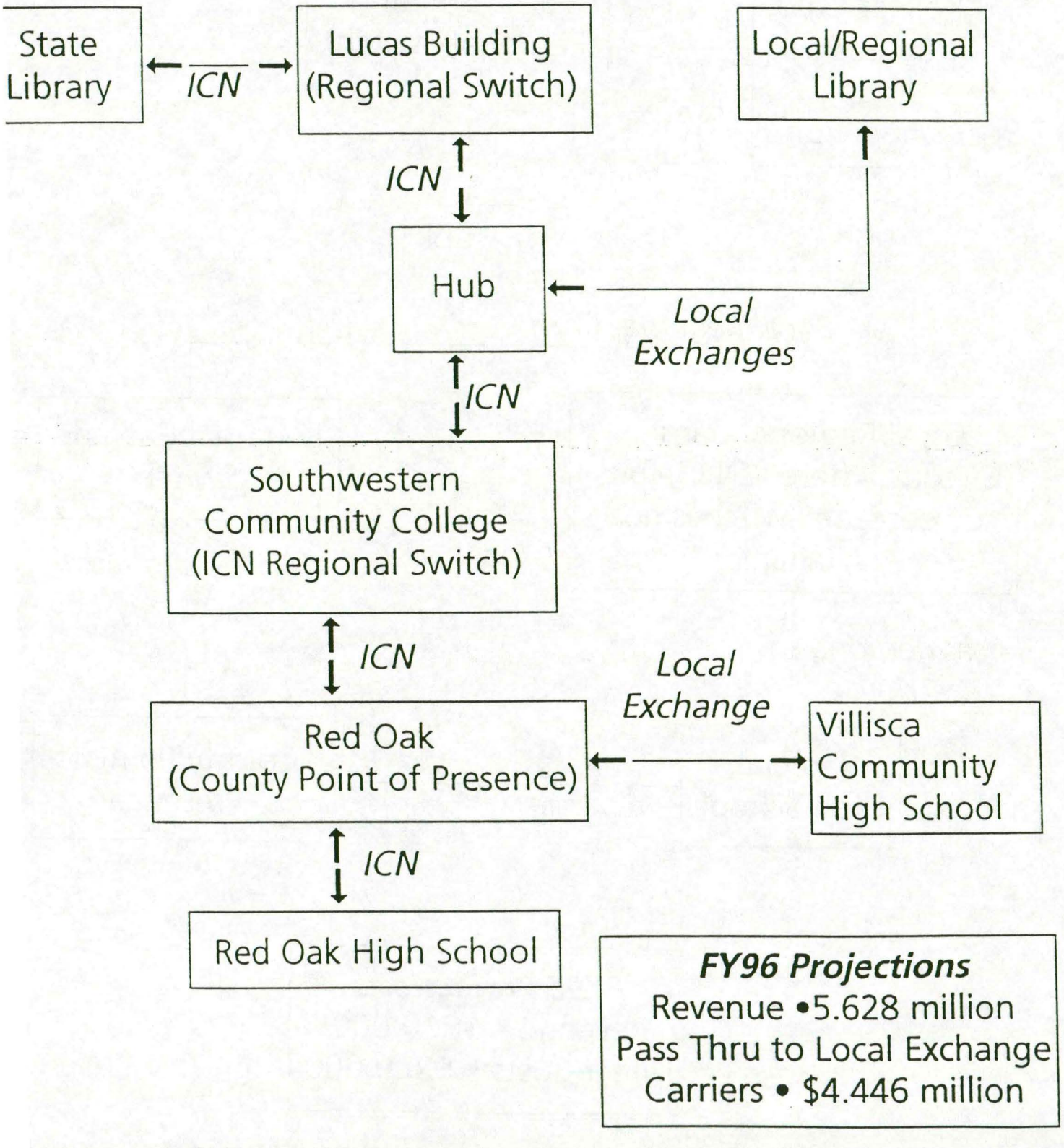
evenue • $974,000

ates: $5, education • $10, administration • $40, telemedicine and federal gov't (per hour, per site without subsidization revenue)

ass thru costs pass thru to local vendor: $3.1 million

Data Circuits

Example

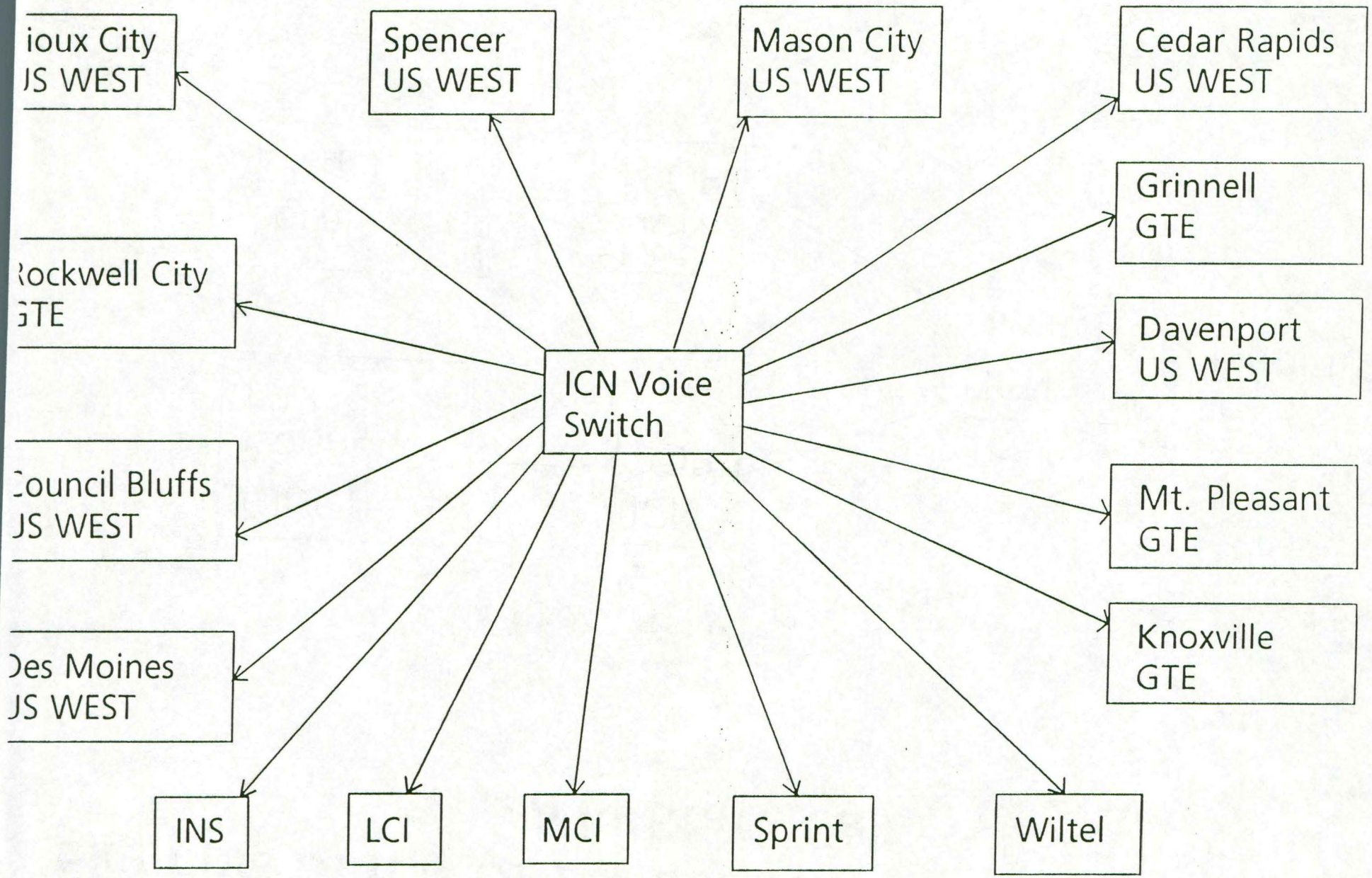


FY96 Projections

Revenue •5.628 million

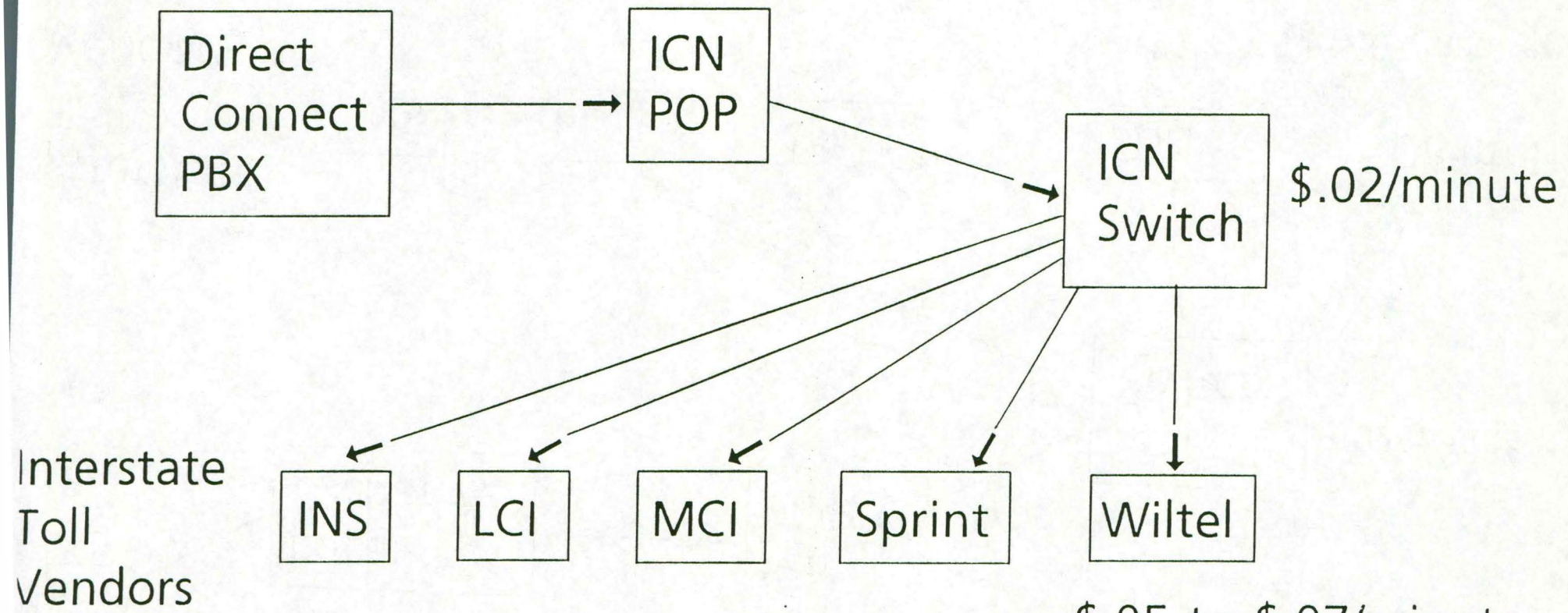
Pass Thru to Local Exchange Carriers • $4.446 million

ICN Connections to Local and Long Distance Carriers



Source: Iowa Communications Network

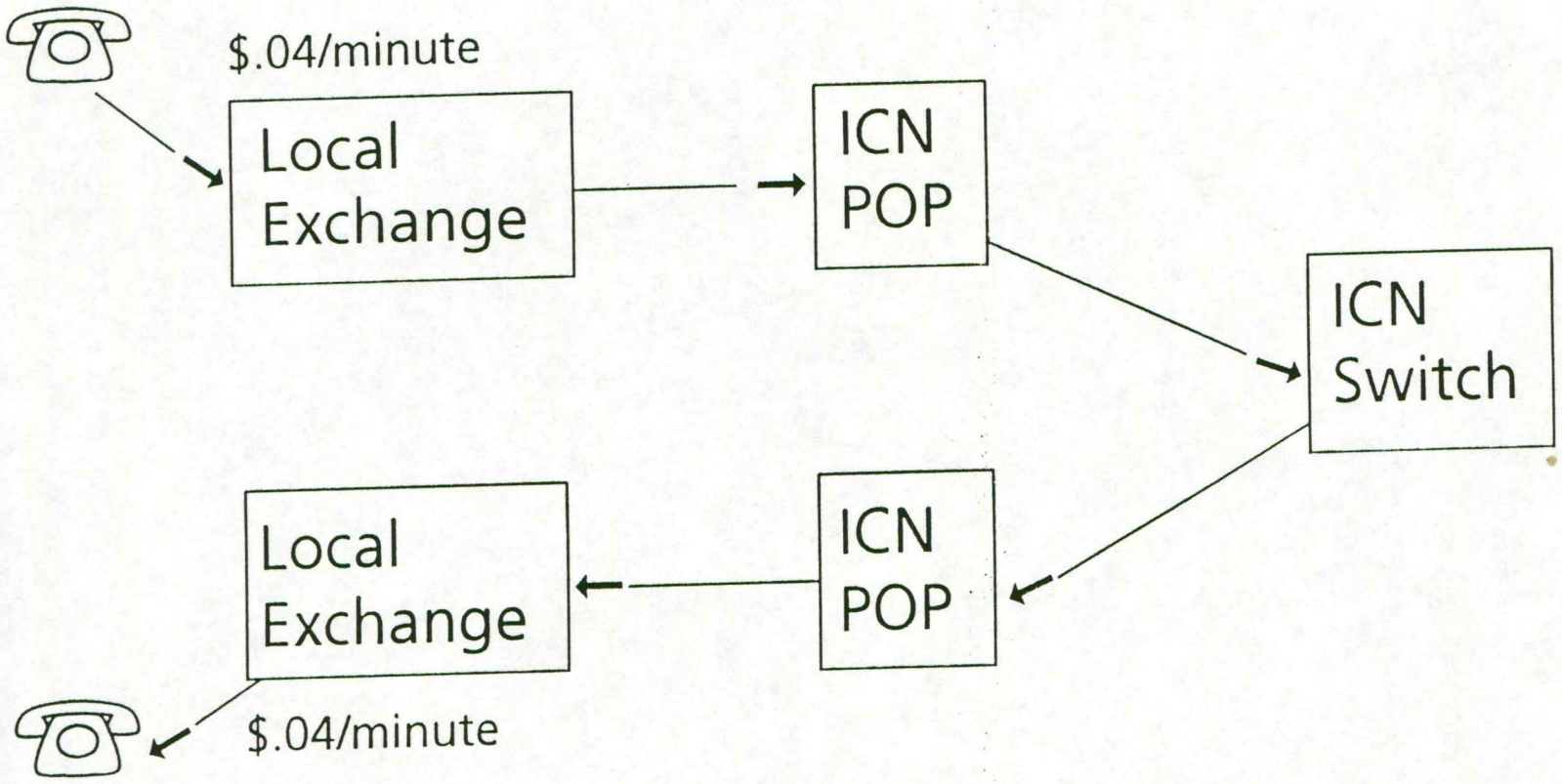
Example of ICN Direct Connect Customer Dialing an Inter-State Call



INS is our Interstate Toll Vendor DayTime
LCI is our Interstate Toll Vendor Evenings
MCI is our Interstate Toll Vendor Nights and Weekends

Source: Iowa Communications Network

Example of ICN Equal Access Customer Dialing an In-State Call



Source: Iowa Communications Network

461 Task Force

June 29 - 30, 1995 • Embassy Suites • Des Moines, Iowa

THURSDAY, JUNE 29

Task Force Members Present
Joan Axel, Chair
Robert Halford
Yale Kramer
MG Warren Lawson
Ben Norman
Jim Meyer *(for Ron Pearson)*
David Roederer
Ed Stanek
Allan Thoms
Emmett Vaughan
Teresa Wahlert

Task Force Members Absent
Todd Linden
Ron Pearson
George Strawn

Task Force Support
LTC Jim McCullough
Col. Roger Schuitz
Jim Sutton

Special Guests
Mary Nelson, ITTC
Richard Opie, ITTC Chair
Harold "Tommy" Thompson, ICN

State Public Policy Group Staff
Amy Campbell
Arlinda McKeen
Tom Slater

Welcome

Joan Axel, Chair of the 461 Task Force, brought the meeting to order at 6:10 p.m. on June 29, 1995. Dick Opie, Chair of the Iowa Telecommunications and Technology Commission (ITTC), welcomed the task force members and introduced the most recent appointee to the ITTC, Mary Nelson. Task Force member introduced themselves.

Axel outlined her hopes for the task force's work, reviewed the task force directive, stressed the importance of their task, and emphasized the need for the expertise and views of each member throughout the study process. Axel stated that the task force should not look back, but should remain focused on the directive established in House File 461.

Teresa Wahlert stated that the task force will need to know what it is that the state is considering selling. Wahlert suggested that staff define the network, so that the task force can understand the implications of each option. Thoms asked that the task force be provided information on its assets and its obligations.

Yale Kramer asked that the system be defined within the context of other existing technologies. The task force agreed that it would be very helpful to format the July session as an educational session, providing members with an opportunity to learn more about the network and the industry. General Lawson offered to host the session at the STARC Armory at Camp Dodge.

The task force asked that the following information be provided at the July meeting:

- What are the obligations that go with the sale of the network?
- How do other states accomplish distance learning *(for example, Michigan)*?
- What were the original objectives of the network? Are they achieved or achievable? What will happen to them under each option?
- Information on 1994 legislation *(SF 2089)*
- What is the ICN worth now? *(not an appraisal, but an estimate based on what assets/debts are currently identified)* Axel explained that the 1995 Legislature considered, and rejected, the idea of an ICN appraisal, as it was too costly. The Legislature asked that the task force study other issues, both legal and technical.
- Produce an inventory of the system, complete with information on how much was paid for each item, who paid it, and when it was purchased. From this, a depreciated value may be available.

Allan Thoms stated that the Iowa Utilities Board (IUB) was mandated in SF 2089 to study the impact of the ICN on the private telecommunications industry in Iowa. The IUB has been negotiating a contract for this study with Arthur D. Little, who conducted a similar study several years ago for the IUB, Department of Economic Development, and Iowa Telephone Association. Thoms suggested that the IUB study and the 461 Task Force study be coordinated.

The task force was asked to review their material for tomorrow's discussion, including the work plan, timeline, options, considerations, and resources.

The task force adjourned at 8:40 p.m.

The task force reviewed needs for additional information:

- Tour ICN Operational Hub and Emergency Operations Center at the STARC Armory on Thursday, July 20.
- Are libraries considered an educational user?
- Are community-based corrections considered a state agency?
- Do hospitals own their own connections?
- Are AEAs and Community Colleges considered higher education users?
- Define the network
  - Asset and obligation of assets
  - Inventory
  - What's the value?
  - Who bought what?
  - Who owns what?
  - What is the market potential?
- State-by-state fiber optics communication analysis (concise)
- What were the original objectives of the network?
  - Are they achieved?
  - Are they achievable?
  - Status under each of the options
- Utilities Board study information *(parameters and timeframe of Utilities Board study, as well as updates on progress)*
- Copy and explanation of SF 2089
- Is telemedicine a private or public entity?
- Define public utility *(Axel, Thoms, Vaughan, Kramer, and Roederer)*
  - Include information on ownership/regulation/membership
- Define excess capacity & minimum capacity *(Vos, Thompson, Linden, Stanek)*
- What is telecommunications and who are telecommunications providers? *(Wahlert, Halford, Vohs)*
- What is included in Part III?
- Basic definition of fiber optics & information on new technology *(Halford, Vohs, Stanek)*
- ICN Map *(with locations)*

Axel suggested that the next meeting be more than a visit to the ICN Hub, but also be an overview of the telecommunications industry.

The Premise

Slater explained the need to agree upon a basic premise before examination of the options and considerations can be addressed. Slater reemphasized that the task force does not make recommendations.

Ed Stanek reviewed the history of the network, and explained that its mission was initially educational, but was expanded to all state government to economize. The goal of distance education has matured over the years to include more authorized users. Ben Norman cautioned the task force to keep the future in mind during the analysis of the options.

Option 3 **Sale of Excess Network Capacity**

- State Ownership and Operation of current capacity
- Private Ownership and Operation of excess capacity *(to be defined by Linden, Stanek, Vohs, Thompson)*
- Sale is open to any telecommunications provider *(to be defined by Wahlert, Halford, & Vohs)*
- State retains control of hardware and capacity to support currently authorized users
- Provide assurances outlined in the premise

Option 4 **Private/Public Ownership**

- State and Private Ownership
- Provide assurances outlined in the premise

? *Can the State of Iowa own stock in a for-profit entity? Are there limits on its investments in such joint ventures? (to be reviewed by AG Office)*

Option 5 **State Ownership/Private Operations**

- State Ownership and Private Operations
- State retains ownership of the network and leases to a private operator, who assumes the risk
- Provide assurances outlined in the premise *(reserve capacity for currently authorized users)*

Option 6 **State Ownership/Private Management**

- State Ownership and Private Management
- State retains ownership of the network
- State contracts for management duties
- Provide assurances outlined in the premise

Discussion

The task force discussed various issues in the development of Part III, options being considered, and the legislative directive. The task force asked that staff and the Attorney General's Office pay careful attention to ownership of the various system components.

Ed Stanek explained the structure of the ICN's predecessor -- the Iowa Telecommunications Network (ITN). The ITN was cooperatively governed by state agencies through an ITN Council, but was operated under contract with US West. The State purchased equipment, leased lines from common carriers, and contracted with US West to operate the network. This structure is similar to Option 3, and is an example of a successful private-public venture.

Allan Thoms provided another example of Option 3. The State contracted with a private company to maintain and clean the Interstate rest areas. The condition of the rest areas declined, until the contract was terminated. This is an example of an unsuccessful private-public venture.

The task force discussed the intended meaning of the word "public utility". Several task force members agreed that "state-owned" could mean "public utility". The task force asked that the definition be specific and state whether rates and/or standards are regulated and who is responsible for regulating. *(Definition to be completed by Thoms, Axel, Vaughan, Kramer, and Roederer)*

Slater stated that staff will revise the matrix according to the expanded options added today. Norman stressed that he would like to see public-private cooperation in these options.

The task force broke for lunch at 11:40 a.m. and reconvened at 12:30 p.m. to discuss considerations, suggest resource people, and agree on the tentative agenda for the next meeting.

Discussion of Considerations/Issues

There are a number of complex legal and financial issues to consider with each option. outlined above complex. These considerations will need to be reviewed by legal consultants, bond lawyers, and other experts as necessary.

Slater remarked that it is important to consider resources and information from sources other than those who have been traditionally involved in the issues. Axel agreed, adding that it would be helpful to have input from people who are not internal to all the issues. A panel of people to react to these issues would be helpful.

Below is a list of the issues/considerations which will be examined as each impacts the options.

8. Identify any conflicts in compliance with the policies and regulations of the Iowa Utilities Board, Interstate Commerce Commission, and the Federal Communications Commission?

9. Are there any state or federal laws which preclude the State from pursuing this option?
This is a catch-all question that asks for a general search of state laws, including Iowa Code §23A, which deals with the state's ability to compete with private enterprise. The stock ownership questions should also be examined in this section. The Attorney General's Office will be asked to list any state laws which may factor into decision-making, and describe how they will affect each option.

FINANCIAL ISSUES

10. What is the effect of this option on the status of the tax exempt bonds used to finance Parts I and II of the network?

11. Would the State's credit rating be adversely affected by this option?

AUTHORIZED USER ISSUES

12. What are the positive/negative impacts of this option on the ability of currently authorized users to affordably access telecommunications technology?

13. What are the positive/negative impacts of this option on ability to retain long-term capacity sufficient to meet the present and future needs of currently authorized users?

14. What are the positive/negative impacts of this option on Part III users?

15. What are the positive/negative impacts of this option on telemedicine users?

16. What are the positive/negative impacts of this option on state government users?

17. What are the positive/negative impacts of this option on the National Guard?

18. What are the positive/negative impacts of this option on federal government users?

Slater asked that the task force think about all of these issues, talk them over with people "at home," and think of any additions/clarifications. Options and considerations will not be added after the July meeting, so any comments should be brought up at or before the July meeting. Axel asked staff to send a memo reminder to all task force members who agreed to help with definitions in the interim.

Campbell stated that the minutes to each task force meeting will be available to the general public upon request, and that all meeting summaries will be pre-approved by Joan Axel and David Roederer. Interested organizations/associations will receive a monthly FYI, which will provide information on 461 Task Force meeting agendas, schedules, and progress.

Next Meeting

The next meeting will be held jointly at the STARC Armory (Camp Dodge) and another site to be announced on July 20-21, 1995. The meeting times will remain the same *(6-9 pm and 7:30 am - 4 pm)*.

- Tour of the ICN Hub
- Demonstration *(various technologies on the ICN)*
- Telecommunications Industry Panel
  --- Engineer (Roger Musick, if available)
  --- Financial
  --- Technology
  --- Telecommunications Industry (Dick Vohs)
- Review of Federal Telecommunications Policy Trends
  --- Teresa Wahlert
- What is the ICN?
  --- Presentation of the Inventory
  --- Financial Overview *(five-year plan, end-of-year reports, etc.)*
- Updates on Study
  --- Attorney General report *(progress to date)*
  --- Other as ready

Identification of Resources

Slater asked that the task force make recommendations on potential resource people. These resource people may be located in or out of the state, and could provide expert testimony and/or analysis of particular issues of concern.

Slater asked that any task force member wishing to share information with the whole task force do this through SPPG. Campbell added that meeting packets are assembled 3 days prior to meetings, so any materials should be sent to staff early.

Halford suggested four engineering firms, two accounting firms, and two industry analysts.

Yale Kramer offered to conduct an industry assessment and provide valuable industry information to staff, who will abstract this information for the task force. Thoms agreed to have the IUB staff review several considerations pertaining to the public utility questions.

The task force adjourned at 3:25 p.m.

461 Task Force

July 20-21, 1995 • STARC Armory & The Inn at Merle Hay • Johnston, Iowa

THURSDAY, JULY 20

Task Force Members Present
Joan Axel, Chair
Bob Halford
Allan Kniep *(for Allan Thoms)*
Yale Kramer
MG Warren Lawson
Todd Linden
Jim Meyer *(for Ron Pearson)*
Jim Sutton *(for Ben Norman)*
David Roederer
Ed Stanek
Emmett Vaughan
Teresa Wahlert

Task Force Members Absent
Ben Norman
Ron Pearson
George Strawn
Allan Thoms

Resource Team
Kent Jerome
Mary Nelson
Jackie Pullen
Chris Scase
Jim Sutton
Tommy Thompson
Dick Vohs

State Public Policy Group Staff
Amy Campbell
Arlinda McKeen
Tom Slater
Tori Squires

Overview

The 461 Task Force met at 6:00 p.m. on Thursday, July 20, 1995 for an informal meal prior to the beginning of the formal meeting. Self-introductions were conducted during this time.

General Lawson reviewed the development of the STARC Armory site, which houses the ICN Hub, Iowa National Guard Armory Facilities, State of Iowa Emergency Management Division, Central Iowa Highway Patrol Communications, an archival area for state government agencies, and other state disaster and emergency management entities such as the Civil Air Patrol. Tony Crandall, Contracts Officer for the ICN, led the group on a tour

461 Task Force

July 20-21, 1995 • STARC Armory & The Inn at Merle Hay • Johnston, Iowa

FRIDAY, JULY 20

Task Force Members Present
Joan Axel, Chair
Bob Halford
Allan Kniep *(for Allan Thoms)*
Yale Kramer
MG Warren Lawson
Todd Linden
Jim Meyer *(for Ron Pearson)*
Jim Sutton *(for Ben Norman)*
David Roederer
Ed Stanek
Emmett Vaughan
Teresa Wahlert

Task Force Members Absent
Ben Norman
Ron Pearson
George Strawn
Allan Thoms

Resource Team
Kent Jerome
Richard Johnson
Mary Nelson
Chris Scase
Col. Roger Schultz
Tommy Thompson

Panelists
Dennis Bixenman, Williams & Company
Ralph Evans, Evans & Associates
Don Lee, Martin & Associates
Dick Vohs, Iowa Network Services
Craig Waskow, Triax Cablevision of Iowa

State Public Policy Group Staff
Amy Campbell
Bob Fleming
Chris Helton
Arlinda McKeen
Tom Slater
Tori Squires

that Graceland College is the only private college which has completed the buildout, although other private institutions are currently in the process..

Part III

The state will lease the fiber connection and complete buildout one site per school system. However, Part III users who want to add classrooms must pay for the buildout costs. The Task Force asked the following questions:

- ✔ ***If the state sold the ICN, who maintains the system?***
- ✔ ***What are the legal ramifications of attempting to sell a network which has several investors (and is there an implied obligation that the state continue to provide service)?***
- ✔ ***What access rights do state universities, private colleges, and Part III sites have if a private vendor purchases the network and raises its fees?***

MetroNet

MetroNet is a shared dark fiber network that connects to the ICN, but is not considered a part of the ICN. The ICN and Department of General Services invested approximately $500,000 in MetroNet facilities.

Federal Government

Thompson estimated the federal investment in the network to be $2,950,000. In addition, the new Iowa National Guard's Advanced Research Projects Agency grant provided approximately $4 million for fiber optic cable, $600,000 for buildout, and $2.75 million for network transmission equipment.

Federal Emergency Management Agency (FEMA)

Thompson provided an overview of the Federal Emergency Management Agency's Investment in the ICN -- estimated at $3.15 million for the construction of the State Emergency Operations Center, $500,000 for emergency connectivity to all 99 counties, and $255,000 for alternate equipment.

The Task Force discussed the need for a one-page summary of the inventory, which is divided into two sections -- what the ICN knows it owns and what the ICN thinks it owns. It was the consensus of the Task Force that a catalog of each piece of ICN equipment would not be feasible or needed for their purposes. Instead, the Task Force asked ICN staff to prepare a basic, one-page accounting of ICN equipment which would determine the following under each equipment category. Yale Kramer will assist in this assignment.

- ✔ ***Original Cost?***
- ✔ ***Depreciation Cost?***
- ✔ ***Who owns the equipment (additional investors)***
  - ***Note what ICN knows the State owns***
  - ***Note what ICN thinks the State owns***

Overview of Senate File 2089

Campbell summarized Senate File 2089, the 1994 legislation which created the ITTC and gave hospitals, physician clinics, and the federal government access to the ICN.

Historical Review of the Industry

Campbell noted that the Historical Review was compiled from articles and information provided by Yale Kramer's staff.

States' Telecommunications Activities

Tori Squires reported on the research conducted by staff on other state activities. Squires noted that the report was not complete, as numerous states had yet to comply with requests for information. Squires explained that staff will continue to gather more information and have a new review ready for the next meeting. Axel asked that the resource team provide assistance to staff in this task.

Review of Federal Telecommunications Policy Trends

Teresa Wahlert provided an update on federal telecommunications legislative developments. Under proposed federal telecommunications legislation, private networks like the ICN may have the obligation to provide universal service. Wahlert explained that this could have an impact on potential network buyers, and that the owners of the network would need to understand this obligation.

Wahlert led the Task Force in a discussion about the subsidization associated with the provision of universal service. Wahlert stated that there is no consensus within the telecommunications industry on how universal service will look in the new competition driven market system.

Wahlert noted further that state-owned network expansion could place an eventual network private owner into a complex regulatory situation. Wahlert noted that resale and interconnection are major questions for the network regardless of who owns it. Wahlert stated that the eventual owner will be impacted by the universal service obligation when it attempts to expand or interconnect - which many carriers already want to do. It was pointed out that proposed federal laws and regulations could mandate that future ICN owners allow others to connect to network lines. These owners would be required to assume the additional costs associated with this new regulatory environment.

In response to Task Force questions, Wahlert noted that the local telephone industry is united in their approach and added that the main area of conflict is between the long distance carriers and local exchange carriers. Wahlert explained that long distance carriers want access to any technically feasible point, allowing them to be in a better position to compete. Wahlert noted that local carriers believe this access already exists and that long distance companies are attempting to get an advantage over local carriers in new long distance applications.

- *Is there anyone else that has fiber in our state?*
  There are many providers of fiber. The map included in the Task Force packets shows both private and ICN fiber. Additional fiber exists that is not on the map.

- *Does all the fiber have the same capacity?*
  Capacity depends on the electronics on both ends of the fiber. Fiber is a carrier, whereas the electronics dictate usage and capacity.

- *Does INS have a presence in each county?*
  Capacity of INS may be the same or have potential to be the same, but the development was different. There is redundant fiber (fiber is laid in same areas). In some of those cases, the redundant routes include cooperative efforts.

- *What is coming in the future?*
  Free and open competition. Now the industry is regulated and controlled, so part of the challenge is to get into a position to provide the best service at the lowest price. Independent companies in Iowa have a limited geographic region in which to work. They have to position themselves to serve as many customers in that limited region, and then find other services they can provide to those same customers.

- *What is affordable?*
  Local rates in rural Iowa average $8-12/month. Cost Separation Studies show excessive cost weighting on the toll side to keep local rates down. Urban subsidizes rural and business subsidizes residential. This cross-subsidization is intentional to keep phone services affordable for residential customers.

- *Was INS created to provide toll service choice to Iowans?*
  Yes.

- *In terms of where it goes, who it serves, and what it does, is INS different from other services?*
  Major fiber routes are like interstates. Overbuilding will likely occur in areas of heavier use. Small pieces will not be duplicated. When the ICN started, it was unique and private services may not have been available. As consumer demand rises, consumer usage increases, and advancing electronics allow additional use at lower costs. Utility companies are high fixed cost companies. If the ICN is part of that process and use goes up, ICN cost will go down. If the ICN remains isolated, its costs will end up higher than others in the private sector.

- *Are there opportunities for the private sector that have been or can be created as a result of the development of the ICN (based on the law now in the telecommunications industry)?*
  Depending on how you define education, there are a number of potential private sector benefits. Because of regulations governing segments of the telecommunications industry and the demand for low-cost services, the benefits to the telecommunications

- *What are the positive and negative impacts of each option on Iowa businesses and citizens?*
  Public need and public good need to be balanced. A sale with no assurances would affect the mission of the network -- to promote the public good. Sale with assurances gives a bit more comfort. Sale of excess capacity would be a positive solution, and is a potential revenue source. Public utility options are okay, as long as they would be treated like other public utilities. In any context, the best solution is to meet the public need without unfairly competing with private sector.

  Given the premise we want to maintain equal educational access to Iowans, only sale without assurances would have an impact on children's educational access. In rural areas, if a home or business wants Internet access, they must rely on a strong local telephone service. There is potential for a new long distance provider coming to that community through the ICN and taking business away from local company. Some of the options might also deliver upgrades to something other than classrooms. Schools should have flexibility to adapt to change.

- *How can we be assured that these options will work? What about the issues of technological upgrading and maintenance?*
  One of the agreements in the Legislature is that quality education will be ensured, at a negotiated rate. There may be outside industry forces that would bring new technology to the table without having to meet these assurances.

- *If there were assurances built in so that the "last mile" guy doesn't have to compete with subsidized entity, would that work?*
  That still creates an unlevel playing field. If there's a demand and someone to pay for it, it will be built.

- *Is there a way to sell excess capacity without creating an unlevel playing field?*
  No, and some would say there isn't excess capacity.

- *How do you take the status quo and build it into a public/private entity?*
  The issues will be ongoing due to new technology. Some of Part III has partially addressed this issue.

- *Is there another configuration that will address the issue or is there something new we need to consider?*
  The private sector provides new technology in creative ways when demand is high. The private sector will eventually be able to deliver services at much lower costs. It is possible that the private industry may not want to purchase the network if it must make assurances as outlined in the Task Force premise. To level the playing field, the ICN should be sold to the highest bidder. There is already a lot of other competition out there, and some providers may want to purchase the network and not use it -- just to keep competitors from getting an advantage.

necessarily preclude any public/private option. Scase stated that her initial impression is that the right-of-way issues are one of the biggest legal issue that needs to be reviewed. Scase noted she will be meeting with Ellen Gordon to discuss the FEMA agreements. Campbell noted that Phil Smith of the Iowa Office for State/Federal Relations is compiling a list of all current grants and pending opportunities.

Scase also noted that the Task Force needs to keep in mind that the ICN Hub and a significant amount of the switching equipment is located in a federal building, creating a complex situation. Vohs suggested that the Task Force think about whether or not it would want to sell the Hub equipment, and added that the state may be able to lease the equipment.

Scase stated that she will try to have initial responses in writing by the next meeting. After she presents the initial finding, she will ask the Task Force if they want a more detailed answer. The Task Force agreed to this timeline.

Adjournment

Slater thanked the resource team and panelists for their assistance and presentations. Axel asked that if anyone has information they would like to disseminate to the Task Force, they should funnel it through Tom Slater or Amy Campbell at SPPG.

The Task Force adjourned at 3:40 p.m.

461 Task Force

August 10 - 11, 1995 • Hotel Fort Des Moines • Des Moines, Iowa

Thursday, August 10

Task Force Members Present:
Joan Axel, Chair
Bob Halford
Yale Kramer
MG Warren Lawson
Todd Linden
Jim Meyer (for Ron Pearson)
Ben Norman
David Roederer
George Strawn
Allan Thoms
Emmett Vaughan
Larry Toll for (Teresa Wahlert)

Task Force Members Absent:
Ron Pearson
Ed Stanek
Teresa Wahlert

Resource Panel:
Paul Bowers
Kent Jerome
Linda Kading
Mary Nelson
Dick Opie
Jackie Pullen
Colonel Roger Schultz
Jim Sutton
Tommy Thompson
Dick Vohs

State Public Policy Group Staff:
Amy Campbell
Arlinda McKeen
Tom Slater
Tori Squires

The 461 Task Force met on Thursday, August 10, 1995, beginning with an informal meal. Chair Joan Axel called the meeting to order at 6:30 p.m. Task Force member George Strawn was introduced. Axel thanked Task Force members for their attendance and participation and expressed appreciation to all members, and particularly Yale Kramer, for volunteering their talents and contributions to the Task Force. She revisited the complexity of the work before the group and suggested that completion of the

federal deregulation on these options?" Second, Strawn suggested including "What are positive and negative effects of this option on the Internet in Iowa?" under the Business/Citizen or Option Potential categories.

The Internet can provide some two-way interactive video and audio services in addition to traditional voice and data uses. Strawn described examples of these applications. The best vehicle for use of these two-way services is a wide bandwith fiber optic system.

A question was raised whether all of these positive uses could happen via the Internet regardless of who owns the network -- state or private. Currently, different models and methods are being tried, and there is no single answer. The Internet is one of the most important uses of the ICN regardless of who owns it. Any options of ownership and operation should consider the impact on the Internet.

Internet is multi-layered service of 5 or 6 layers. ICN lines provide lowest layer. A POP now gets Internet service from universities and regional networks. ICN is in process of becoming an Internet provider itself and is one of several providers of Internet transmissions. The universities initially selected the ICN over INS because of the way the Internet backbone and educational network developed. The universities and National Science Foundation drove the development of the early Internet services. When Netlowa was formed, it expanded the use of the Internet beyond universities.

The impact on pricing for education under various matrix options is a consideration. It was suggested that the issue of the Internet is important enough to consider, but there may be no particular reason that the ICN would be a better or unique provider. Cost, however, may make the issue valid for Task Force considerations.

Changes to Matrix

The consensus of the Task Force was to add the Internet impact to the list of considerations. Slater asked Strawn, Vaughan, Halford, and Norman to develop the statement(s) on the Internet impact to add as a consideration on the matrix.

Slater thanked Strawn for his comments and expertise.

Regulatory Environment

Strawn was asked to comment on whether any of the Task Force's activities will be affected by changes at the federal goverment level. Strawn feels that the ICN will be impacted by both pending state and federal changes and deregulation. One impact may be that there might be more potential buyers for the ICN. This topic will not be added as a consideration, but will remain a background issue.

expenses, which will affect the value of the network. The Task Force must list the factors that might affect value -- either higher or lower -- for each option. Because of the uncertainty and great risk, the ICN will be very difficult to value. Each potential buyer will have to carefully weigh the factors for each individual situation.

It was suggested that there be a section of the report developed or a consistent effort to include these factors as part of each option. The Task Force cannot place a value, but can outline the complexities of valuation under each option. This information, combined with the other information gathered, will enable the Task Force to identify and evaluate the valuation issues related to the ICN.

Slater reviewed the mission of the Task Force to obtain and analyze information for the ITTC and policy makers to assist them in making well-informed decisions. Slater commented that it is important to identify the questions and the answers while leaving the "political" issues out of the group's process.

The Task Force previously determined that the final report will include some comments on the difficulty or ease of implementing each option.

Staff will develop examples of formats for the final report for consideration by the Task Force. Axel, Slater, and Campbell outlined the time frame to complete information gathering, analysis by the Task Force, and submission of the final report.

Slater thanked the Task Force and resource panel for their patience and contributions. The Task Force adjourned at 9:10 p.m.

observation noted the relationship between development of the Internet and the valuation discussion on Thursday evening.

Slater reiterated that materials will be available to Task Force members, resource panel members, and observers, and every effort will be made to get that information to all interested parties. Slater welcomed the addition of the resource panel members from the Association of Municipal Utilities, community colleges, and private colleges. In addition, there have been continued efforts to formalize McLeod participation on the panel. Slater introduced Representative Bob Brunkhorst, chair of the House Technology Committee, who was present as an observer.

Matrix Issues and Considerations

Slater described the process of reviewing the issues and considerations outlined in the matrix. The Task Force will address each consideration and option listed on the matrix. Those comments and findings will be recorded on the matrix by staff. The Task Force will look at barriers, opportunities, and other information and resources needed. Campbell reviewed the completed portion of the matrix to guide the Task Force in its discussions.

To further frame the matrix work, Slater reviewed the HF 461 directive and the premise of the Task Force. The definitions of the terms "affordable" and "well-maintained" were reviewed. Slater affirmed that the matrix work will be based on the directive and premise previously adopted.

The Task Force began working through issues and considerations for each option.

INS Tour

The group toured the Iowa Network Services (INS) facilities during the noon break.

Following lunch, the Task Force continued discussion on the issues and considerations, which were entered on the revised matrix by staff.

Issues & Considerations, continued

Slater reconvened the Task Force following the lunch break with an outline of the afternoon's focus on the bonding and legal issues. Slater informed the Task Force that staff will add Task Force and presenter comments to the matrix and deliver it to members early next week for their additional comments and additions.

Bob Helmick presented information about the tax-exempt bond issues and considerations. Helmick noted that while the bond issues create problems and

461 Task Force

September 7 - 8, 1995 • Hotel Savery • Des Moines, Iowa

Thursday, September 7

Task Force Members Present:
Joan Axel, Chair
Dick Vohs (for Bob Halford)
Yale Kramer
Colonel Roger Schultz (for MG Warren Lawson)
Todd Linden
Jim Meyer
Ben Norman
David Roederer
Ed Stanek
Allan Thoms
Emmett Vaughan
Teresa Wahlert

Task Force Members Absent:
Bob Halford
MG Warren Lawson
Ron Pearson
George Strawn

Resource Panel:
Paul Bowers
Gary Feddern
Kent Jerome
Richard Johnson
Tracy Kasson
Dick Opie
Chris Scase
Tommy Thompson

State Public Policy Group Staff:
Amy Campbell
Ben Grimley
Arlinda McKeen
Joe Shannahan
Tom Slater
Tori Squires
Shannon Tyler

The 461 Task Force met on Thursday, September 7, 1995 at the Hotel Savery in Des Moines. Chair Joan Axel called the meeting to order at 6:15 with a welcome to all those attending.

FEMA Policy Response

Arlinda McKeen presented a summary of the preliminary conversations with federal FEMA officials. While FEMA's General Counsel has not yet completed the policy paper, they indicate that the issues revolve around whether priority access to the network would be guaranteed. In general, if there is a change from the current situation and guaranteed priority access for emergency operations is not established, then FEMA would request repayment of the federal investment. If there are changes that do guarantee priority access, then carefully worded agreements likely can be reached. FEMA has indicated that there is precedent for private involvement in this area. FEMA will be providing a written report from the General Counsel's office in Washington. This information will be incorporated into the matrix when it is received.

Scheduling Process

Amy Campbell introduced resource panel member Paul Bowers from Buena Vista University to explain the scheduling process for the educational sites. As new sites and Part III sites are added, this process will continue to evolve. A primary concern is to keep the process as regional and local as possible. Tommy Thompson stated that it is anticipated that the Area Education Agencies will become involved in the network's educational scheduling.

Slater introduced resource panel member Gary Feddern representing the community colleges and stated that a representative of the League of Municipalities will be present at tomorrow's session.

Outside Resource/Research Activities

Slater called the Task Force's attention to Item H-1 in the materials packet which outlines those outside resources who have been engaged to assist in providing the needed information for the Task Force's consideration.

Final Report Format

The Final Report Format was reviewed (Item I in the materials packet). Amy Campbell outlined the proposed format and explained the rationale for including each component. Task Force discussion included the need to include the broad range of information in the report. It was suggested that an Executive Summary be included. It was also suggested that the report state that it is not a consensus document. ITTC Chair Opie commented that the ITTC wants all of the information gathered to be presented in an organized manner to the Commission. Axel requested that the report be formatted as presented with the inclusion of an Executive Summary.

461 Task Force

September 7 - 8, 1995 • Hotel Savery • Des Moines, Iowa

Friday, September 8

Task Force Members Present:
Joan Axel, Chair
Dick Vohs (for Bob Halford)
Yale Kramer
Colonel Roger Schultz (for MG Warren Lawson)
Todd Linden
Jim Meyer
Ben Norman
David Roederer
Ed Stanek
Allan Thoms
Emmett Vaughan
Teresa Wahlert

Task Force Members Absent:
Bob Halford
MG Warren Lawson
Ron Pearson
George Strawn

Resource Panel:
Paul Bowers
Gary Feddern
Bob Helmick
Kent Jerome
Tracy Kasson
Linda Kading
Mary Nelson
Dick Opie
Chris Scase
Tommy Thompson

State Public Policy Group Staff:
Amy Campbell
Ben Grimley
Arlinda McKeen
Joe Shannahan
Tom Slater
Shannon Tyler

The 461 Task Force began its Friday, September 8, 1995 meeting at 7:55 a.m. Axel brought the meeting to order and Slater reviewed the issues needing resolution by the end of the day. Axel outlined the morning schedule of presentations.

flexibility for use of anticipated block grant funds to handle and use information in an integrated way. The federal government looks at the uses and applications, not who is the provider or owner.

Matrix Issues

Slater facilitated a discussion of the impacts on each of the ten Options of the issues and considerations included in the matrix, beginning with Issue #19.

ICN Carrier Payments

In response to the request from Thursday night to clarify the ICN carrier payments handout, Vohs explained the different types of voice/data flow between the ICN and local exchange carriers (LEC) by guiding the Task Force through a chart and explanation. Vohs indicated that there is a negative impact on private industry; the ICN takes away business from the private network that might result in revenue for private industry if the ICN was not in place.

Others commented that when private service is not available, the ICN adds revenue. Voice, data, and video are not provided in all locations by private industry. Private sector responds to the level of demand. The IUB study mandated in Senate File 2089 should clarify how much of the use is or is not available through private industry. There is both loss to private industry from state traffic; there is also revenue generated for private industry due to new video transmission from schools. There is a need to know whether the state saved money by putting its voice traffic over the ICN.

Axel requested that the information from last night and today be reconfigured and presented in an objective and factual manner. Tom from INS, Thompson, and SPPG staff will work on this.

Matrix Categories

Staff was asked to determine headlines/categories to help make the matrix more easily read. For the legal and financial issues, *constraints*, *responses to constraints*, and *effects* are suggested. For the other issues, *considerations* and *effects* are suggested. The Task Force accepted these categories and the matrix will be configured around them.

Matrix Review Process

Staff suggested that the matrix be reviewed by Task Force members by issue and not by option. In addition, there will be an integrated review of all issues and options. Task Force members volunteered and agreed to their assignments.

Future Meeting Issues

It was the consensus of the Task Force not to include out-of-state panelists at either of the remaining Task Force meetings because time was simply too short.

461 TASK FORCE

September 28, 1995 • Ramada Inn Westmark • West Des Moines, Iowa

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Task Force Members in Present:
Joan Axel, Chair
Bob Halford
Yale Kramer
MG Warren Lawson
Jim Meyer
Ben Norman
David Roederer
Allan Thoms
Emmett Vaughan
Teresa Wahlert

Task Force Members Absent:
Todd Linden
George Strawn

Resource Panel:
Gary Feddern
Kent Jerome
Dick Johnson
Sandra Makeeff
Mary Nelson
Dick Opie
Chris Scase
Roger Schultz

State Public Policy Group Staff:
Amy Campbell
Bob Fleming
Ben Grimely
Joe Shannahan
Tom Slater

The 461 Task Force began its Thursday, September 28, 1995 meeting at 6:35 p.m. Chair Joan Axel welcomed the Task Force members and outlined the meeting format.

The Task Force discussed and agreed to make Option 10 the public utility option.

Report Format
Kramer and Vaughan presented the members with a diagram, "Draft Investment of Fiber Optic Network." The members discussed the need for providing a listing of factors that one needs to consider when attempting to determine the financial worth of the Network. The group came to a consensus that determining the actual figures for the value of the Network is beyond the scope of the Task Force. The Task Force decided to include the draft Investment of Iowa Fiber Optic Networks in the report.

461 Task Force

September 28-29, 1995 • Westmark Ramada • Des Moines, Iowa

Friday, September 29

Task Force Members Present:
Joan Axel, Chair
Bob Halford
MG Warren Lawson
Todd Linden
Jim Meyer
Ben Norman
David Roederer
Allan Thoms
Emmett Vaughan
Teresa Wahlert

Task Force Members Absent:
Yale Kramer
Ron Pearson
Ed Stanek
George Strawn

Resource Panel:
Gary Feddern
Bob Helmick
Kent Jerome
Richard Johnson
Tracy Kasson
Mary Nelson
Dick Opie
Colonel Roger Schultz
Chris Scase
Tommy Thompson
Dick Vohs

State Public Policy Group Staff:
Amy Campbell
Ben Grimley
Joe Shannahan
Tom Slater
Shannon Tyler

The 461 Task Force began its Friday, September 29, 1995 meeting at 7:45 a.m. Axel brought the meeting to order and suggested the next meeting be held October 10, 1995 at 9:00 a.m. and cancel the meeting for October 11, 1995.

Emmett Vaughan proposed that Task Force members calculate the amount of time they, as volunteers, have spent on Task Force activities. The Task force agreed, and asked that the total number of hous be placed in the letter of transmittal to the ITTC.

461 Task Force

October 10, 1995 • Hotel Savery • Des Moines, Iowa

Task Force Members Present:
Joan Axel, Chair
Bob Halford
Yale Kramer
MG Warren Lawson
Todd Linden
Jim Meyer
Ben Norman
David Roederer
Ed Stanek
Allan Thoms
Emmett Vaughan
Teresa Wahlert

Task Force Members Absent:
George Strawn

Resource Panel:
Paul Bowers
Gary Feddern
Kent Jerome
Richard Johnson
Tracy Kasson
Linda Kading
Bob Lutz
Sandra Makeeff
Richard Opie
Colonel Roger Schultz
Tommy Thompson
Dick Vohs

State Public Policy Group Staff:
Amy Campbell
Ben Grimley
Arlinda McKeen
Joe Shannahan
Tom Slater

The final meeting of the 461 Task Force convened at 9:15 a.m. on October 10, 1995 at the Hotel Savery in Des Moines. Chair Joan Axel welcomed the Task Force members and outlined the tasks of the day.

Discussion of Issue 23 and Changes to the Matrix

Tom Slater introduced discussion of the issues to consider for the morning -- risk issues and review of changes to the matrix. Amy Campbell highlighted the additions to Issue 23 dealing with risk and asked Task Force members to review and approve the language to include in the matrix. The language of Issue 23 itself will be reworded for clarification and the Task Force discussed each of the risk items.

Comments From the ITTC Chair
Dick Opie, chair of the ITTC, thanked the Task Force members for their efforts. He expressed special appreciation to Joan Axel for her willingness and leadership to step in during a difficult time to lead the Task Force. Opie commended Task Force members for their professionalism and honesty in expressing and addressing their diverse views. Appreciation was extended to Tom Slater and State Public Policy Group staff for facilitating the process. He concluded by outlining the schedule for the ITTC to receive the Report and develop its recommendations.

Review of Draft Summary Comments
The Task Force reviewed the draft of the summary comments developed by Stanek and staff as a closure statement reflecting the morning's discussion. The Task Force suggested that this be used as introductory comments rather than closing remarks, and should be titled "Preface." Stanek and staff will edit the comments in light of their placement in the Report.

Review of Report and Attachments, continued
Campbell shared with the Task Force a large matrix worksheet that will be included in the report as a visual means of working through and comparing matrix issues.

Task Force members continued to work through the Report draft to suggest edits and changes to enhance clarity, consistency, and flow.

Task Force Member Individual Responses to Questions
Task Force members addressed the issue of answering questions posed to them as individuals concerning the work and Report of the 461 Task Force. Those present agreed that this will be a consensus report, and while individual opinions may differ, the Report can be supported by each individual as a valid product of the Task Force. Members felt it is their responsibility to uphold the integrity of the group and the process.

Review of Suggested Changes to the Matrix
Task Force members were asked to review changes to the matrix that were suggested by Task Force members during their independent reviews and submit any comments to staff by 4:00 p.m. on Wednesday.

Review of the Preface as Revised
Stanek submitted edits to the Preface that reflect its placement at the beginning of the report. The Task Force reviewed the Preface as edited and suggested minor enhancements which will be incorporated into the final draft.

Final Task Force Comments
It was suggested that there be some effort to inform the general public about the Task Force work, process, and Report contents.

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Iowa State Education Association • National Education Association Volume 32, No. 8 • June 1995

Coming soon to a school near you...

Completion of the fiber-optic network will mark a milestone for Iowa's public education system.

The long-awaited dream of putting the latest in telecommunications technology within reach of every Iowa public school student is now one step closer to reality.

With the recent legislative approval of a four-year, $95 million plan to complete Part III of the Iowa Communications Network (ICN), every public school district and area education agency will at last have access to the network and its unique interactive video and data transmission capabilities.

The ICN currently has 129 video "classrooms" at various locations across the state. They include two area education agencies, the area community colleges, and some 50 K-12 school districts.

Under the new legislation, $18.5 million has been appropriated to bring the remaining area education agencies and 92 K-12 school districts "online" in the 1995-96 school year. Most of those districts are in the Area II (Mason City) and Area VI (Marshalltown) regions. By 1998-99, all of the remaining school districts and public libraries should be connected.

"We're thrilled that the political bickering is over and that Iowa's students will at last be able to benefit from this unique educational tool," ISEA President Bob Gilchrist explained. "The potential is virtually unlimited."

He added that although there are still a number of issues yet to be resolved, the completion of the network marks a significant milestone.

Political hot potato

The fiber-optic network, which began as only a dream in 1989, has met with controversy every step of the way. Orginally billed as a tool to bring unprecedented educational opportunities to Iowa students, it soon became a political hot potato.

First, there were the cost overruns that forced the state to pump millions of additional dollars into creating the network's backbone.

Next, there was the contentious debate over whether cheaper and less functional copper wire should be used in place of the original fiber-optic technology to connect the remaining schools.

And finally, there were the endless battles with the powerful telephone companies over who should own and control the network and how much sites would be charged to use it.

In the end, following a massive lobbying effort by ISEA and the school administrators and school board groups, lawmakers approved a plan calling for state-of-the-art DS-3 fiber and maintained the state subsidy on the hourly charge.

It currently costs about $40 an hour to run an interactive video session, but schools and other educational institutions will continue to be charged only $5 per hour.

While the legislative action puts an end to the bickering between the Governor and legislative leaders over when and if the ICN should be completed, a major battle is likely to come over whether the state should continue to own the network or whether it should be sold.



Craig Anderson Photography

A student uses her 'push-to-talk' microphone to interact over the Iowa Communications Network.

What happens next?

While the existing backbone of the ICN is owned by the state of Iowa, the majority of the Part III connections will be leased from various providers, such as phone, cable, and utility companies.

The state funding pays the costs of actually laying the fiber to the schools and maintaining the connection. Individual school districts are responsible for either building a new "classroom" or converting an existing room and for purchasing the necessary cameras and equipment to operate the system—at a cost of $39,000 to $47,000 per site.

INSIDE
Yes, you too can learn to use the ICN.
PAGE 5

Local district officials in the first round of sites are now in the process of signing contracts so that the fiber can begin to be laid as early as this July.

The next step is for the districts to complete their FOTS rooms (Fiber Optic Terminal System), which house the equipment, and to "build-out" their classrooms. Just when the classrooms become activated, or "hot," is up to the individual districts to decide, but it's unlikely that many will be ready before January of 1996.

What it means

Once the connection is completed, districts will have access to full-motion interactive video as well as the capability to build local computer networks to allow them to tap into the vast resources available through the Internet and other online services.

In fact, the ICN is planning to become an Internet provider as early as this August so that districts can connect directly to the "Information Superhighway" instead of going through the current providers.

Districts scheduled to be hooked up to the ICN during the next year can get the Internet connection as early as six months before they expect their ICN classrooms to be "hot." Other districts may also tap into the Internet and other online services through the ICN, although their means of connection will be slightly different.

Network support and assistance

Although the overall management of the ICN is the responsibility of the three-member Iowa Telecommunications and Technology Commission, its day-to-day operations are handled jointly by staff members at the ICN and Iowa Public Television (IPTV).

The ICN employees handle technical concerns associated with the actual network connections, while the IPTV staff helps districts design their interactive classrooms and "troubleshoots" problems with the equipment.

Educational policy decisions fall under the purview of the 18-member Educational Telecommunications Council, led by Dr. Pamela Adams Johnson, IPTV's director of educational telecommunications. The ISEA has two ETC representatives: Al Bode of Charles City and Susan Olesen of Greenfield.

Bode and Olesen report that chief among the ETC's plans for next year are to support the 15 Regional Telecommunications Councils (RTC) as they work to bring the ICN to educators and students. The ISEA has one representative on each RTC. ♦

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Calling all ISEA leaders to Storm Lake ♦ First-Class members

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Educators brace for journey into cyberspace

Educators brace for journey into cyberspace

Training is the key to making the ICN a powerful teaching and learning tool.

In the nearly two years since the Iowa Communications Network (ICN) has been up and running, more than 150,000 classroom hours have been logged—and that's with only a handful of K-12 school districts able to take advantage of the opportunity.

Much of the attention so far has focused on the more traditional distance learning applications of the network— providing students with access to courses that aren't available in their own districts. But that has only been a fraction of the actual network use.

According to Pamela Adams Johnson, director of Educational Telecommunications at Iowa Public Television (IPTV), some of the most exciting programming has been used for short-term, special classroom projects or to provide opportunities for teachers to share information and ideas.

"When you think about what's good about discovery learning and apply it to the ICN, then you can begin to see its true value as a teaching tool," she explained.

Classroom innovations

Here's a brief look at just a few of the innovative learning experiences already made possible on the ICN:

• Fourth-, fifth-, and sixth-graders from Grinnell and Marshalltown became "news dogs," meeting with news personalities, writing and producing their own news programs, and designing and fashioning newsroom sets. They then "aired" their news broadcasts to other sites via the ICN.

• A social studies class in Britt got a living history lesson over the ICN when native American students on the reservation in Tama prepared a curriculum that included a video of the settlement and their homes, a tribal story, a language lesson on colors, and presentation of traditional Sac and Fox clothing.

• A communications technology class at Adel-DeSoto-Minburn held a structural engineering competition with students at Maple Valley High School. Using balsa wood materials and sharing over the ICN, teams at each location collaborated to design and construct half of a bridge. The sections were united by mailing them to the schools.

Internet access available

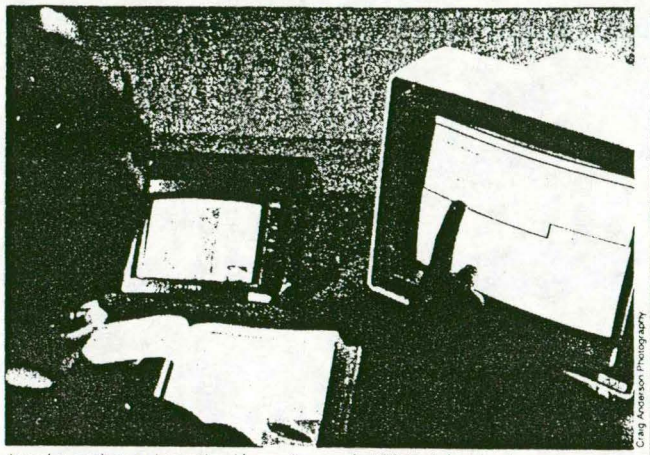
While most of the focus in these early years has been on the two-way voice and video transmission, many predict that the real revolution in teaching and learning opportunities will come with the advent of Internet access for every student.

Plans are underway to make the ICN a wholesale provider of the Internet, also known as the "Information Superhighway," which is the world's largest computer network.

Al Bode, a Spanish teacher at Charles City and member of the ICN's Educational Telecommunications Council, has been a pioneer in bringing the world to his classroom via the Internet.

This year, for example, his classes have been able to experience Guadalajara, Mexico, simply by a click of the computer mouse. Bode reports that they not only researched the national elections last winter but they were also able to access "scrumptious" authentic Mexican recipes.

He says that next year he plans to integrate the Internet into his Spanish classroom on a regular basis. Using the I-EARN (International Education and Resource Network) as the link, his students will have access to more than 400 education-oriented sites in 23 countries. Plus teachers and students will be able to collaborate on common projects using email and video conferencing.



Craig Anderson Photography

A teacher conducts an interactive video session over the ICN simply by using the touch screen to select programs and run the cameras.

Staff development opportunities

If you feel a bit overwhelmed by all of this, you're not alone. Educational use of the ICN is expected to mushroom within the next four years as each district and area education agency comes online. Yet most teachers don't know the first thing about making the best use of this amazing technology.

"All this is wonderful magic," explains IPTV's Johnson, "but without adequate staff development and support it will go nowhere."

According to Johnson, the ICN is designed to meet local needs rather than dictating a set program and schedule.

"There is no cookie-cutter approach to integrating technology into the classroom," she says. It's up to educators to decide what works best for them, she added.

Thanks to legislation passed during the last legislative session, each of the state's 15 Regional Telecommunications Councils will be allocated $80,000 for a variety of activities, including staff development within the region. Each RTC is currently developing a plan for how it can best use the funding.

"Educators do have a voice through the RTC," Johnson noted, "but teachers also need to design their own plans."

Here are some questions that Johnson suggests will get you started:

• What talents and skills does our staff excel in?

• Who do we wish we could network with by computer or live interaction to improve our school?

• What experts would enhance the learning experience for our students of all ages?

• What programs are we aware of in other school districts that we wish we could share?

• What federal or state requirements that are causing a pinch on the budget could be handled with a sharing arrangement?

Once those questions are answered, then you can begin to develop a plan for using the ICN and the Internet most effectively. ♦

YOUR ISEA REPRESENTATIVES

The state's 15 Regional Telecommunications Councils are designed to provide support, assistance, and coordination of services to educators using the ICN. Each RTC is made up of nine members representing a broad cross section of the state's leading education groups. The ISEA-appointed representatives are:

Region 1:	Joe Tollari, Dubuque
Region 2:	Scott Kiesel, Belmond-Klemme
Region 3:	Bob Gordon, Estherville
Region 4:	Ranae Kark, Inwood
Region 5:	Roger Snell, Fort Dodge
Region 6:	Dr. John Cooke, Marshalltown
Region 7:	Pamela Schmidt, Janesville
Region 9:	Kathryn O'Shaughnessy, Davenport
Region 10:	Carolyn Stucker, Marion
Region 11:	Sheldon Davids, Knoxville
Region 12:	Dan Hunter, Sergeant Bluff
Region 13:	Ron Fox, Council Bluffs
Region 14:	Jerry Nissen, Creston
Region 15:	Mary Jane Sullivan, Rose Hill
Region 16:	Constance Besco, Keokuk

What the heck does that mean?

Just when you were feeling at ease with computer terms like "mouse" and "hard drive," along comes the ICN and a whole new vernacular. The following is a brief primer to help you on your way to cyberspace!

56K Line: A digital phone line connection capable of carrying 56,000 bits of information per second (bps). This is four times as fast as a 14,400 bps modem, but it is significantly slower than the DS-3 fiber technology of the ICN.

Cyberspace: Term originated by author William Gibson in his novel "Necromancer." The word is currently used to describe the whole range of information resources available through computer networks.

DS-3: Fiber-optic technology that transmits broadcast quality video, voice, and data. Also enables high-speed, multiple-user access to the Internet.

Download: To transfer information or files from a remote computer or online service to your personal computer. The opposite of upload.

Email: Electronic mail messages, usually text, sent from one person to another via a computer network.

Fiber-optics: The technology of guiding and projecting light through thin filaments of glass or plastic, for use as a communications medium.

Internet: It is the world's largest computer network that evolved from a federal research program by the Defense Department. Cold War-inspired scientists developed the technology to get data from point A to point B—even in the middle of a thermonuclear war. Today, the Internet has become a large community of people all over the world who use computers to interact with one another and to get information on a wide range of topics including government, academic research, and corporations.

LAN (Local Area Network): A small network that connects computers and printers within a single classroom, building, or school district which enables users to share data and information.

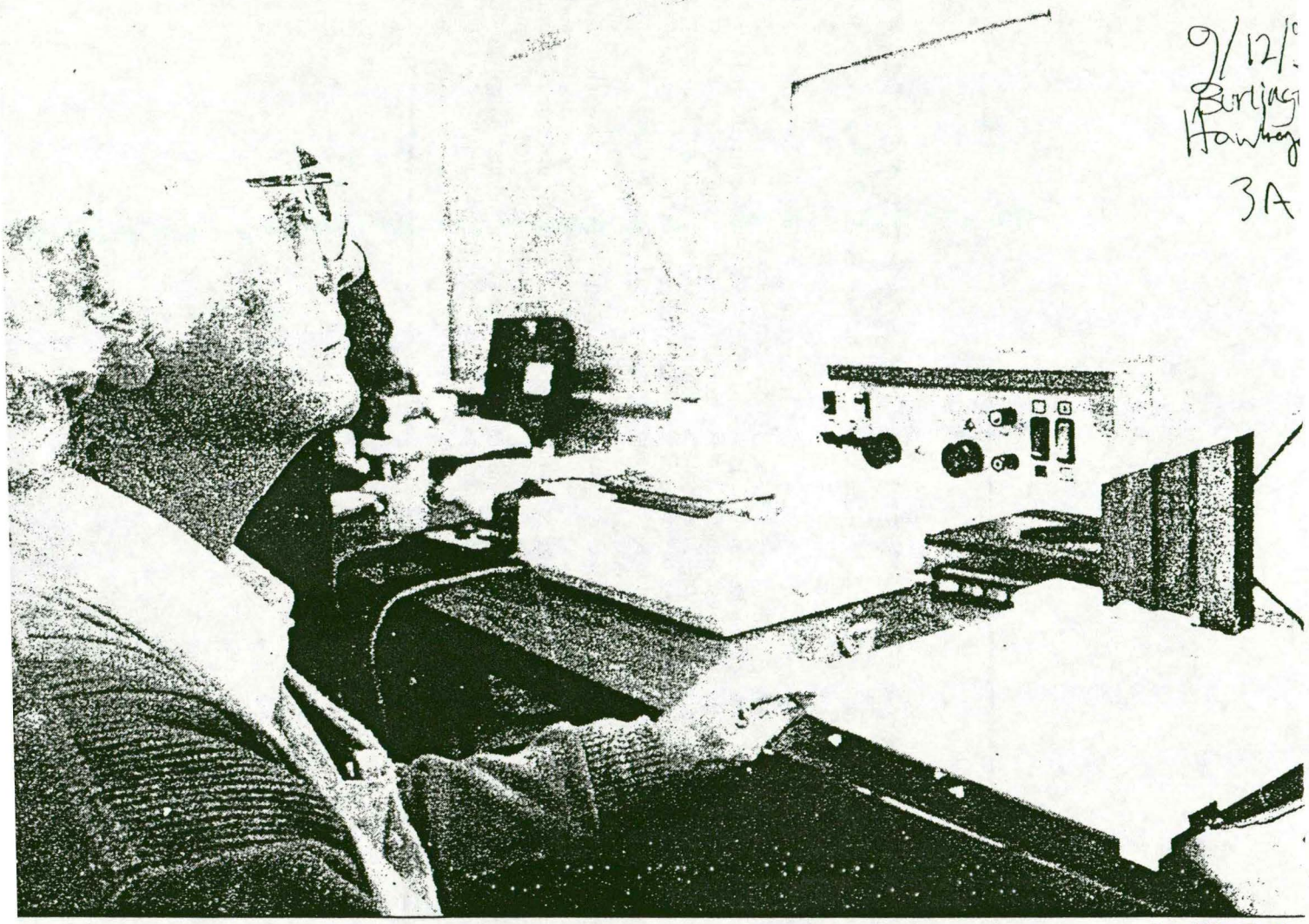
Modem: Short for "modulator/demodulator." It is the equipment used to link a computer to a telephone line.

Online: Being actively connected to a network or computer system; usually being able to interactively exchange data, commands, and information.

Upload: To transfer information from a personal computer into a computer network so that others can use it.

Wide Area Network (WAN): A network that connects computers spread out over a large geographic area such as an area education agency, which allows users to share information and data.

World Wide Web (WWW): An Internet service that lets users retrieve hypertext and graphics from various sites. Often called, "the Web," it is rapidly becoming the most popular Internet service. ♦



Tony Miller/The Hav

ɔb, 908 N. Broadway St., Mount Pleasant, uses a closed circuit television system to enlarge print materials for reading. I disease that reduces the vision in the center of the eye but leaves the peripheral vision intact.

ɔually impaired go high tech

ɣten

PLEASANT — Visual impair- ı't stop Kenneth Ebb of Mount ·om staying abreast of current

ıder of Newsweek and Consumer ational Geographic and Guide- so reads the books of his choos-

ıse vision has been reduced by generation, needs a little help d Iowa's Department for the les it.

rtment conducted an open house leasant Monday to answer ques- xplain services like its Talking am.

ooks provide Ebb with the latest ɔn record or cassette tape.

ses one of the department's read- s. It enlarges the print on maga- ok pages so he can continue to e wishes.

minister raised in Swedesburg,

■For more information about the services or equipment provided by the Iowa Department for the Blind, call 1-800-362-2587.

"What they do for the blind here (in Iowa) is a lot more," he said.

The department's services have allowed Ebb to remain active, a primary goal of the organization.

Sandy Tigges, a vocational rehabilitation counselor, said the department is primarily a vocational rehabilitation agency.

"Our main goal is to get people the training they need to be employed," she said.

But the department also offers a wide range of services designed to enhance the quality of life for Iowa residents who are blind or visually impaired, or have another physical impairment that makes tasks like reading difficult.

Besides the Talking Books program and the reading machine, the department can

tive devices and large print books.

The agency also can convert college books or any other printed material recording or Braille. All services are vided at no fee.

The agency receives 80 percent of its ing from the federal government and 2C cent from the state.

Displays of equipment and other se information were provided at Wednes open house at the United Methodist Ch

Tigges said the department not only vides equipment, but also the tra needed to help people become self suffi and independent.

Julie Scurr, a member of Mount F ant's Visual Impairment Support G coordinated the open house.

Invitations were sent to local social ers and other professionals who need informed about what services are ava for their clients, Scurr said.

Following the open house, Mount Ple hosted a regional meeting of Visual Im ment Support Groups. Scurr said abo

Entrepreneurship program an 'up-and-comer'

IOWA CITY — Even though it's still in its infancy, the University of Iowa entrepreneurship program is "an up-and-comer," according to Success magazine.

The ranking appears in the September issue of the magazine, which targets a business executive audience.

The article, "The Best Business Schools for Entrepreneurs," put the U of I program, which started in 1979, on its list of "schools to watch."

The program is jointly administered by the Colleges of Business Administration, Engineering and Health Sciences — an arrangement unique to the U of I.

The magazine also notes the program's use of the Iowa Communications Network, which allows it to reach nearly 100 sites across the state.

"We are extremely pleased that our entrepreneurship program is being recognized," said Gary Fethke, dean of the business school.

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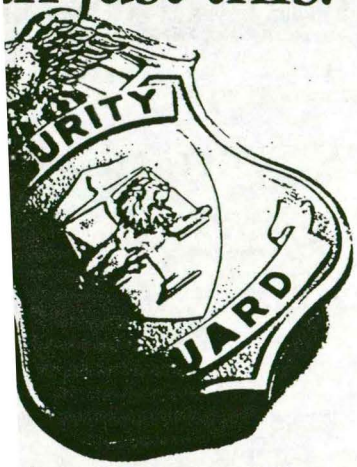

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ITT HARTFORD

At least one physician believes not enough is being done to ensure the state's fiber-optic network is used correctly by medical professionals.

Who will regulate telemedicine?

By Jackie King

Concern is being expressed by several state task forces over who will oversee the state's fiber-optic communications network when it's used for telemedicine

. Telemedicine is the use of telephone or television hookups to allow medical specialists to treat patients in other facilities or communities.

Recently, concern about telemedicine has been centered on who will be paid for services rendered over the network. Insurance companies are just now beginning to set standards for payments where telemedicine is a factor.

Yet Dr. Dale Andringa, co-founder of the Iowa Physicians Clinic, said although reimbursement is a concern, standards should also be set on what type of medicine will be practiced on the system.

The whole area of information exchange for physicians is far behind that of other industries.

Dr. Dale Andringa
Iowa Physicians Clinic

Currently, there is no governing board establishing those standards. Instead, the emphasis has been placed on other priorities, such as getting doctors to locate in rural areas.

"There has been such an emphasis on getting physicians out to the people," Andringa said. "I don't know if that is necessarily what is needed. For instance, people in rural areas think nothing of driving 30 miles to a grocery store."

Andringa believes more emphasis should be placed on finding proper medical uses for the network.

"The whole area of information exchange for physicians is far behind that of other industries. We aren't sure what can be usefully exchanged and what cannot."

However, Andringa cautions against overregulation.

"In a lot of ways, I would prefer to see [telemedicine] market-driven rather than regulated."

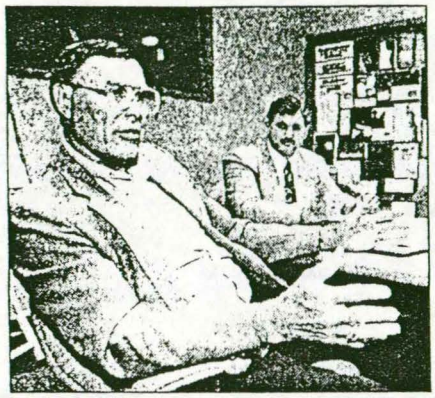
Despite this concern about the infancy of telemedicine, Andringa believes medical professionals may use it to build their practices. Some, like those who specialize in reading X-rays or doing diagnostic laboratory work, may find their practices growing as more and more rural physicians make use of the network.

"That's where the opportunity is. I think people have gotten used to the concept that doctors don't compete. That is wrong. It's becoming very competitive and physicians are looking for new ways to build a practice." ■

Is the state too far into the telecommunications business? There are some who believe it is and that it's time to get out.

ICN study launches competition debate

By Jackie King



Kent Jerome (foreground) and Tom Conry both believe the state should leave telecommunications to the private sector.

Kent Jerome set his jaw.

The secretary and treasurer for the Iowa Telephone Association is unyielding in his belief the state should not be in the telecommunications business. It should leave the business to the private sector, he said.

"We've been that route before. If you look back, historically the state has been doing some things that should have been in the private sector. WOI-TV, the old liquor commission. With that, the state was even in the trucking business."

Whether the state should divest itself of the Iowa Communications Network is the subject of a study this summer by the Iowa Telecommunications and Technology Commission. Some in the industry fear the study will be biased because the commission will be studying its very reason for existence.

As it is, those within private industry say if the ICN were to begin offering its services without its current restrictions, it would have an unfair advantage.

"There are no taxes collected on it and the revenues that the state collects are not taxable," Jerome said. "And they have an unfair advantage in pricing that the private sector cannot offer."

But ICN chief operating officer Tommy Thompson says the commission is trying to protect those who are already in the telecommunications industry.

"We are going to study a whole slew of options," Thompson said. "That would include a sale, or possibly converting it to a public utility. We will study keeping it the way it is but perhaps allowing the ICN to provide services when there are no capabilities for that service within the existing companies."

Thompson said there are several areas in which the ICN might be able to sell services without competing with the private arena. One would be providing full-motion video services.

"Right now, there is no one who can provide full-motion video services but us," Thompson said. "John Deere would like to use it. The Realtors Association would like to be able to use it to make presentations statewide."

Thompson said the network might also be able to help those who are already providing telecommunications.

"MCI was in here earlier this week asking for the ability to lease capacity in areas where they don't have fiber."

Tom Conry of the Farmers Mutual Co-op Telephone Co. in Moulton and president of the Rural Iowa Independent Telephone Association, said with all the discussion over cost-slashing, he's concerned ICN officials are forgetting the primary purpose of the network, which is to educate.

Jerome said he's concerned about the economic development aspects of the ICN. He cites a number of communities that don't have access to the network and aren't scheduled receive it.

"How do they take advantage of the economic development aspects of the network? Do the residents of communities without the ICN become second-class citizens?"

Jerome and Conry have suggested the state keep the network but sell the transmission facilities. Under their proposal, the state would operate its distance-learning initiative through equipment leased from private companies.

But that would call for someone to buy at least a portion of the network's assets, something both the telephone company representatives and Thompson say may not happen.

Thompson says one difficulty is in placing a value on the network. Although the state has spent about $90 million on the portion of the network already constructed, it may not be worth that much to a private buyer because many of its facilities are located in public buildings.

Jerome and Conry say much of the network is incompatible with equipment owned by telephone companies. They also say much of the network duplicates already existing networks.

"There's miles of fiber-optic fiber out there," Jerome said. "There are miles we don't even know about." ■

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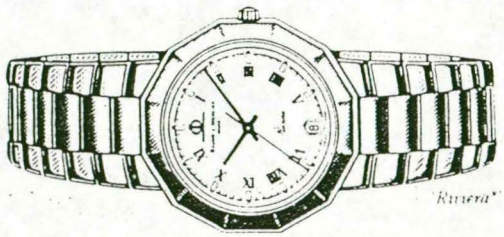

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LAWMAKERS DEADLOCKED

'A pivotal year' for fiber-optic network

The state has already spent $180 million on the system, and another link-up stage could cost at least another $100 million.

By DAVID YEPSEN
REGISTER STAFF WRITER

It's made of little glass strands no thicker than a human hair, woven into a cable about the size of your little finger. It's called fiber-optic cable, and the state's network of it is causing Iowa policy-makers a fistful of problems.

The 1995 session of the Iowa Legislature is deadlocked over what to do about the controversial Iowa Communications Network.

"This is the pivotal year for the network," said Harold "Tommy" Thompson, the network's director. "This will be the year we set the direction."

Last week, he unveiled a plan he hopes can muster enough support to complete a scaled-down version, but legislative leaders said they were not certain they had the votes to do that. Senate Appropriations Committee Chairman Larry Murphy, D-Oelwein, said: "Candidly, I don't think anybody knows what to do."

Connecting to Sites

The problem is this: The state has built a 2,600-mile "backbone" network into every Iowa county at a cost of $100 million, plus another $80 million in interest. The network is intended to connect students and teachers at different sites or help rural Iowans enjoy sophisticated medical technology.

The issue in front of lawmakers is how to connect the fiber wires from the end points in each county to the schools, hospitals, libraries, government offices and National Guard armories that do not have access to it.

The state has received two sets of bids to do that work. The lower bid was about $100 million; the higher was about $139 million.

The low bid is wrapped in a big political problem, called "the McLeod factor," said Sen. Bob Dvorsky, D-Coralville, who heads the Senate's telecommunications committee. About three-fourths of the bid is controlled by Cedar Rapids telecommunications entrepreneur Clark McLeod, and, Dvorsky said, "All the small phone companies are terrified of Clark McLeod and are concerned he's going to get into their territory and take away some of their business. Anything he gets into is suspect."

Other things have vexed the network, too.

Gov. Terry Branstad included only

DSM Register
2/19/

STATE CAPITOL REPORT

IT CAN MAKE MONEY, HE SAYS

Fiber-optic net's chief offers plan to finish it

By DAVID YEPSEN
REGISTER STAFF WRITER

Harold "Tommy" Thompson, director of the Iowa Communications Network, said Wednesday that he expects the state's controversial fiber-optic system to be making money in about six years if it is completed.

And, the former National Guard general said, it may be possible to complete the system for less money upfront if the state is willing to borrow some of that money.

Thompson is trying to find ways to complete the network for the least amount of money. Bids as high as $139 million have been offered to finish the network. Thompson is shopping around a plan to do it for about $74 million.

He said last week that he needed $10 million this year, $25 million in each of the next two years and $14 million in the year after that, for a total of $74 million. Gov. Terry Branstad has proposed $10 million a year in his budgets, for a total of $40 million.

Thompson, in a meeting with Des Moines Register reporters and editors, said Branstad's financial managers are balking at the costs and said it is possible to borrow part of the money. While that adds interest costs, it also lowers the initial costs. Some policy-makers want to do that so they can lower state taxes.

Once the network is built, the fees paid by universities, schools, community colleges and federal agencies will offset costs. He said he will establish a fund to maintain the network as it wears out. He believes that money will enable him to pay off loans taken to complete the network and pay the salaries of the workers required to run it.



Harold "Tommy" Thompson
Asking for $74 million

"I'm not sure where the governor is on a financing option," Thompson said. Some legislators are critical of Branstad for not coming forward with his own plan to finish the network. Branstad has said he wants to fashion a plan with the legislators.

Some legislators also want to reduce the cost of the network by removing local libraries from it, but Thompson said it makes more sense to connect them while the cables are being laid.

Critics of the network have called it a financial black hole and said it lacks a plan. Thompson denied that Wednesday and said his plan to complete the system is picking up support from legislative leaders. He said state Auditor Richard Johnson, one of the critics of the network's management, has reviewed the plan and given it a tentative OK.

Thompson said he is running into opposition from local telephone companies, who fear that one of the low bidders — Cedar Rapids telecommunications entrepreneur Clark McLeod — will use his portion of the network to undercut their business.

Thompson also said the low bidders must promise to give the network to the state at the end of the construction period. That would ease the fears of local telephone companies.

Thompson said the low bidders should work with local telephone carriers. The low bidders call for completing the network over a four-year period. Thompson said some small telephone companies in the state have offered to hook up schools to the network for nominal fees. Thompson said he wants the low bidder to take advantage of those offers.

Thompson said legislative leaders have told him that the attorney general has said it is OK for Thompson to begin contract negotiations with low bidders. Higher bidders have threatened lawsuits if he does that, but Thompson said he believes the law allows him to issue an intent to award the contract to the low bidders, then begin work on hammering out the final contract. That contract must be approved by the Legislature.

Connecting to Sites

The problem is this: The state has built a 2,600-mile "backbone" network into every Iowa county at a cost of $100 million, plus another $80 million in interest. The network is intended to connect students and teachers at different sites or help rural Iowans enjoy sophisticated medical technology.

The issue in front of lawmakers is how to connect the fiber wires from the end points in each county to the schools, hospitals, libraries, government offices and National Guard armories that do not have access to it.

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Other things have vexed the network, too.

Gov. Terry Branstad included only

LAWMAKERS DEADLOCKED

'A pivotal year' for fiber-optic network

The state has already spent $180 million on the system, and another link-up stage could cost at least another $100 million.

By DAVID YEPSEN
REGISTER STAFF WRITER

It's made of little glass strands no thicker than a human hair, woven into a cable about the size of your little finger. It's called fiber-optic cable, and the state's network of it is causing Iowa policy-makers a fistful of problems.

The 1995 session of the Iowa Legislature is deadlocked over what to do about the controversial Iowa Communications Network.

"This is the pivotal year for the network," said Harold "Tommy" Thompson, the network's director. "This will be the year we set the direction."

Last week, he unveiled a plan he hopes can muster enough support to complete a scaled-down version, but legislative leaders said they were not certain they had the votes to do that. Senate Appropriations Committee Chairman Larry Murphy, D-Oelwein, said: "Candidly, I don't think anybody knows what to do."

MORNING STAR
WILMINGTON, N. C.

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OUR VIEWS

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Superhighway toll too high for state

It could cost North Carolina taxpayers $1 billion to cruise the first nine years on Gov. Jim Hunt's proposed information superhighway.

Let's turn off at the next rest stop, get out the map and give this some thought.

The "highway" would consist of fancy computer sites at schools, hospitals and government agencies, connected by fiber optic lines owned by the phone companies. The taxpayers would shell out for the equipment, the space and the phone bills, which would be astronomical.

Just a year ago, Mr. Hunt's top policy adviser, Jane Patterson, said the whole shebang might cost $97 million. The Public School Forum, a business-linked education-reform outfit, put the figure at $1 billion to $1.5 billion.

It looks as if the Forum was right.

Even if the state installed all the fancy computers and cameras at a school, the school would have to pay the phone bill. Ms. Patterson has said the typical bill would run about $4,000 a month — or $40,000 per school per year.

There's no doubt it's terrific technology — or at least it looks terrific to those of us who can barely log onto our PCs without blacking out the whole East Coast power grid.

The question is whether we really *need* it, or whether right now it's an extravagant luxury.

At this point, the first people on the rudimentary network are playing around and having an interesting time. Maybe they will figure out how to do wonderful things. That's not clear.

What is clear is that Southern Bell, GTE and Carolina Telephone/Sprint would get a big batch of customers for their fiber optics systems.

What is clear is that the phone companies, equipment manufacturers and consultants would get a nice experiment that could help them perfect the system and sell it elsewhere.

What is clear is that Tar Heel taxpayers would foot the bills.

The governor and his fellow gadget freaks go into ecstasies about how North Carolina is ahead of everybody else in the world on the information superhighway. That sounds nice. But explorers often get lost or tumble off cliffs.

If we were a rich state whose schools, health programs, parks and other public services were already first-rate, we might be smart to play Lewis and Clark in the fiber-optics-computer wilderness.

But it doesn't take Bill Gates to deduce that we aren't that kind of state. We ought to let somebody else go first.

//

NEWS & OBSERVER
RALEIGH, N.C.

APR 1 95

224

Potential sites balk at info highway

So far, public schools are the best customers — the state picks up the tab. The network is a long way from enough users to reduce the $4,000-a-month phone bills.

BY CARRICK MOLLENKAMP AND TIM GRAY
STAFF WRITERS

ROCKY MOUNT — To get to the root of the state information highway's troubles, you need go no farther than Southern Nash Senior High School.

The school uses the high-speed communications network to teach advanced placement calculus. Thanks to two-way video imaging, Southern Nash students have access to the advanced math course taught at Northern Nash Senior High.

But the telephone charges are $4,000 a month, which are paid by the state. Next year, if the school system fails to find money to pay those charges, calculus at Southern Nash might be canceled.

Therein lies the problem. The high cost of the network, detailed for the public for the first time Thursday in a report by State Auditor Ralph Campbell Jr., has dogged the project from its beginning. Campbell said the cost of the highway could total $1 billion in its first nine years. The report also shows the network has failed to lure the projected number of users, making unclear who will pay the huge installation and access charges.

Audit implies the system needs to be promoted differently. ▶ 5A

So far, one of the biggest users — and financiers — of the state's information highway is public school systems. The other expected users — state universities, agencies, libraries, research centers and, eventually, private companies — have stayed away. Rather than the 106 points of service the state expected to have within months of the information highway's launch last August, the network has only 60 sites connected.

For some, the reluctance is rooted in uncertainty about how beneficial the information high-

SEE HIGHWAY, PAGE 5A

CONT ↓

'THEY JUST WANT TO DESTROY IT'

Branstad defends network, Baur

The legislators who are critical of the fiber-optic project's leader are being fickle, the governor says.

By JONATHAN ROOS
REGISTER STAFF WRITER

Critics of the state fiber-optic communications network are trying to wreck the project, Gov. Terry Branstad charged Monday.

"I think there are some people that are trying to kill the network. They just want to destroy it," Branstad said.

Last week, the Legislature omitted a $3.4 million appropriation for the network from a bill providing state agencies with additional money for operations during the rest of the current budget year.

The governor said the action was "indefensible and shortsighted." He said that without the appropriation, the Iowa Communications Network won't be able to pay its bills.

Key legislators have said that Robert Baur, chairman of the network's governing board, probably won't be confirmed by the Senate, and a growing number of House members appear to favor selling the system.

Performance Defended

Branstad defended Baur's performance. "It's time to quit playing politics and start doing what's needed for the future of the state," the governor told reporters at his weekly news conference.

"I have a vision of building a statewide fiber-optics network that will serve every school district in the state of Iowa. I want to see that completed. I'm committed to working with the Legislature to getting that accomplished," he said.

Some legislators have complained that Baur, a Winterset farmer, doesn't seem to understand the complexities of the network. Branstad said he stands firmly behind Baur. He said lawmakers are being fickle, because they had opposed placing telecommunications experts on the network's governing board.

Sen. Robert Dvorsky, a Coralville Democrat who heads the Senate committee that oversees the network, rejected the governor's criticisms. Dvorsky said he believes in the network's educational mission and wants it to be completed, but there are problems that must be resolved.

Dvorsky, who has proposed turning the network into a quasi-public utility after it is finished, said Baur has lost credibility with legislators. Dvorsky complained that the network board "seems to operate in a vacuum" in making decisions.

Stiff Opposition

House Majority Leader Brent Siegrist, R-Council Bluffs, acknowledged that there is stiff opposition to the network among lawmakers from both parties.

"I don't know that they're trying to destroy it, but it doesn't bother them to slow it down and stop it," Siegrist said.

He said there is sentiment in the House to sell the network "if it's doable and if the connections to schools are there."

Lawmakers say they plan to appropriate money to ensure that the network's bond payments are met, after they've had time to evaluate the network's finances.

The state-owned network backbone has been built to every county. The board and lawmakers now are grappling with the complexities and cost of enlisting private firms to build the final connections to schools and libraries.

The contract to complete the final phase must be approved by the Legislature. Branstad said the state should tap gambling revenues to help pay for the project.

Corbett: Sell fiber network

Lawmakers have agreed to use gambling profits to complete the system.

By DAVID YEPSEN
REGISTER STAFF WRITER

Iowa House Speaker Ron Corbett said Tuesday that he has changed his mind and now believes the state's controversial fiber-optic network should be sold or turned over to private control.

But first, the Cedar Rapids Republican said, the state should complete the process of hooking the network up to every high school so it has something to sell.

"It just seems the state is not an expert in the telecommunications system and we ought to look at getting rid of it," he said. "We have to talk about this issue ad nauseam. We're spending millions of dollars operating this network that should be spent on computers and software and schools. We don't have the expertise and we're never going to have the expertise.

"This network has the unique ability to give every legislator heartburn," he said.

Finishing the Network

Corbett's comments came after key lawmakers agreed privately to a plan that would use better-than-anticipated gambling profits to complete a scaled-back version of the network. The state has spent $180 million to build a backbone network into every county and now is looking at a plan to put leased fiber into every school to connect with the state-owned backbone.

"Originally we thought the private sector wasn't going to lay cable in rural areas. But they are laying fiber everywhere," he said. "It wasn't like rural electrification, where if the government didn't do it, the private utilities wouldn't. There is so much

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DES MOINES REGISTER 4/6/95

DECEPTIVELY MILD DEBATE

House: Open network to local governments

Lawmakers want to explore the possibilities of selling the fiber-optic system or making it a public utility.

By JONATHAN ROOS
REGISTER STAFF WRITER

The Iowa House voted Wednesday to allow city and county governments to link up to the state's fiber-optic communications network.

Lawmakers also approved a bill that would launch studies on the possibilities of selling the network or turning it into a public utility.

The actions were taken with deceptively little debate. Legislators are in a quandary about how to proceed with completion of the Iowa Communications Network, which originally was designed with educational uses in mind.

The network's backbone has been extended to all 99 counties, but libraries and most schools still haven't been hooked up. The system's cost and complexity have become major headaches.

The House took a stand on one issue when it approved, 71-23, a bill permitting cities and counties to connect to the network at their expense.

"They can do it if they want to. They don't have to do it if they don't want to," said Rep. Richard Myers, D-Iowa City.

Use of the network would be especially valuable to law enforcement agencies trying to respond to disasters, Myers said.

The bill also would help boost revenues for the network, which is struggling to meet expenses, he said.

Supporters of the proposal said it wasn't fair to exclude cities and counties from the network when federal agencies, hospitals and colleges can use it.

Critics of expanding the network to include local governments said doing so would take business away from telephone companies, which also are turning to the use of optical fiber.

"I don't feel that a state-subsidized business should . . . be competing with the private sector," said Rep. Jim Meyer, R-Odebolt.

Representatives also provided a taste of debates to come over whether it's time for the state to sell or lease the network.

"I think we should sell the ICN, because no one seems to understand it," said Rep. Jim Drees, D-Manning.

Rep. Pat Murphy, D-Dubuque, disagreed. "I don't think selling it at this point is a viable option. I think we need to make the system work so that Iowans see its benefits," Murphy said.

A growing number of House members, including Speaker Ron Corbett, appear to favor selling the network. Corbett, R-Cedar Rapids, says the network should be turned over to private control after the state has completed the process of hooking up all Iowa high schools.

A bill directing the network's governing board to undertake studies this year on the sale of the network or its conversion into a public utility was approved without dissent.

The bills go to the Senate, where the network's status also is up in the air.

Key lawmakers who have studied ways to complete the network's final construction phase are pushing a financing plan that would tap gambling profits.

April 13, 1995

LAWMAKERS OPPOSED

Plan to finish fiber-optic net faces trouble

By DAVID YEPSEN
REGISTER STAFF WRITER

Gov. Terry Branstad went to bat for the state's beleaguered fiber-optic communications network Wednesday, bringing out education leaders to argue for completing the system and extending it to each Iowa school.

Also Wednesday, the board governing the system presented lawmakers with a $95 million plan for completing it.

But key lawmakers said that the latest plan from the board would not fly in the Legislature and that they would approve only a scaled-down plan to complete the network. Branstad said he planned to work with lawmakers to try to win votes for approval of the board plan.

The governor said he plans to visit with Senate Majority Leader Wally Horn to try to persuade him to change his opposition to using gambling revenues to complete the network. Horn calls the network a "black hole" and says he wants to use that money for other programs or tax cuts.

The network's governing board sent lawmakers a proposal to complete the plan by 2005 at a cost of $95 million. Fiber-optic cables would be laid to 474 schools, area education agencies and libraries and leased to the state for use in the network. The state has spent $180 million to build its own backbone system into each county.

State Rep. Bob Brunkhorst, the Waverly Republican who heads the House committee governing the network, said he expects House members to reject the board plan today.

Brunkhorst said House members want to connect only schools to the network through a five-year plan. Sites that are connected each year would be put up for bid.

Sen. Bob Dvorsky, the Coralville Democrat who heads the Senate oversight committee, said, "The climate isn't too good right now" for the network in the Senate. He said the board's plan is sound but will require "a lot of education" before senators will agree to it.

ICN: How will it help Iowa's future?

Iowa View/ **EDWARD A. RASTOVSKI**



Big picture: A tool for Iowa's children

Why would we make such a significant investment in ICN and then not complete the network?

The fiber-optics network was built for the children of Iowa and we've lost sight of this big picture in favor of small vignettes that are calculated to distract us. The main purpose of the Iowa Communications Network (ICN) is to give Iowa's children — especially in small communities — fair and equitable access to learning.

Today we have at least one ICN site in each Iowa county. Since the ICN began operation in 1993, it has logged more than 150,000 hours in educational sessions. It is such a popular learning tool that whole classes travel distances just to use the network.

Some of the children in our district travel more than an hour to school each way each day. Because we don't have ICN and since our students could greatly benefit from classes offered over the network, we would have no alternative but for them to travel even farther in a school day. We're not alone. About 80 percent of the state's children live in medium- to smaller-sized communities and travel some distance for various learning opportunities.

Subjects such as calculus and Russian are generally only available in larger school districts. Now students can have access to courses like these, thanks to ICN. But our students can't, because they'd have to travel to Harlan or Council Bluffs, both about 25 miles away.

Why would we make such a significant investment in ICN and then deny our children the opportunity for distance education by not completing the network and hooking up 500 schools, area education agencies and libraries?

ICN is not a telephone company. Of course it can carry telephone traffic, but its mission is to provide access to a vast range of information and sources. One of the greatest uses schools hope to make of Iowa's fiber-optics network is to access the Internet. For very little money, we can tap into the Internet and its incredible array of data and learning opportunities.

Kids in southwest Iowa have had a taste of travel on the Internet via the ICN. Their teacher took them on a "virtual" trip to Brazil to learn about the rain forest. Other children have talked to pen pals in England and Japan using the Internet. In the near future with small cameras attached to computers, the ICN will enable these children to see their friends in other countries.

There is the question of funding the ICN. The expectation expressed by some that the network will pay for itself, particularly with a limited number of sites, depends on how the state and our elected leaders view this asset, and how they charge for its use.

ICN is an educational resource, as much as textbooks and school buildings. We do not expect textbooks to "pay their own way." As taxpayers, we invest in these resources so we can ensure a well-educated citizenry, a direct benefit to us all.

How do we assess the value in having students at a rural school provided the opportunity to take a class normally offered only in larger districts? How do we place a dollar value on a working parent getting a college degree without having to travel many miles? How important is it to us that rural businesses offer quality, cost-effective training opportunities.

Some elected officials have called for the sale of the network. Apart from the complexities of valuing the network for sale, it is important to consider what would happen to our children and their learning opportunities if ICN were sold. There is a fairly clear example that illustrates what is likely to happen. A similar network owned by a North Carolina consortium charges schools $91 an hour. Few rural schools in Iowa could afford such a tab. That's why ICN needs to be treated like a textbook — an investment in an educational resource.

Certainly all of us in rural Iowa are prepared to carry our fair share of the cost. Those of us who have applied to be hooked up to ICN are prepared to spend $40,000 to furnish our own ICN classroom. Our community just passed a bond issue to pay for our classroom. More than 300 schools and communities are working hard to raise funds for ICN rooms, computers and computer networks.

Why wouldn't we pursue the many potential revenue streams for ICN that would enable the network to offset the hourly costs of distance learning?

Iowa's fiber-optics network is, to quote a national publication, "the envy of the states." We have again demonstrated our ingenuity and leadership in technology. We invented the first digital computer and the original fax technology in Iowa, and now we have the first digital fiber-optics system. But we let the computer and the fax get away from us. Are we prepared to let that happen with our first-in-the-world fiber-optics network?

If we do not act now to complete the network, we risk losing sight of the big picture and getting trapped in the small vignette. I hope we don't do that, for our children's sake.

EDWARD A. RASTOVSKI *is superintendent of Tri-Center Schools in Neola.*

Des Moines Register
April 16, 1995

Terri

A 200-mile-wide classroom

By NANCY CLARK



Mark Engle didn't have any volunteers when he asked his high-school Russian III-IV students to present their projects to the class. So he called on Thomas Voss.

, like, in no English?" Voss

glish," Engle said.

; stepped up to a computer
)irit Lake classroom and
; presentation in Russian.
ıosen to show information-
ıat travelers might encoun-
ssia — post office, hotel,
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His classmates watched
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liller was next, telling a
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ı classroom by using pic-
ı Russian captions.

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ts watched the monitors
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Marshalltown students
ınd took notes. And so did
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:lass was over, his Mar-
ı students grabbed their
s and yelled their good-
so did his Spirit Lake stu-

you see, has a 200-mile-
;room. One of the pioneers
:e learning, Engle teaches
) students in Marshalltown and Spirit Lake simultaneously over the Iowa Communications Network. The two classrooms are linked by fiber-optic cables.

Everything that goes on in the Marshalltown classroom, where the class originates, can be seen and heard by Spirit Lake students. And everything that goes on in the Spirit Lake classroom can be seen and heard by Engle and the Marshalltown students.

When Voss and Fuller gave their presentations, it was just as if they were in the Marshalltown classroom. When Miller gave his presentation, Spirit Lake students didn't miss a thing.

The two classes are as one.

"It's like they're all in one classroom, with Marshalltown students at the front and Spirit Lake students at the back," Engle said.

That's exactly the way the educators and lawmakers who established the Iowa Communications Network envisioned it would be used. One Iowa school that had something special to offer would share it with another, enhancing education throughout the state.

When class was over, his Marshalltown students grabbed their backpacks and yelled their goodbyes. And so did his Spirit Lake students.

That's what made it worth the expenditure of $180 million to lay the backbone of the network to at least one point in all 99 counties. And that's why educators, now that they have seen the possibilities, are clamoring for the state to complete the network by connecting it to more than 400 additional sites.

The network, even though unfinished, carries 70 to 80 events a day. Multiply that by five or six to get some idea of how the fiber-optic lines will be humming with distance learning once all sites are connected.

Spirit Lake's dozen or so Russian students are delighted that their school was one of the first to get an ICN classroom. Distance learning has expanded their horizons, and even boosted their career prospects: One Spirit Lake graduate landed a job at a Des Moines hotel because of her knowledge of Russian.

Spirit Lake students like the novelty of being connected to a faraway class. But on the other hand, they say it's not so novel: The classroom experience is about the same as if the teacher were only a few feet away.

Engle stands, in fact, before the Marshalltown class at a desk equipped with all the tools of distance learning. He controls, by touching a computer screen, the three video cameras (front, back, overhead) in the Marshalltown classroom and the computer that students used for presentations, a videocassette recorder and a laserdisc player.

Much like a television director would, Engle switches the shots on the monitors from a Marshalltown computer presentation to the Spirit Lake classroom to a close-up of a student's homework back to a shot of the Marshalltown classroom. The monitor at the back of Engle's classroom continuously shows Spirit Lake so Engle has a constant view of those students.

And he does see everything.

"Put your chair down and turn around in your seat," he scolded one bouncy Spirit Lake student who leaned so far back in her chair she could have toppled over.

Even when he says those seven little words that make any high-school student cringe — "Take out a blank piece of paper" — Engle is in control.

It's a pop quiz, and Peggy Voss, the facilitator who sits in on Engle's classes, pops out of her seat in Spirit Lake. She stays quietly seated unless there is a situation — such as a test — that requires adult supervision.

Engle called out 15 Russian vocabulary words, and students in Marshalltown and Spirit Lake wrote them down. On his monitor, Engle noticed one of his Spirit Lake students talking.

"Yuri, be quiet," Engle said, and Voss made sure that he was.

After class, a Spirit Lake girl picked up the microphone to talk to a Marshalltown girl.

"Hey, I'll be in Marshalltown this weekend," she said.

(CONT.

DES MOINES REGISTER
APRIL 16, 1995

Iowa's 'black hole' can glow

What will it take for lawmakers to see the light on the ICN?

The state's fiber-optic network was first called a "black hole" back when there was nothing to show for the money being spent on its development.

It's still being called a black hole by lawmakers who should now know better.

In 1991, State Auditor Richard Johnson asked that construction of the telecommunications network's 3,000-mile backbone be suspended, warning that the project could become a "potential black hole for taxpayers."

Others picked up the refrain:

State Senator Mary Neuhauser, 1993: "Frankly it's turned into a black hole."

State Treasurer Michael Fitzgerald, 1993: "It's a big financial burden to the state, and so far, it's been a black hole."

State Senator Mike Connolly, 1995: "I think it's become the black hole of our budget."

And Senate Majority Leader Wally Horn, just last week, on excess gambling revenues that could be earmarked for completing the fiber-optic network: "It should be spent for something that's good — or spent for tax cuts or some programs — rather than put it in that black hole."

Black hole? The Spirit Lake high-school students who are learning Russian over the Iowa Communications Network from a teacher in Marshalltown would say, "Nyet, nyet."

They, and other Iowa educators who are clamoring to get ICN classrooms for distance learning in their schools, see the fiber-optic network not as a black hole, but as a bright light.

They're eager to become illuminated, to tap into the new source of information, knowledge and learning.

Only 54 school districts were connected to the

> **The Spirit Lake students would say, "Nyet, nyet."**

ICN when the backbone was built; districts statewide want to hook up more than 400 additional K-12 sites. Districts are beginning to equip ICN classrooms and train staff in anticipation of being connected to the network by 2000.

Educators consider the ICN as much a tool of learning as textbooks. To call the ICN a black hole, to educators, is the same as calling textbooks a black hole.

Educators wonder why lawmakers who are pushing the sale of the network would put such a vital educational tool in the hands of private, profit-driven companies.

They wonder why lawmakers have put on blinders that obscure the network's worth, allowing only a narrow, political view.

They wonder why, when a plan has been offered to complete the network, lawmakers rip it apart, along with those who devised it.

They wonder what it will take for lawmakers to climb out of their black hole and see the light.

DES MOINES REGISTER
4/20/95

Plan offered for finishing fiber network

By DAVID YEPSEN
REGISTER STAFF WRITER

Legislative leaders said Wednesday they plan to introduce in the Senate an $84 million plan to complete the state's fiber-optic network.

A key senator said the vote "will be real close."

Sen. Robert Dvorsky, the Coralville Democrat who heads the Senate committee that oversees the network, said he will ask his colleagues to approve the plan. The money would come from better-than-expected gambling profits and would be spent over four years to connect schools and area education agencies.

House leaders say opposition to the network is strongest in the Senate. They have told Senate leaders to pass what they can, and the House is likely to accept what they approve.

Sen. Derryl McLaren, a Farragut Republican who is the GOP's leading expert on the network, said he will offer a counterplan to connect only a few schools a year over a longer period. He said the state auditor has said lawmakers need to take their time in completing the network, which has been plagued with cost overruns and accusations of mismanagement.

Network supporters say they want to hook up the schools first and then consider selling the state-owned backbone. But McLaren said lawmakers should consider selling the backbone before hooking up schools.

Senator last week rejected the appointments of a governing board member and the director of the network, but Siegrist said that may help win approval of the network. "They feel like they need to redeem themselves because they look bad. . . . I can't believe the Senate can pass anything but I hope they can."

Lawmakers say they'll consider selling the network next year.

Des Moines Register 4/29/95

wmakers OK $95 million fiber-optic plan

They'll return to the Statehouse Monday to finish this year's business.

By JONATHAN ROOS and THOMAS A. FOGARTY
REGISTER STAFF WRITERS

Bleary-eyed Iowa senators voted early today to send the governor a bill that would spend $95 million over the next four years to complete the state's controversial fiber-optic communications system.

The 31-19 vote came as lawmakers pushed to finish this year's legislative session. They planned to return Monday to finish remaining business, mostly budget bills.

The bill, which would lay cable to 361 schools, libraries and area education agencies, had passed the House Thursday on a 70-26 vote.

Gov. Terry Branstad has backed the plan.

Senators defeated several amendments as they debated the issue into the night Friday.

On a 27-23 vote, senators rejected an amendment to limit to just one year the state's commitment to the third and final phase of the Iowa Communications Network. The amendment, which was offered by Sen. Derryl McLaren, R-Farragut, would have reduced the commitment to just $18.5 million and would have connected 102 sites to the network, most of them high schools.

McLaren, one of the harshest legislative critics of the network, urged colleagues to avoid locking into a four-year commitment to completing the project, which he considers too costly and inefficient.

"If we vote for the bill as it is, we'll have no choices," said McLaren. "We won't be making a one-year mistake, we'll be making a four-year mistake."

Recalling the star-crossed past of the network, McLaren told colleagues the vote on his amendment to pare back the commitment "is the last chance we have to do something rational."

Sen. Robert Dvorsky, D-Coralville, the floor manager of the legislation, rebutted McLaren's arguments. Dvorsky said the four-year plan still would require lawmakers to vote each year to appropriate money for the following year's construction. Dvorsky also said the plan could be pre-empted if the Legislature decides to sell the network to a private company, as is being considered.

Another amendment rejected by the Senate would have used inmate labor to dig the trenches and lay the cable needed to complete the system, which was first authorized in 1989.

"They're going to come out of prison with more marketable skills than if we sent them to the upholstery shop," said Sen. Randal Giannetto, D-Marshalltown, who offered the inmate labor amendment. Lawmakers rejected the proposal, 28-21.

The vote came after legislative

SESSION *Please turn to Page* **6A**

DES MOINES REGISTER
6/5/95

BRANSTAD WILL NEVER AGREE TO SELL, ANYWAY

Study of ICN sale tainted

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For Sale. One of A Kind. Best Offer: The Iowa Communications Network board is going to do a "study" of whether the state should sell the network's fiber-optic cables and equipment. It looks like your basic political fig leaf.

At $250,000, it's an expensive loincloth. No matter what it concludes, it's not going to resolve the debate over the network.

During the session, as legislative leaders and the governor tried to round up enough votes to pay for finishing the $500 million network, they kept running into opposition from lawmakers who said the thing was a mistake and the state shouldn't run a telephone company.

So in order to pick up the votes they needed to finish it, legislative leaders and the governor agreed they'd consider selling it. It was a classic legislative solution to the problem — by studying a problem they can look like they are doing something without really doing anything. Lawmakers can tell local phone companies that are being cheated by this network that "we're studying a sale."

What they won't tell you is the governor has little intention of selling the network he sees as his legacy. He was willing to posture to get the appropriations he needed to finish it or get Fred Grandy off his back in the primary but the inside word is he's never going to sign a bill selling off the network.



ON CAPITOL HILL



David
YEPSEN

The study will be done during the summer and fall and be ready when lawmakers arrive for their 1996 session. They can vote to sell or keep the network in the hope of getting rid of the whole issue before the next election. They agreed to spend $250,000 for the study.

But it wasn't that smooth. Tommy Thompson, the director of the network, checked around with the big accounting firms who study such things for businesses and were told a legit study would cost millions and take months.

For one thing, the messy books kept by the overworked staffers at the ICN would have to be cleaned up. Fair market values of things would have to be calculated. (No one has ever sold one of these before since other states have been smart enough not to build their own.) And what would be sold and what wouldn't? And how do they sell state-owned equipment that's in, or on, federal property?

Thompson tried to tell leaders an honest study would cost more than they were spending but they chose to ignore him. They wanted the votes to approve completion of the network and a sham "study" members could hide behind.

So leaders told the commission to use the money to do its own study, that they didn't want to spend more. Not only was the work to be done quickly and on the cheap, it's being done by the very people who would be put out of work if the "study" said the network should be sold.

Consultants doing the report will be hired by the ICN board. Thompson candidly says he thinks the state should keep the network for at least several more years. So a study he and the board manage will be a little like asking the general manager of WOI-TV to do a study for Iowa State on whether that station should be sold, or the head of the liquor monopoly studying whether state government should run the liquor industry.

Any bets on what will be found? If the "study" recommends the network be kept, it'll be seen as nothing more than a whitewash by a bunch of job-protecting bureaucrats. If the "study" recommends the network be sold, supporters of the system will say the network is falling victim to a gimmick and the state is unloading a valuable asset.

To do the discount study, network officials are assembling a "task force" of basically anyone interested in the network to make recommendations to them. A few low-budget consultants will be hired by the board to gloss it up.

Will they tell board members and Thompson things they don't want to hear? It's unlikely groups with a vested interest in whether the network should be kept or sold will give honest opinions.

But come to think of it, honesty and objectivity are words not often used in connection with the fiber-optic network. It was born in a back-room deal, shoved down legislators' throats on a non-amendable conference committee report by leaders and officials who now earn six-figure incomes lobbying or doing legal work for the network.

Who wants to sell a train that produces gravy like that?

•

One option is to turn the network into a public utility. It would be owned by the state but operated by a private business. The problem with that is if the government owns the cables, the pressures will always be on statehouse politicians to give one interest group or another some space on the network at taxpayer-subsidized rates. For example, local telephone officials say Senator Tom Harkin leaned on his friends at Mercy Hospital in Des Moines to put their traffic on the ICN instead of going with private companies.

One thing to remember is that sale or no, the students in Iowa will get a communications network. Everyone believes in providing distance learning for children. The question is how best to get it to them and Iowa doesn't have to own fiber-optic cables to h an ICN telecommunications netv serving schools.

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Horserace Journalism: Bet a more money on Jonathan Wils campaign for re-election to the Moines School Board. The relig conservatives are seeking to oust son after he revealed he's homose Wilson has hired Tom Jochum, Steffen and Phil Roeder to run his paign. Jochum is a former state leg tor, Steffen is an expert at use of puter technologies in election get-out-the-vote drives. Roeder i guy who ran Bonnie Campbell's paign for governor.

This gives Wilson some he weight political talent in the f Many of the Christian Coalition nizers who could toe to toe with trio are off working in preside campaigns. The political street ta that Daniel Winegarden, a health-care official, is being urg get in the race to oust Wilson fron Des Moines School Board. Winega is on Phil Gramm's Iowa steering mittee.

•

Passages: Christine Hurley, wi state Rep. Chuck Hurley, has sign as commentator Alan Keyes campaign director. And GOP sta Jason Gross and Kathryn Curran gone to work for California Gov. Wilson's campaign in Iowa.

Wilson's expected in Iowa on hi nouncement tour, where Senate M ity Leader Jack Rife will make a p endorsement. Also, Marlene El the talented Michigan political o tive who organized Iowa for Pat ertson and who helped defeat th proposed ERA in Iowa, has go work for Pat Buchanan's campaig

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And Finally: Bob Dole's got a stump one-liner these days. He audiences he rarely campaigns his wife, Elizabeth, who is the he the Red Cross.

"She's always trying to start a drive," Dole quips. He says that's cially true at fund-raising event gets kind of messy. She wants t your vein. I'm trying to find wallet."

DAVID YEPSEN *is The Register's po editor.*

Let consumers decide communications debate

Congress is rewriting this nation's 60-year-old communications law, and the stakes are high for anyone who uses a telephone, television, fax machine, e-mail or other form of electronic communication.

In June, the Senate passed landmark legislation that sets the rules for opening all communications markets to competition — local phone, long distance and cable TV. The House is expected to consider legislation that is far more regulatory and restrictive.

Rhetoric surrounding the telecommunications debate can be hard to follow, but what it means for consumers is pretty easy to understand: How much will consumers pay for local telephone, long-distance and cable-television service? And will consumers have the freedom to choose where they get their services, or will the federal government choose for them?

Two prevailing views have emerged on how Congress should open the communications industry to greater competition. One is full competition — opening all markets to all providers for all services. The other is restricted competition — holding back local phone companies from entering new lines of business until competitors firmly establish themselves in the local telephone market.

U S WEST's position is clear: If AT & T and other long-distance carriers can exercise their financial and marketing muscle and compete in our local phone markets, we should be able to compete in theirs.

We believe that more competition and less regulation are the keys to lower prices and more service choices for consumers. Anything short of full competition is unfair to customers in Iowa who want lower prices and greater choice and convenience.

The House telecommunications bill (H.R. 1555) falls seriously short of creating the open markets that true reform demands. Despite the public mandate of last November's elections for less government bureaucracy, that bill is mired in regulatory red tape that will deny consumers the benefits of real competition for years to come.

Characterized as a "deregulatory" bill, it would in fact add 180 new federal regulations to the books and require 275 federal employees to oversee the legislation's requirements.

The House bill also plays favorites as to who can enter which market when. While the bill allows long-distance companies to enter the local phone market immediately, it shuts out U S WEST from long-distance business for years. We aren't asking for special favors, only for the opportunity to compete and give customers what they want: one-stop shopping for local, long-distance and cable services.

It's clear that new entrants in the local phone market — including giant multinational companies like AT & T and MCI — are looking for high-volume, high-revenue business customers, primarily in metropolitan areas. Given traditional pricing policies where some services are priced artificially high so residential service can be priced below cost, local telephone companies are particularly vulnerable to new competitors who "cherry pick" lucrative customer groups and disregard residential consumers.

No one in the communications industry should be protected from real competition behind a wall of red tape.

The best way to give consumers greater choice, lower prices and better service is to open all markets to all competitors now. Consumers — not Congress — should decide the winners and losers in the telecommunications marketplace.

TERESA WAHLERT *is vice president-Iowa of U S WEST Communications.*



More competition and less regulation are the keys to lower prices and more service choices

O.M. Reg. 07-12-95

New choices for utility customers

Cedar Falls buzzing: 2 fiber-optic options

By JACK HOVELSON
Of The Register's Waterloo Bureau

Cedar Falls, Ia. — Residents of Iowa's 10th-largest city are poised at the on-ramp of the information superhighway with a choice of rides.

Within a year it may be possible for Cedar Falls citizens with personal computers to shop and bank from home, tap into local libraries, hospitals, government offices and other agencies for information and services, and "run" other errands without stepping outside their doors.

Some will do it on a link-up of coaxial and fiber-optic cables being installed by Cedar Falls Municipal Utilities, the city-owned operation that provides electricity, natural gas and water here. Voters last fall overwhelmingly authorized Municipal Utilities to get into the race.

"Dark Horse"

The Cedar Falls project is being watched closely as a precedent-setter for other communities with city-owned utility companies. A recent Wall Street Journal article noted that some experts believe electric utility companies are "the dark horse in the race to wire your home to the information highway."

"Fifty utility companies are looking at us," says Municipal Utilities market director Doris J. Kelley. "Cedar Falls is in the running to be one of the first in the country to establish a citywide full-service network. We've had letters from as far as California."

Cedar Falls Utilities also will be able to provide cable TV service to the city through its fiber-optic/coaxial cable system. That, of course, has the attention of TCI of Northern Iowa, the Waterloo-based company that currently puts cable TV into homes here.

TCI, fearful of losing customers to the municipal cable service, is countering by installing its own fiber-optics system here and is boasting on billboards around town that "We're All The FIBER You'll Need."

Failed Campaign

TCI tried last fall to convince Cedar Falls voters that they were risking their tax money in the proposed utility company — private companies would build the system anyway, TCI claimed — but the measure passed with a 70 percent majority.

Municipal Utilities moved quickly to fulfill the mandate. It expects to have 43 miles of fiber-optic cable, plus 150 miles of coaxial cable, in place by the end of 1995. The entire system is expected to be completed by next summer, utility officials say.

The fiber-optic cable will be the artery for high-speed, direct distribution of information to industries, schools and government buildings.

The fiber-optic cable also will connect with "neighborhood nodes," where coaxial cable lines will branch out to homes and some businesses.

"First in Iowa"

"We will be the first in Iowa with a full-service network," says Municipal Utilities' Curtis S. Johnson, manager of electric and communications engineering.

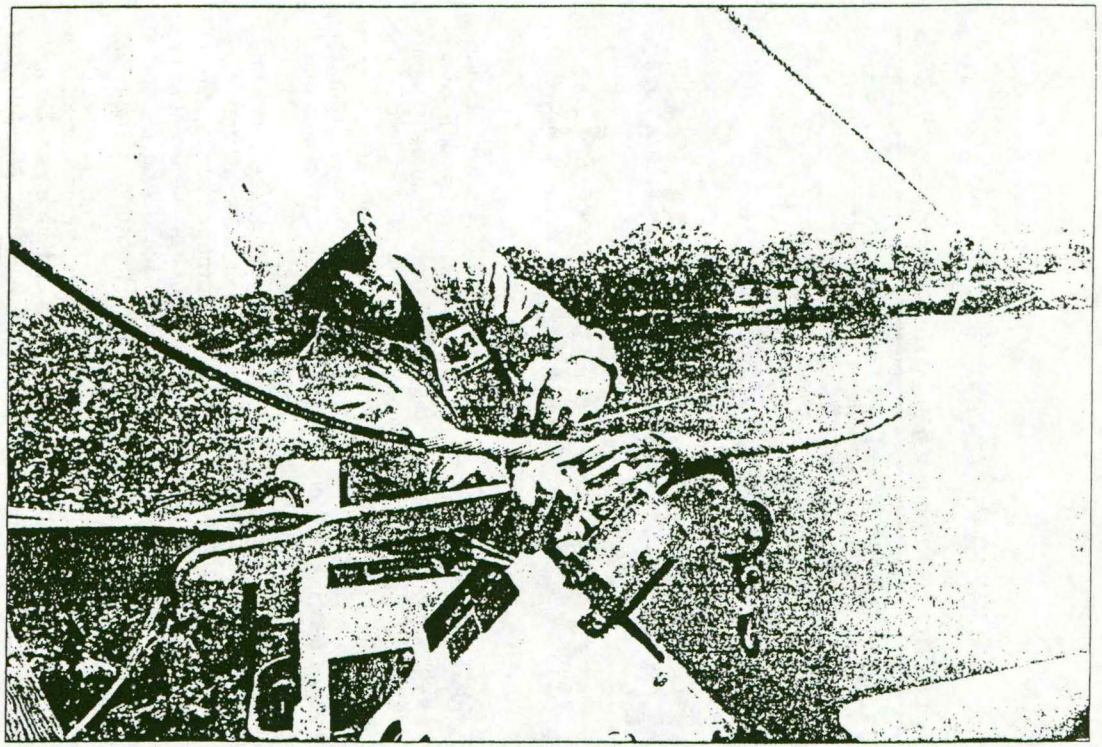
Public backing of the Municipal Utilities project has been enhanced by an established positive image here of the agency that annually returns about $1 million to the city's general fund. Also, there has been some dissatisfaction with the quality of cable TV service in the community.

TCI says its new $3.2 million fiber-optic network will expand and improve cable TV service that was installed in the late 1970s. The company contends it doesn't object to competition — in fact, welcomes it — but is opposed to it coming from a municipal enterprise.

"What we don't like about the Cedar Falls system is that our regulator — the city of Cedar Falls — will be our competitor. How many other businesses out there today are controlled by their competition?" TCI marketing manager Debora Blume points out.

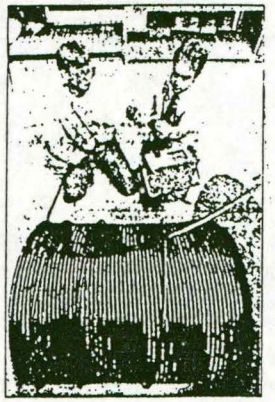
"We're not kicking TCI out of town," says Municipal Utilities' Johnson. "We do business with them. We have a 5-year pole-attachment agreement with them that pays us around $18,000 a year."

Municipal Utilities officials are hoping to sign up 4,000 to 6,000 residential customers for a ride on the information highway, or roughly half of the total potential in Cedar



HARRY BAUMERT/Register Photos

Craig Schwickerath of Cedar Falls Municipal Utilities works with fiber-optic cable suspended between utility poles over the Cedar River.



Dave Schilling, left, and Bob

DSM REGISTER
8/27/95

Fiber-optic system's fate up in the air

Should Iowa sell the network? A task force has been studying options for the controversial communications system.

By JONATHAN ROOS
and HOLLI HARTMAN
REGISTER STAFF WRITERS

Iowa officials are preparing to make a blockbuster decision in which taxpayers, schools and businesses have a major stake.

The decision boils down to a pair of deceptively simple questions: Should the state sell or keep its fiber-optic communications network, one of the largest and most expensive projects ever undertaken by state government?

Or, is there a middle ground involving the creation of some form of public-private partnership?

Several companies may be interested in buying the Iowa Communications Network for a price dwarfing the $12.7 million sale of another state asset, WOI-TV, in 1994.

In return for ending what critics view as unfair competition with the telephone industry, the state would get a pot of money that could exceed $100 million.

The buyer would assume ownership of more than 3,000 miles of optical fiber cable that connects every county. The buyer's new customers would include schools and colleges, hospitals, government offices and libraries.

A Leg Up

The network's statewide reach could give the purchaser a leg up on rivals in the rapidly changing telecommunications business.

"The buyer would quickly have the second-largest telephone company in Iowa, second only to US West," said Bob Eide, vice president of MFS Network Technologies of Omaha, which built the network's backbone.

Selling or leasing the state-owned portion of the network also poses several risks:

- Competitors may object that the new network operator has gained an unfair advantage.
- Schools could be left hanging by a glass thread unless they receive written guarantees of continued access to the fiber-optic network at an affordable price.
- Federal agencies, whose investment in the network is approaching $50 million, could demand some of that money back if an ownership change interferes with their use of the system.

> **"Philosophically, we don't think the state should be in competition with the private sector."**
>
> — Kent Jerome
> *Iowa Telephone Association*

There are also complicated legal hurdles to clear.

"A lot of that complication stems from the fact that this wasn't a project done in one setting with a neat set of agreements. It's been piecemealed," said Assistant Iowa Attorney General Chris Scase, who reviewed legal issues for a 12-member task force studying network options.

The group is scheduled to complete its work this week and report its findings to the network's governing board.

"There are literally hundreds and hundreds of right-of-way agreements, easement agreements, different types of use contracts there," Scase said. "And then we have funding from state appropriations and no less than five federal agencies."

One of the stickier problems is pro-

NETWORK *Please turn to Page* 2A

DSM REGISTER
10/8/95

Fate of fiber-optic system is up in the air

NETWORK

Continued from Page 2A

West's vice president for Iowa.

"Under current regulations, US West and GTE, Iowa's second-largest regulated telephone company, would be unable to buy the network. US West feels the state should look toward hiring a company to manage the network — something it would be interested in doing.

Another company not interested in buying the network is Tele-Communications Inc., Iowa's largest cable television company. The company already is moving forward on replacing much of its cable system with fiber-optic wire.

"It doesn't fit in with our strategy for updating our facilities," said David Oman, Tele-Communication's director of state government affairs.

Others Interested

But there could be several other companies interested in buying the network. Jerome from the telephone association ticked off a handful: local phone companies, Cedar Rapids telecommunications entrepreneur Clark McLeod, long-distance companies such as AT&T or MCI, other cable companies — even out-of-state Baby Bells.

Interest has grown because the telecommunications industry is quickly moving toward deregulation and local telephone competition.

The most vocal potential buyer has been Iowa Network Services, a consortium of 133 small, independent telephone companies. If the state were to sell, "INS would be at the table," said Dick Vohs, the company's spokesman.

Iowa Network Services would use the network to expand its already large fiber-optic network. During the 1994 legislative session, the company made an unsolicited $103 million offer for the entire state network, or $64 million for the cable only.

The offer expired later, but pressure in the Legislature to sell the network has increased since then.

Vohs said he is not sure what the network's worth is now. Jerome's estimate is $110 million maximum.

The value would depend on the conditions of the sale. The more strings attached, the less a buyer would be willing to pay, Vohs said.

Affordable Rates

Requiring the buyer to assure affordable rates for current users poses a problem. Right now, schools pay only $5 an hour for two-way video service, a price private industry would find "extremely difficult" to meet, said Wahlert of US West.

"They couldn't meet that expectation without some subsidy" from the state, she said.

MFS Network Technologies, which operates private fiber-optic networks for business customers, charges up to $200 an hour for video conferencing, said Eide.

MFS also may consider a bid for the network if it's put on the block. But Eide said that selling the state network would not be the best option for the state.

"I don't think they'll ever get a better deal than what they have right now," he said.

Others say it's not simply a business decision.

"Getting rid of this network doesn't solve the problem of how you get schools into the information age," said Harold "Tommy" Thompson, chief operating officer of the Iowa Communications Network. "If you don't settle that you could make a tragic mistake."

DUFFY'S VIEW



DSM REGISTER
10/10/95

The Des Moines Register

A GANNETT NEWSPAPER

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THE REGISTER'S EDITORIALS

Don't sell the network — yet

Finish the Iowa fiber-optic system before deciding who should own it.

No drum roll, please. Not for the anticlimactic findings of a task force studying the future of the state's $500 million fiber-optic telecommunications system. The group didn't say anything new, exciting or controversial. Handed a live grenade by the Iowa Legislature, the task force simply lobbed it right back, set to explode during the 1996 session.

Legislators will decide — using a little background information from the task force — whether the state should retain or sell the network. But they'll have to decide on their own, without being able to cite from a conclusive task-force report when explaining their votes to the telephone-company lobbyists.

The state should keep the network, at least for now. That's the right and the sensible thing to do.

The network, although not yet complete, already has proved its worth as an educational tool. Its two-way video and audio hookups also make state government more efficient and less costly, and provide exciting new means of connecting people.

But the telephone companies think those things should be left to private companies.

"Philosophically, we don't think the state should be in competition with the private sector," Kent Jerome, a spokesman for the Iowa Telephone Association, said.

While that may be generally true, there are plenty of exceptions. Should the state sell the University of Iowa because it competes with Drake University? Of course not. Should state parks be sold because they compete with private campgrounds? Unthinkable. Should the State Capitol have a "For Sale" sign on the lawn because space is available in downtown office buildings? No way.

It isn't always wrong for the state to compete with private enterprises. The Legislature needs a better excuse than that if it decides to sell. The question is, how would the public be better served?

The fiber-optic network is proving to be as beneficial and useful to the state as educational institutions, parks and public buildings — and it hasn't even been completed. In a few years, it will be extended to every school district in the state that wants it, and to many libraries and other public facilities. Its potential is unlimited.

Before making any irrevocable decision regarding the network, the state should finish it, give it a chance to grow, and see then whether it's still the good deal that Gov. Terry Branstad promised in the 1980s.

U S West Gets OK for Tests

BY MELINDA NORRIS
WORLD-HERALD STAFF WRITER

U S West Communications Inc. began offering cable television in the west Omaha area Thursday after getting the nod from the Federal Communications Commission.

The FCC application, which was granted late Wednesday, sets in motion a one-year cable television test that could involve up to 50,000 households — the largest test market so far in the Baby Bells' quest to become television providers.

The purpose of the market test is to determine whether consumers will want U S West's service, what they are willing to pay, which channels they like and eventually how they respond to interactive television. U S West has said that if the Omaha trial is successful, the company plans to offer cable and interactive television in other cities in its 14-state service area.

U S West is confident that it will attract enough customers to make the market test a success, said Larry S. Levine, vice president and general manager of broadband and multimedia services.

Levine declined to reveal how many households U S West hopes to attract, but said he was sure the Omaha test would surpass the company's in-house targets.

"We think that a significant number of people will find this a real choice," Levine said.

U S West is going head-to-head with Cox Communications Inc. of Omaha to provide cable services to west Omaha residents.

Michael Kohler, communications manager, said that Cox was not threatened by the new competitor. Cox competes with other cable operators and wireless providers and has consistently increased its market share, he said.

"Because our business plan and operations will remain customer-focused, any new entry into the Omaha video marketplace will face a formidable foe in Cox as we continue to earn our customers'

television program offerings to 58 channels in west Omaha, where U S West is conducting its trial. These channels will eventually be offered throughout the Cox viewing area.

West Omaha Cox customers get ESPN2 and the Home Shopping Network and will be getting the History Channel, Classic Sports, Country Music TV, Bravo (a fine arts station), Home & Garden and Turner Classic Movies.

Most of these channels also are in U S West's 55-channel line-up.

U S West also will offer the Sega Channel, which includes up to 50 games that can be used with a home Sega Genesis game system.

Cox said it will begin offering Sega next month.

U S West's basic 12-channel cable package will sell for $5.95 per month and include local, educational and government channels. There also is an installation fee.

Cox said earlier this week that it would provide a similar package for free but that an installation cost would be charged.

Both companies also have plans to introduce interactive television in Omaha.

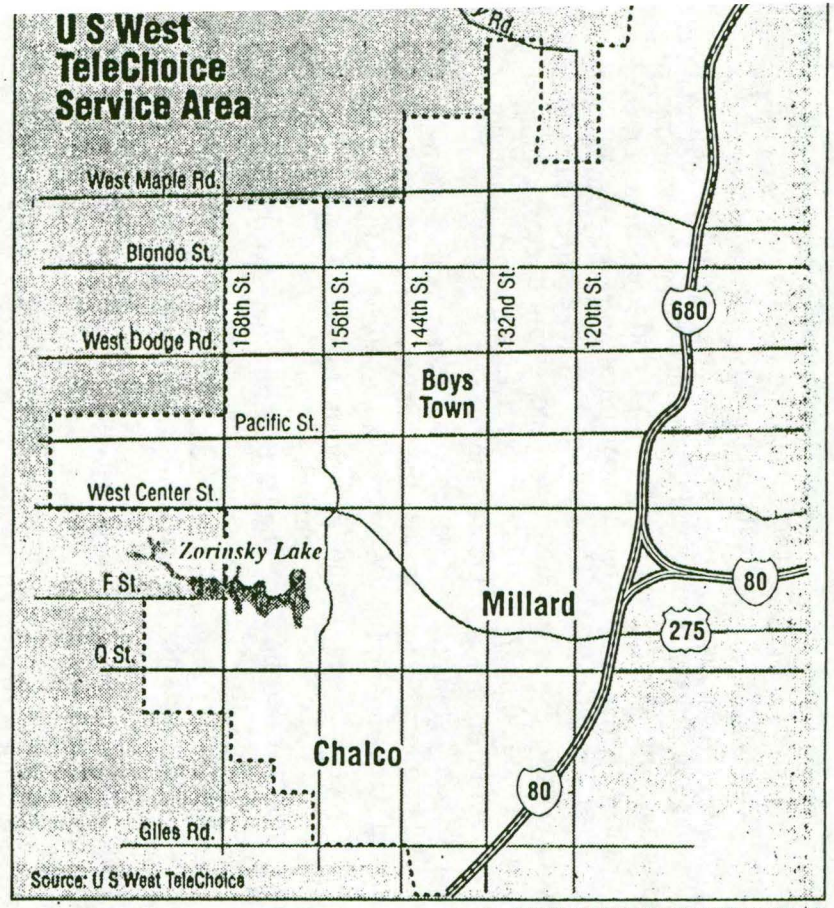
Cox said that it continued to test its interactive system and that it planned to unveil it soon.

U S West said it will have its interactive system available before the end of the one-year trial.

U S West has been testing interactive television in Omaha in about 200 households for the past year. The company has said it wants to improve the quality of the service before offering it to the general public.

With interactive television, individual households will be able to watch movies, comedy shows and other programs instantly by choosing from items on a menu on their television screens. Devices attached to each television will transmit program requests to U S West, which will instantly deliver the individual programs to each household.

At the end of the one-year test, U S West will examine the results and deter-



DARRELL FORBES/THE WORLD-HERALD

tion of leaving the market, he said. Offering television service is part of a long-term plan by U S West to diversify its communication services to include long-distance and data services, among others.

The pricing tariff approved by the FCC Wednesday sets the rates U S West will charge program providers to use its system. The company has been waiting all summer for the approval.

While U S West will be providing the technology behind the cable television service, known in the industry as a Video Dialtone network, a company called Interface Communications Group Inc. will be responsible for channel selection and will determine retail pricing and packaging of services.

U S West immediately will begin to market its cable service under the name

Road, said Roger Stuhmer, U S West spokesman.

The company has laid most of the cable necessary to provide the service in the test market, he said. In some cases, the wires already are outside homes.

If someone purchases the TeleChoice service, a technician will need to run a wire from the inside of the home to the outside cable, he said.

Interstate 680 and Interstate 80 form the eastern boundary of the general service area, which will include Millard, Boystown and the Chalco subdivision. The majority of the homes in the service area are east of 168th Street, south of West Maple Road and north of Giles Road.

Homes with the following telephone prefixes may be located in the Tele-Choice service area: 330, 333, 334, 491

BETTENDORF, PLEASANT VALLEY SCHOOLS

Fiber optics link is planned

City studies a way to add schools to intended electronic network of facilities

By Jennifer DeWitt
QUAD-CITY TIMES

The information highway in Bettendorf may be a well-traveled road as the city discusses a proposal to create an "electronic village" to connect the city's facilities to the Bettendorf and Pleasant Valley schools.

The city recently received a state traffic grant to install a fiber optics system to synchronize its traffic signals over the next two years. As cable for that system is laid, the city will install its own fiber atop the traffic system to connect its 13 facilities with voice, data and video capabilities.

Carol Barnes, the city's finance director, said the city knew it would need a fiber optics system to bring up its geographical information system, a computer mapping system for the police, fire and engineering departments.

The city had budgeted for the system this year, but thought its only option for fiber optics was to lease from U.S. West or Cox Cable.

"We're very excited about this opportunity of owning our own fiber, but what makes it more exciting is the city council opened it up to connect with all the other governmental agencies in Bettendorf," she said.

While plotting where the cabling link, or backbone, would connect the traffic signals and city buildings such as city hall, the annex, the library and the fire station, city staff realized it would pass by both school districts' facilities and the Mississippi Bend Area Education Agency.

The schools and the city have until Jan. 5, 1996, to reach an intergovernmental agreement if they choose to participate.

Candy Rivelli, the city's information systems coordinator, said the project caught everyone off guard and the schools had not budgeted for their share of the cost.

Realizing that, the city council voted recently to pay for the installation and bill back the schools, which also will have to pay for linking their facilities to the nearest connections.

"They couldn't probably own systems themselves," Rivelli said. Even the city would not buy its own fiber optics system if it were not tagging on to the traffic system.

"This is leading edge, very few communities are able to do this," she said.

The system would allow for communications between the city and the schools. "This gives us the flexibility to dream, you never know why we might want to be able to communicate," she said.

The best news is the affordability, Barnes said. The city had budgeted about $105,000 to pay for the traffic light synchronization, which is mandated by state law. Now the state's grant money will finance the project and the council will spend the budgeted money on installing the fiber optics system for about $93,000.

Without the traffic project, it would have cost about $405,000 for an outside vendor to install it.

For the other agencies, obstacles include finances and approval by individual boards.

Bettendorf Superintendent John Finnessy said the district must decide if this is the most effective and inexpensive way to proceed.

Fiber optics would provide district-wide communications beyond what is possible by telephone or fax machine. Schools would be able to send documents back and forth between buildings, communicate via video and

Area agencies get $350,000 grant for distance learning

ORANGE CITY, Iowa — Northwestern College has been awarded a $350,000 federal grant on behalf of several agencies that will provide area residents access to the Iowa Communications Network for distance learning and medical services. The grant is from the Rural Utilities Service, a bureau of the U.S. Department of Agriculture.

The grant will enable members of the Community Electronic Link System (CELS) Consortium, which consists of Northwestern College, the MOC-Floyd Valley Community School District, Unity Christian High School, the Orange City Hospital and Clinic, Sioux County, and the city of Orange City, to connect to the Iowa Communications Network (ICN).

"We are very pleased to receive this grant for the college but also and especially for the citizens and agencies in Orange City," said Dr. James Bultman, Northwestern's president. "The college is pleased to serve as the grant agent.

"This grant would not, have occurred without the exceptional effort of Dr. Richard Reitsma, our reference librarian. Richard discovered the grant appropriation, coordinated the efforts of college and community personnel, and served as principal author. On behalf of the college and the community, he is to be commended for this achievement."

Distance learning and video conferencing involve a live video and audio exchange between multiple sites. The potential is endless, according to Reitsma.

For example, local schools could tap into advanced courses that they couldn't afford to offer otherwise, students in science classes could interact with researchers at Iowa State University or the University of Iowa, and students in Spanish classes could have conversations with Spanish-speaking persons in Sioux City or Des Moines. Local farmers could take specialty courses on crop production, small business leaders could learn about new methods of marketing, and area professionals could complete continuing education units or attend workshops, all without having to travel considerable distances. The sheriff could testify at a parole hearing via live video and avoid the expense and time of traveling 200 miles to the federal penitentiary.

The Orange City Hospital and Clinic, through the ICN, will develop a telemedicine department that enables interactive video patient consultations with specialists at major hospitals throughout Iowa. Through telemedicine, patients would be able to be treated by out-of-town specialists without leaving Orange City and local doctors could consult quickly with specialists. The ICN would also be used for continuing medical education and electronic medical record keeping.

The grant provides 60 percent of the funds for projects totaling more than $592,000. The CELS members will each contribute 40 percent of the cost of their individual projects.

The grant provides Northwestern College with $105,373 to become a Point of Presence site on the ICN, serving as a hub linking adjacent institutions to the statewide network. Northwestern will also build a video classroom and route its Internet traffic over the ICN. The Orange City Hospital and Clinic will receive $116,353 to fund a video classroom and connect to the Internet, and Orange City will receive $89,119 t place a video classroom in City Hal and connect that building and th library to the Internet. The grant wi provide $10,483 to Sioux County t link the courthouse and agencies t the Internet.

The MOC-Floyd Valley syster will receive $20,493 for Interne connections to the high school, mid dle school and elementary schools The grant also provides $8,180 t link Unity Christian High School t the Internet.

Reitsma says planning and equip ment acquisition will begin this fall Officials hope to have North western's equipment installed b March and on-site training conducte by June for individuals who wil serve as peer trainers for thei respective institutions. Optimally, al equipment would be operational fo the 1996-97 school year. Rob Robin son, Northwestern's director of com puting services, will serve as projec supervisor.

"This is a unique way for th community to work together," sai Reitsma of the CELS effort. "Thi will, in the long term, have a strong impact on education and health in th Orange City community. The tota focus of CELS is to make moder telecommunication systems available to all population groups within the community."

Reitsma says he is especially pleased about the grant because this region receives proportionately less federal grant money than the national average. From 1983 to 1992, Sioux County and the five contiguous counties received an average of $22(per person in federal grant moneys compared to the Iowa average o $478 per person and the national average of $545.

The CELS grant is funded by the Distance Learning and Medical Link Grant Program of the Rural Utilities Service (RUS). The local grant is the largest of 29 grants awarded to educational and health care organizations in 23 states this year, totaling $7.5 million. RUS received 247 applications requesting a total of $79.8 million.

"This is where the county road meets the information superhighway," said Agriculture Secretary Don Glickman in announcing the RUS grants.

Sioux City

Network helps rural doctors

9/5/95
SCJ A4

LINCOLN, Neb. (AP) — Many rural doctors and medical officials no longer have technological isolation to blame for their wanting to relocate to a larger city.

The University of Nebraska Medical Center has set up 29 computer links that bring rural settings updates on medical care and medicines, and provide treatment information most small-town health care outlets couldn't afford.

The Medical Center planned 30 pharmacy-based rural health information centers financed by a $300,000 grant to the UNMC College of Pharmacy from the U.S. Department of Housing and Urban Development.

Lucinda Miller, director of the Nebraska Drug Information Network, said communities have been receptive to the system and are seeing the benefits.

"This provides tremendous access to medical information," she said. "I'm not aware of any other state doing anything like this. There's no reason anyone in rural Nebraska should be farther removed from medical information than we are in Lincoln and Omaha."

The Medi-Save Pharmacy in York installed its center in May, and it has seen increasing use by doctors and patients, pharmacist Charles Moore said.

One of the most popular features is DynaPulse, which allows users to measure their own blood pressure and record it in the computer and on a printed copy. The computer stores a patient's information over time, giving doctors a glimpse at how they are faring under treatment or medication.

The best feature may be the system's capacity to save money, Miller said.

COURIER 9/14/95 D2

Branstad introduces state's spot on Internet

DES MOINES (AP) — Gov. Terry Branstad was occasionally halting, but insisted he was enthusiastic as he led reporters through what turned into high-tech day for state government.



Gov. Terry Branstad

At his weekly news conference Wednesday, Branstad previewed state government's new presence in the worldwide computer network. As he did, the governor pressed his plan for new spending on technology for Iowa schools.

"Welcome to Iowa state government's debut on the Internet," Branstad said.

The state home page on the World Wide Web features a multicolored map of Iowa and a red, white and blue logo for the 1996 Iowa caucuses. Some sites are identified with a black and yellow marker, shaped like a road sign, and the words "Under Construction."

Computer users can tap into the site and browse through the activities of state government, ranging from job listings at the Department of Employment Services to staffer names at the Department of Natural Resources.

Not all departments are hooked into the system. That could take another couple of months, officials said.

Iowa is hardly setting the pace for state governments, most of which already have a presence on the Internet.

Branstad took reporters on a cruise through the state's new home page, noting along the way that he had brought along several computer experts to help him out if snarls popped up. "Obviously, I feel somewhat inadequate in this field," the governor said.

"I think it's important for me as the leader of this state to encourage and support its moving forward," Branstad said.

Actually, Branstad didn't really lead reporters on the tour, he simply narrated while one staffer manipulated the computer and another stood by to whisper into the governor's ear what was coming next.

The governor also used the occasion to push for a plan he introduced last year to spend $150 million over four years to improve school technology. That plan eventually died in the Legislature, but Branstad said he would push it again when legislators convene in January.

The precise size of that package will likely be adjusted, and its cost has not been determined. Legislators are holding hearings across the state to determine interest in improving school technology.

The Iowa state government's home page can be found at http://www.state.ia.us.

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October 4, 1995

Mr. Kent Jerome
Iowa Telephone Association
1601 22nd St., Suite 209
West Des Moines, IA 50265

Dear Mr. Jerome:

You have asked us to comment on the definition of "private activity bond" under Section 141 of the Internal Revenue Code of 1986 (the "Code") with particular reference to a possible sale or lease of portion of the excess network capacity of the ICN. As background, the interest on a state or local bond will not be exempt from federal income taxation if the bond is a private activity bond, unless it falls within the definition of a "qualified bond". A private activity bond is a bond which meets the "private business use test" and the "private security or payment test" under Section 141(a). An issue meets the private business use test if more than ten percent of the proceeds of the issue are to be used in any private business use. An issue meets the private security or payment test if the payment of the principal of, or the interest on, more than ten percent of the proceeds of the issue is directly or indirectly secured by any interest in or to be derived from payments in respect of property used for a private business use. Private business use means use directly or indirectly in a trade or business carried on by any person other than a governmental unit (the term "governmental unit does not include the United States or any agency or instrumentality thereof). Use as a member of the general public is not taken into account in determining use in a trade or business.

Applying these rules to a possible sale or lease of capacity on the ICN, if more than ten percent of the capacity were sold or leased for use in a trade or business and more than ten percent of the debt service on the bonds issued to finance the ICN came from the sale or lease of the capacity, the bonds would be considered private activity bonds. Since use as a member of the

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II. MATRIX EVALUATION DETAIL

STATE PUBLIC POLICY GROUP
DES MOINES, IOWA

IOWA COMMUNICATIONS NETWORK
461 TASK FORCE - Study of the ICN

MATRIX 1 - Sale Options

13. What are the positive & negative impacts of this option on the state's ability to retain long-term capacity sufficient to meet the present and future needs of currently authorized users?

A. Option 1 - Sale of Network (No Assurances)

Sale of the network to a single entity without assurances entails a great deal of risk. Over the short term, service costs are bound to increase due to the fact that the demonstrated ICN margins are not according to industry standards. Additionally, under the ownership of a private carrier, the extension of access to undeserved and poorer entities would all but cease. Over the longer term, competitive pressure would force the buyer to accommodate the State's existing system users in a cost-effective way; however, it is likely that most, if not all, of the net cash received in the sale of the network would be used up within 5 to 10 years.

The primary barrier to implementing this option is the mandate for ICN to meet the needs of its educational and agency clients in a timely and cost-effective manner at all times. The only reasonable method to partially overcome this barrier would be to sell the network to more than one entity, and create separate logical networks that each vendor could own and control. In order to implement such a Rube Goldberg arrangement, the State would then have to forbid one carrier from buying out the other's capacity, which could run into FCC, Utility Board, and other legal problems.

In short, this option has an extremely high mischief coefficient, and is not recommended because of the short term impact on the current users. All consultants put this option in the bottom 50% of the alternatives.

Although this alternative could be made to work, from the standpoint of the users, they would have longer-term network stability and costs under a scenario whereby excess capacity is leased by the carriers.

19. What positive/negative impacts would this option have on existing telecommunications providers?

A. Option 1 - Sale of Network (No Assurances)

Looking at this option from the carrier's point of view, both LECs and IXCs could benefit as the buyer, assuming the network was sold to the highest bidder. LECs obtain an inter-LATA path, IXCs and CAPS get local access.

Exercising this option would invariably cause churn in the vendor environment, putting pressure on the Utility Board to attempt to equalize the financial impact upon the small Telcos and Cable companies, either by controlling the rate of return or the tariff prices (of course, this is just another way of "providing assurances, which actually reflects option two below). Many companies would consolidate, with consequent loss of local ownership as prices decrease over the long term, even though a short-term benefit may be realized as prices to the private sector increase.

Even if the network is not sold to the highest bidder, or if it was sold to the Independent Telephone Association, it is deemed to be not feasible for the entity controlling the network to ignore the market forces which would tend to over-value unused network capacity in the short term and under-value it in the long term.

B. Option 2 - Sale of Network (With Assurances)

The regulatory burden represented by the "Assurances" part of the equation associated with this option would be an extreme source of discomfort for the vendor(s) purchasing the network. For the other vendors on the "outside", some advantage may be obtained as certain business options of the private-ICN operator are hamstrung.

In the consultant's interviews with potential vendors, this option was the most unappetizing to them, which would be reflected in their purchase price.

C. Option 3 - Excess Network Capacity

This alternative has the potential to be useful from the vendor's standpoint, but the

system-wide upgrade, although this cost could be absorbed in the rate structure. A more serious barrier to implementation would be the long-term loss in growth potential, both for the private vendor and for ICN. While a bandwidth sharing partnering arrangement could certainly be worked out, it is difficult to see how this would have any advantages over merely leasing the excess capacity in the first place, which would allow an orderly migration of network expansion, whereby new equipment could be installed as it is paid for.

23. Under this option, who assumes the risk? Is this entity capable of bearing this risk? Who are the beneficiaries of success?

A. Option 1 - Sale of Network (No Assurances)

Improvements in compression technology and development of alternate new technologies and standards represent an ongoing risk for the ICN backbone. Ideally, a continuous upgrade program should be implemented according to a sound business plan. Alternatively, a substantial investment will be necessary in the future to migrate all at once to advanced services such as ATM in order to remain competitive.

Under the sale scenario, this risk will be borne by the buyer. Undoubtedly, the network would be purchased by a carrier familiar with this risk, and who is able to manage the risk. The buyer will simply discount the cost of required upgrade at the time of the ICN sale. The beneficiary of the resulting successful network will primarily be the purchasing vendor.

B. Option 2 - Sale of Network (With Assurances)

Under this alternative, risk devolves to all parties involved. The specter of protracted regulatory proceedings, hearings and even lawsuits involves a large financial unknown to the State and buyer alike.

If a consortium purchases the ICN, further friction will arise because of the necessity for allocation of business within the consortium. In other States, this has led to paralysis and lost opportunities. The State could obviously manage the regulatory burden as described; however, the vendors may well decide they are ill- equipped to manage the required assurances, and will discount the amount they will pay for the network by their degree of discomfort.

C. Option 3 - Excess Network Capacity

This alternative could be made to work reasonably well. The primary, and significant advantage will be the fact that ICN has cut off and sold half of its body to "save" the other half, when such "spare" parts could be "hired" as leased facilities instead.

25. What is this option's likelihood for long-term success?

A. Option 1 - Sale of Network (No Assurances)

Defining "success" in the broadest terms, exercising this option would result in a stable environment, but it would have been better if the state had directed policy from the start rather than build its own network. This is so because the sale price today will be discounted to the extent which it does not meet the vendor's needs, which are targeted differently than are ICN's needs.

B. Option 2 - Sale of Network (With Assurances)

The chances for long term "success" for this option are deemed to be extremely remote.

C. Option 3 - Excess Network Capacity

As previously stated, this option could be made to work reasonably well over the short and even mid term. Long term, it would not be ideal because of issues raised previously, but the administrative system would at least be stable.

existent, while procedures work reasonably well for mundane non-specialized tasks. This structure would therefore discourage innovation.

C. Option 6 - State Ownership - Private Management

This option may make management more responsive, but the real issue is not administrative costs but rather the underlying costs of the infrastructure. These costs cannot be met by the fee structure in place today. It is unlikely that the contracted management would be willing to raise prices to the point demanded by sound business practices.

The effect upon users of this option would be operationally identical to Option #5. Over the short term, the assurances would protect existing users, but the implementation of advanced services would be consistently behind the curve.

19. What positive/negative impacts would this option have on existing telecommunications providers?

A. Option 4 - Private/Public Ownership

There may well be a built-in conflict, or even a constitutional issue, regarding the State protecting its "partners". Two classes of vendors are created, those who are "in" versus those who are "out". This conflict is deemed to be irresolvable. In any case, both the existing users and the vendors could not help but be caught in the maelstrom as the vendor community and the State engage in a free-for-all slugfest.

B. Option 5 - State Ownership - Private Operations

Assuming that the private operator would have the authority to aggregate private uses of the network (otherwise, there would be no point in hiring the operator to perform duties currently and properly being conducted by ICN), the effect upon the vendors could probably be positive, although these fortunes would be subject to the winds and whims of changing State standards and the political climate. Presumably, any vendor would be free to lease capacity at any time, for arbitrary periods of time. However, to the extent this model works from a vendor's standpoint, it can't compete with Option #7, which could incorporate private management in a win-win context.

B. Option 5 - State Ownership - Private Operations

Under this option, the private sector will have strong incentives to market the services; this is the model used in many states for short-line railroads where the state owns the roadbed and rails while leasing it to operating companies. With such a model in place, the risk to the vendor is slight.

As previously stated, the main risk to the State under this option is lost opportunity, but it should also be mentioned that it is not possible to assign all financial risk to the operator. Ultimately, the State must carry flow-through risk for the operator's bad decisions if he ceases operation or becomes bankrupt.

C. Option 6 - State Ownership - Private Management

The same comments apply as per Option #5.

24. Analyze this option's performance potential. Will the option work very well?

A. Option 4 - Private/Public Ownership

As previously stated, it is this consultant's opinion that this option will not work.

B. Option 5 - State Ownership - Private Operations

This option could work reasonably well with the caveats previously stated.

C. Option 6 - State Ownership - Private Management

This option could work reasonably well with the caveats previously stated.

25. What is this option's likelihood for long-term success?

A. Option 4 - Private/Public Ownership

The chances for long-term success for this option are virtually non-existent.

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MATRIX 3 - State Options

13. What are the positive and negative impacts of this option on the state's ability to retain long-term capacity sufficient to meet the present and future needs of currently authorized users?

A. Option 7 - State Lease to Private Companies (Competitive)

This option has the potential to best serve existing users, while still retaining the investment potential of the network. Properly implemented, the ICN infrastructure could help attract new business to Iowa, help existing businesses expand and become more productive, while providing new services to the average citizen. For instance, the ICN could support the interconnection of community networks offering on-line services to the home, including Internet, education, shopping, entertainment, and other services, all billed on a usage sensitive basis. This option would assist the migration from community of place to community of interest, and would encourage the development of virtual networks all sharing the same pipeline.

One concern is that this option must be implemented while respecting the "content versus conduit" dichotomy which is appropriate to the State's role as a common carrier. This therefore is the "carrier's carrier" model, and accordingly, for rate-based LECs there is no incentive to lease from ICN as opposed to using their own capacity. Some modification in regulations may therefore be in order. For other carriers, however, the new capacity would be a boon.

One possible model to implement this option would be as follows:

- Retain ICN policy board, which retains directional authority.
- Hire integrator to aggregate private use on the network and ensure equal access. This function has been preformed in other states by IXCs such as AT&T. This integrator would report to the board.
- Develop a Public User Committee, which would have the same status as other users purchasing capacity.

A. Option 7 - State Lease to Private Companies (Competitive)

This option could be beneficial to all carriers, although some of the weaker ones may not be able to afford the price of admission. This barrier could be dealt with via a discount schedule, however. Also, as previously mentioned, without incentives, the LECs may not wish to use the ICN.

The carriers may prefer to migrate here from Option #8.

B. Option 8 - State Lease to private Companies (Not Competitive)

Over the long term, this alternative is only viable as it joins the path plowed by Option #7.

C. Option 9 - State Ownership and Operation (No Changes)

This alternative provides comfort, but means that money will have to be put into new infrastructure with the threat that the State will release access to the ICN by private providers some time in the future. Most carriers are still smarting over revenue lost to ICN in the past.

D. Option 10 - State Ownership and Operation (No Limits)

From the vendor's standpoint, this option would be a nightmare, and would be a direct threat to them. Unless some limits were set, litigation is assured. Setting limits makes this alternative look more like Option #7.

20. What are the positive & negative impacts of this option on Iowa businesses and citizens?

A. Option 7 - State Lease to Private Companies (Competitive)

The impact to Iowa's citizens and businesses of this alternative would be almost entirely positive, although a short period of disruption would occur as the carriers sort out their business strategies.

The possibility of litigation cannot be discounted for this option, since it does represent a paradigm shift. However, the long-term result will be a network which responds both to economic reality and public policy, if the administrative structure is properly implemented.

C. Option 9 - State Ownership and Operation (No Changes)

The present risk for ICN is partly technological obsolescence, but is primarily the ability to raise money. The only winners under this scenario are the vendors which have learned to cope with the loss of ICN's present customers.

D. Option 10 - State Ownership and Operation (No Limits)

ICN would assume the major risk under this proposal. There does not seem to be any good scenario which can be developed for this option.

24. Analyze this option's performance potential. Will the option work very well?

A. Option 7 - State Lease to Private Companies (Competitive)

With the proper structure, this option has the potential to be very stable and long-lived, especially if access is granted in incremental phases while treating all carriers fairly.

B. Option 8 - State Lease to private Companies (Not Competitive)

Success is assured only as a migration strategy to Option #7.

C. Option 9 - State Ownership and Operation (No Changes)

This option will almost assuredly generate continuing deficits for ICN.

D. Option 10 - State Ownership and Operation (No Limits)

This option would be jumping out of the frying pan of Option #9 into the fire.

25. What is this option's likelihood for long-term success?

A. Option 7 - State Lease to Private Companies (Competitive)

Subject only to proper implementation, this option is virtually certain of success, defined as per the vision statement.

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IOWA COMMUNICATIONS NETWORK 461 TASK FORCE
Matrix 1 - Sale Options
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Considerations & Issues	Entity Responsible for Analysis	Option 1 Sale of the Network (No Assurances)	Option 2 Sale of Network (With Assurances)	Option 3 Sale of Excess Network Capacity
13. What are the positive & negative impacts of this option on the state's ability to retain long-term capacity sufficient to meet the present and future needs of currently authorized users?	*This analysis is provided by Evans Associates. Appropriate input has been obtained from other state net operators & vendors.*	*POSITIVE ASPECTS: Outright Sale of the ICN network will add a potentially huge inventory to the fiber resources employed by Iowa's telcom vendors, increasing low-cost lease opportunities. NEGATIVE ASPECTS: There is no assurance that additional capacity will not be "warehoused" for competitive benefit. Rating: 3*	*POSITIVE ASPECTS: Would provide uninterrupted educational service in the short term. NEGATIVE ASPECTS:Reduces sale price for ICN and would result in ongoing hearings & regulatory actions by the utilities board. Ultimately, this option is indistinguishable from outright sale. Rating: 2*	*POSITIVE ASPECTS: Provides additional income while "protecting" existing users. Allows multiple vendor purchases. NEGATIVE ASPECTS: Requires an expensive upgrade to be practical, since some trunking capacity will be lost. ICN loses bandwidth. Rating: 5*
19. What positive & negative impacts would this option have on existing telecommunications providers?		*POSITIVE: Advantageous to affluent LECs & Cable-TVs to by-pass IXCs after deregulation. NEGATIVE: Would certainly lead to consolidation & sale of small telcos & Cables with market disruption. Rating: 5*	*POSITIVE: Allows the larger LECS to increase capacity & Cables to extend service areas. NEGATIVE: Additional regulatory burden represents large unknown & eliminates most small carriers. Rating: 2*	*POSITIVE: Potentially LECS, Cables & IXCs compete for capacity for today's needs. NEGATIVE: Apportioning shared switches & MUXES; smaller telcos disadvantaged by "lottery." Rating: 6*
20. What are the positive & negative impacts of this option on Iowa business and citizens?		*POSITIVE: Potential to recoup the majority of the ICN investment. NEGATIVE: Timing of outright sale is disadvantageous. Most gov't & business use (and profits) from wideband applications are in the future. Rating: 4*	*POSITIVE: Potential to realize a small immediate return on the ICN. NEGATIVE: Provisions could not be made for applications not definable today, especially those relating to community video, data and voice networking. Rating: 2*	*POSITIVE: Reserved network for developing educational and community applications; also expanded business capacity. NEGATIVE: Loss of increased future capacity. Rating: 7*
23. Under this option, who assumes the risk? Is this entity capable of bearing this risk? Who are the beneficiaries of success?		*Risk is entirely with the ICN. Sale price will reflect today's lease opportunities, rather than future value as usage of advanced telcom applications increases. ICN users will be forced to buy back capacity in the future. This risk is sustainable, however, only the investment opportunity is lost to*	*Risk is equally divided between ICN and the buyer. If buyer is a single entity, resources will be needed for state oversight. If buyer is consortium, internal allocation will be required. The state and ICN will require resources for oversight. While manageable, this system contains*	*Risk is divided 75% to the State and 25% to the buyer(s). Governance issues are evident with respect to common equipment. Vendors may not need additional capacity now, but they could carry that risk; ICN's lost capacity may be harder to bear. Advantage of*

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Matrix 2 - Public/Private Options
EVANS ASSOCIATES

Considerations & Issues	Entity Responsible for Analysis	Option 4 Private/Public Ownership	Option 5 State Ownership Private Operations	Option 6 State Ownership Private Management
13. What are the positive & negative impacts of this option on the state's ability to retain long-term capacity sufficient to meet the present and future needs of currently authorized users?		*POSITIVE: Public input would be preserved in the setting of network operations and extension policy. NEGATIVE: Points of view and missions of public and private entities are fundamentally different, leading to high probability of conflict. Resolution procedures could be protracted and costly. Rating: 5*	*POSITIVE: This model allows the state to set policy concerning service to ICN users present and future. NEGATIVE: In order to attract an appropriate integrator, a large portion of decision-making would be delegated. Risk is not so easily delegated; integrator could leave state. Rating: 7*	*POSITIVE: Policies, oversight and high-level decision making stay with ICN. Day-to-day operations load is reduced. NEGATIVE: Does not address core issues of new users or sources of income. Places a layer between user & ICN for trouble reporting. Rating: 7*
19. What positive & negative impacts would this option have on existing telecommunications providers?		*POSITIVE: Provides mandatory forum for the effective interchange of state/vendor issues. NEGATIVE: Resources needed to reach consensus. Creates vendor class that is "in" and those "out", reducing competition. Rating: 4*	*POSITIVE: Provides access to ICN's resources by vendors. NEGATIVE: Uncertainty over consistent long-term State policy and oversight will make this a risky proposition ("squeeze play" by users and owners). Rating: 4*	*POSITIVE: Clearly defined role for the network manager reduces risk. NEGATIVE: Consortium can't be manager; carriers with inter-op agreements benefit at expense of others. Rating: 6*
20. What are the positive & negative impacts of this option on Iowa business and citizens?		*POSITIVE: Presumably, would provide opportunity to receive income from network, reducing costs and/or taxes. NEGATIVE: Difficult-to-access management structure would be non-responsive. Rating: 4*	*POSITIVE: Day-to-day operations of the network would be fairly responsive to user's needs. NEGATIVE: State would probably limit the authority of the operations manager to extend ICN & increase capacity, slowing growth. Rating: 5*	*POSITIVE: Minimal changes in the ICN policies, overall good response to user requests (required by contract). NEGATIVE: Use by businesses & community networks may face challenge. Rating: 7*
23. Under this option, who assumes the risk? Is this entity capable of bearing this risk? Who are the beneficiaries of success?		*Risk is assumed by all parties: ICN, the State, the vendors in the partnership and those outside. While management of the risk by all entities is possible, there are few if any scenarios leading to highly successful operation. Rating 4*	*All risk could not be assigned to the private operator or integrator. Ultimate responsibility remains with ICN and the State. ICN can carry the risk; the real loss will be the opportunity to use the power of the private sector to drive business applications. Rating: 5*	*There is some additional financial risk due to hiring an additional administrative layer. The resulting structure may well be non-responsive to the future needs of the communities and the State's businesses. Rating: 7*

STATE PUBLIC POLICY GROUP
DES MOINES, IOWA
IOWA COMMUNICATIONS NETWORK 461 TASK FORCE
Matrix 3 - State Options
EVANS ASSOCIATES

Considerations & Issues	Entity Responsible for Analysis	Option 7 State Lease to Private Companies (Competitive)	Option 8 State Lease to Private Companies (Not Competitive)	Option 9 State Ownership and Operation (No Changes)	Option 10 State Ownership & Operation (No Limits)
13. What are the positive & negative impacts of this option on the state's ability to retain long-term capacity sufficient to meet the present and future needs of currently authorized users?		***POSITIVE: State retains control of bandwidth and gets advantage of improving technology. ICN can direct expansion and policy. NEGATIVE: High governance load, but could be offset by new income. Rating: 9***	***POSITIVE: Avoids immediate conflicts with vendors; maintains public/private dichotomy. NEGATIVE: Has severe implications concerning separation of content and conduit providers. Who define public or educational use? Rating: 7***	***POSITIVE: Model already exists, operations structure is in place. NEGATIVE: Lost opportunity to develop new business and community-based applications. Rating: 5***	***POSITIVE: All control and income with the public sector. NEGATIVE: Vendor conflict certain. Private sector feed-back path nearly non-existent, leading to isolation, non-responsiveness & income loss. Rating: 4***
19. What positive & negative impacts would this option have on existing telecommunications providers?		***POSITIVE: Vendors have opportunity to increase capacity with short lead time. NEGATIVE: Limited use unless BUSINESS RESTRICTIONS ARE REMOVED. Rating: 7***	***POSITIVE: Allows usage of new capacity and new extensions within the present operational model. NEGATIVE: Telco users subject to "bumping" if another carrier provides service. Rating: 6***	***POSITIVE: Continued predictability at the State level. Vendors can concentrate on Federal deregulation. NEGATIVE: Lost capability for fast expansion. Rating: 7***	***POSITIVE: Maximum expansion opportunity for competitive advantage. NEGATIVE: Smaller Telcos and Cables may be adversely affected. Rating: 7***
20. What are the positive & negative impacts of this option on Iowa business and citizens?		***POSITIVE: Near-term availability of wide-bandwidth services at competitive prices. NEGATIVE: Access may be arbitrarily limited. Rating: 8***	***POSITIVE: Minimizes disruption period as vendors package new services. NEGATIVE: Not compliant with new "hands off" model. Rating: 7***	***POSITIVE: Continued focus on education obeys mission statement. NEGATIVE: ICN is underutilized & undeveloped. Rating: 4***	***POSITIVE: Add new uses to improve business climate. NEGATIVE: Operational and legal challenges difficult to handle. Rating: 7***
23. Under this option, who assumes the risk? Is this entity capable of bearing this risk? Who are the beneficiaries of success?		***Risk is assumed by the private telcos & cables who must anticipate demand. These are familiar business decisions, and are manageable for larger companies. Rating: 7***	***Risk is shared by Telcos, Cables & ICN, who must substitute public policy for economic direction. Some routes will be underutilized, wasting resources. Rating: 6***	***Risk is assumed entirely by ICN. With time, increased vendor capacity will make ICN obsolete, along with its investment, an in-tolerable risk. Rating: 1***	***Risk is assumed primarily by ICN, with many marginal carriers threatened, at least in the short term. Long term, ICN must compete with seasoned***

ICN TASK FORCE CONSULTANT CONSENSUS MATRIX

EVANS ASSOCIATES

Evans Associates has submitted the ICN matrix to five industry consultants for their comments and votes. The combined tabulation is as follows, with 10 being the maximum score per cell:

	OPTION	1	2	3	4	5	6	7	8	9	10
#	Issue Item	Sale - No Protection	Sale - Protection	Excess Capacity	Pub-Pri Partnership	State Own Private Ops	State Own Private Mgt.	State Lease (compt)	State Lease (not compt)	No Change	State - No Restrctns
13	Users	4	5	6	5	7	7	8	9	10	8
19	Existing Carriers	8	7	9	5	8	7	7	6	5	2
20	Public	6	4	7	3	4	5	8	7	4	5
23	Risk to State	6	7	8	5	6	7	8	7	3	1
24	Perform	5	3	7	1	7	8	9	6	3	5
25	Long-term Success	4	3	5	2	6	7	8	7	4	3
T	SV Total	33	29	42	21	38	41	48	42	29	24
	Ranked			2			3	1	2		

Federal Emergency Management Agency
Region VII
911 Walnut Street, Room 300
Kansas City, MO 64106

JUL 21 1995

Ms. Ellen Gordon
Administrator
Emergency Management Division
Hoover State Office Building
Level A, Room 29
Des Moines, Iowa 50319

Dear Ms. Gordon:

Per your request of July 14, 1995, the Region has reviewed the Federal funding of the STARC Armory Complex and the In-Kind Match used to match federal funding. As a result of this analysis, we have concluded that the federal allocation and In-Kind match on the ICN amounts to $3,905,000. This information has been tabulated on the enclosed table.

If you have any questions concerning this matter, please contact Mr. Steven M. Tillman, P.E., Emergency Operations Center (EOC) Program Manager at (816) 283-7096.

Sincerely,

Charles E. Briggs, Director
Preparedness, Training and
Exercises Division

Enclosure

95/252

SEOC structure will be designed to the following criteria:

Nuclear Blast Shock	3-4 psi
Seismic	UBC Zone 1
Radiation Protection Factor	100

was guesstimated that the extra structural cost may amount to one rcent (1%) or less of the total project. Since the survival of the in a disaster situation is central to its mission, all agreed on ese parameters for design. The structural engineer should monitor ructural detailing and design, and advise the USER's if resultant ticipated construction costs appear to be significantly exceeding e guesstimate. Consulting services regarding nuclear protection ctor will be provided to the A-E by FEMA and State EOC (Division Disaster Services) at no charge. Dick Bartel requested that early awings and sections be submitted to him so that he could advise on ditions required or reductions possible.

e addition of blast and seismic criteria will require additional il borings. The borings are necessary to help determine if any nd lenses or other soils, which may liquify in a blast or seismic ent, are present in the SEOC construction area. Costs of these rings was estimated at $2,500 to $3,000.

l. Peterson indicated this project (STARC Armory) may be funded as add-on to the fiscal '91 budget. In that event, he would need inal approved plans for STARC complex by July 1, 1991. Doug said at the A-E needed a go ahead by November 1, or the July 1 deadline uld be unattainable. (This schedule also assumes review time rames of 2 to 3 weeks.)

l. Rogers expressed interest on the part of IANG in including full-ime inspection of the project as part of the A-E Services. It was greed that this would include full-time observation of the project ith appropriate professionals on call to observe important installa-ions and procedures at the site. Col. Rogers also indicated that his item will probably be negotiated back into the STARC contract.

oug indicated the A-E would be putting together a "ball park" cost stimate on the SEOC based upon the SEOC criteria as revised by this eeting. If the project still exceeds $5 million, cuts will be made o that the project designed will not exceed $5 million. Cuts made y the A-E to meet this goal will be completed with the advice of the SER, FMO, and CO. It was also decided that Spectr Associates would rovide a new room-by-room listing of minimum acceptable construction evels and a desirable finish work level in a ranking format for adds o the bid process.

inutes to the two sessions of the Criteria Review Conference will e combined and discussion items will be reduced to key points and ecisions. This conference memo, once approved, will modify the SEOC esign criteria.

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
5109 LEESBURG PIKE, FALLS CHURCH, VIRGINIA 22041-3201

NGB-AQ (5)

31 MAY 1994

MEMORANDUM FOR USPFO FOR IOWA

SUBJECT: Modification P00001 to the Master Cooperative Agreement for Advanced Modeling and Simulation DAHA13-94-H-3002

1. The above subject Modification P00001 to the Master Cooperative Agreement for Advanced Modeling and Simulation DAHA13-94-H-3002 is approved.

2. This approval becomes part of the Cooperative Agreement files.

3. POC for this matter is Dr. Thomas H. Kennedy, DSN: 289-4918 or COMM: (703) 756-4918.

FOR THE CHIEF, NATIONAL GUARD BUREAU:

MICHAEL G. CARROLL
Lieutenant Colonel, GS
Principal Assistant Responsible
for Contracting

Encl
as

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
OFFICE OF THE U.S. PROPERTY & FISCAL OFFICER FOR IOWA
CAMP DODGE, 7700 N.W. BEAVER DR.
JOHNSTON, IOWA 50131-1902

USPFO

2 May 1994

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Advanced Modeling and Simulation Cooperative Agreement DAHA13-94-H-3002

Enclosed is a copy of the approved Cooperative Agreement DAHA13-94-H-3002 which has been finalized contingent upon the change of the Cooperative Agreement number from DAHA13-94-H-1010 to DAHA13-94-H-3002 as stated in NGB-AQ memorandum dated 26 April 1994. This office has made this agreement number change on the final attached document.

ENCL

JAMES E. MCCULLOUGH
Colonel, NGB
USPFO for Iowa

DISTRIBUTION:
AGIA-CSAR
AGIA-FAC
AGIA-COMP
AGIA-SJA
USPFO-P&C

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
OFFICE OF THE U.S. PROPERTY & FISCAL OFFICER FOR IOWA
CAMP DODGE, 7700 N.W. BEAVER DR.
JOHNSTON, IOWA 50131-1902

USPFO

1 April 1994

MEMORANDUM FOR Chief, National Guard Bureau, ATTN: NGB-AQ (Dr. Kennedy) 2500 Army Pentagon, Washington, D.C. 20310-2500

SUBJECT: Iowa National Guard Advanced Modeling and Simulation Cooperative Agreement

1. Transmitted herewith is a signed and certified copy of the Iowa National Guard Advanced Modeling and Simulation Cooperative Agreement.

2. Forwarded for your review and approval.

JAMES E. MC CULLOUGH
Colonel, NGB
USPFO for Iowa

Encl
FY-94 Agreement

ARTICLE I - SCOPE, PURPOSE AND AUTHORITY

Section 101. General.

a. The National Guard Bureau (NGB) as agent for Advanced Research Project Agency (ARPA) and the State have entered this Cooperative Agreement (CA) to establish the terms and conditions applicable to the contribution of NGB funds or in-kind services for the activities enumerated herein.

b. Except for funds, equipment, supplies, personnel, or training acquired, supplied, assigned or provided directly by NGB for the operation of the State Army and Air National Guard under other applicable statutes and regulations, this CA includes all terms and conditions, and funding related to NGB's contribution for the activities of the Army and Air National Guard within the State contained in the Appendices.

c. By Congressional direction, Research and Development funding is provided through this CA from ARPA through NGB to the Iowa Department of Public Defense - Military Division to determine and exploit the potential of interactive communication or improvement in the technology, materials, processes, methods, devices or techniques and is an attempt to advance the state-of-the-art in the demonstration of connectivity among State and local governments which will assist in the establishment of connections between the Defense Simulation Internet (DSI), State Fiber optic infrastructure, and National Guard Sites within the State of Iowa.

d. For the purposes of this Congressionally directed program, an exception is granted authorizing Federal funds as provided by National Guard Bureau and Advanced Research Projects Office to be contributed to those National Guard Facilities which are not carried as 100% Federally supported on the Facilities Inventory and Stationing Plan.

e. The attached Appendix is integral to this CA.

Section 102. Scope of Services.

The scope of activities is contained in the Appendix.

Section 103. Performance Specifications.

The State's performance specifications are contained in the Appendixes.

Section 104. Authority.

a. The State owns, licenses, operates, or maintains military facilities necessary for the performance of the State and Federal mission of the State Army and Air National Guard. Title 32 U.S.C. §§ 106 and 107 authorize the NGB to contribute funds for the support of the State and Federal mission of the State Army and Air National Guard.

b. This CA is a Cooperative Agreement within the meaning of 31 U.S.C. §§ 6301-6308.

Section 207. Grants Officer.

Grants Officer (GO) shall mean an individual appointed by the NGB, Head of Contracting Activity (HCA) authorized to provide approvals, receive reports, modify or change the terms of this CA, provide funds under the CA or take any other action for NGB under this CA except for deciding any appeal of a dispute under this CA as provided in Section 1103 and any other action delegated to a specific person by this CA or Appendix.

Section 208. Grants Officer Representative.

Grants Officer Representative (GOR) means a representative of the Grants Officer acting within the limits of his or her authority as delegated, in writing, by the Grants Officer.

Section 209. Military Equipment.

Military Equipment is any equipment issued to a State pursuant to applicable military regulations and accounted for by the State and USPFO.

Section 210. Military Supplies.

Military Supplies are any supplies issued to a State pursuant to applicable military regulations and accounted for by the State and the USPFO.

Section 211. National Guard Bureau.

The National Guard Bureau (NGB) is a Joint Bureau of the Department of the Army and the Department of the Air Force, headed by a chief who is the advisor to the Army Chief of Staff and the Air Force Chief of Staff on National Guard matters. The National Guard Bureau is the channel of communication between the departments concerned and the several States, Territories, Puerto Rico, and the District of Columbia, on all matters pertaining to the National Guard, the Army National Guard of the United States, and the Air National Guard of the United States (10 U.S.C. § 3040).

Section 212. Operation and Maintenance Activities.

Operation and Maintenance (O&M) Activities mean and include, but are not be limited to actions by the State, through employment by the State, by contract or hire, of sufficient personnel, acquisition by contract of supplies or services, or other necessary actions, to perform the services, tasks, or activities within the scope of this CA which are properly charged to an Operations and Maintenance appropriation.

Section 213. State.

State means any of the states of the United States, the District of Columbia, the Commonwealth of Puerto Rico, and each territory and possession of the United States, including their political subdivisions, counties, municipalities, cities, towns, townships, local public authorities and tax-supported agencies.

Section 214. Supplies.

For the purposes of 32 CFR 33.33, supplies means any supplies purchased for the performance of this CA that are not "military supplies."

Section 215. Territory.

ARTICLE III - OBLIGATIONS OF THE PARTIES

Section 301. Obligations of the State.

a. The State shall exercise its best efforts to execute, supervise and manage all activities or projects of the Advanced Modeling and Simulation program in a sound efficient manner according to the terms, conditions and specifications of this CA.

b. For those State Army and Air National Guard activities funded pursuant to this CA, the State shall exercise its best efforts to operate the State Army and Air National Guard in a sound and efficient manner according to the terms, conditions and specifications of this CA.

c. The State's obligations are contingent upon the NGB funding of this CA in each fiscal year as provided in Article IV.

Section 302. Obligations of NGB.

a. NGB shall reimburse the State for the allowable costs incurred in performance of this CA according to with the terms and conditions for such reimbursement set forth herein.

b. Whenever the terms of this CA provide for approval by NGB, such approval will not be unreasonably withheld. Any request for such approval shall be considered and acted upon by NGB in a timely fashion.

c. NGB shall provide the following in-kind assistance to the State: NGB shall assist the State in the execution of this agreement by procurement of classroom televideo conferencing equipment sets. This equipment shall be managed and accounted for in accordance with Section 1001 to this agreement.

d. The obligations of NGB are subject to the availability of Federal funds for the CA and the State's funding contribution for its share of the costs of this CA.

Section 405. **Limitation on the Availability of Funds for State For State Obligation.**

a. Funds provided by NGB under this CA for any Fiscal Year are available for obligation (as the term "obligation" is defined in 32 CFR 33.3) by the State only in that Fiscal Year.

b. In addition to any other provision of this CA pertaining to the allowability of costs, costs arising from obligations by the State may be reimbursed only with funds provided under this CA for the Fiscal Year in which the obligation was made. If such funds are completely exhausted, then current funds from a subsequent fiscal year may be used.

c. If any funds provided by NGB under this CA are available for obligation by the State for more than one Fiscal Year, the limitation on availability of funds for State obligation shall be as provided in Paragraphs a. and b. for the Fiscal Years for which such funds are available.

c. Unless otherwise specifically provided in this CA, the State shall report all program income to NGB the amount of such income shall be credited against the total requirements listed in the approved Activity Budget of this CA.

ARTICLE VII - GENERAL PROVISIONS

Section 701. Term of Agreement.

Unless sooner terminated by its terms, this CA shall terminate on 30 September, 1998.

Section 702. Sole Benefit.

This CA is intended for the sole benefit of NGB and the State and is not intended to create any other beneficiaries.

Section 703. Amendment.

This CA may be amended only by a written instrument signed by the parties hereto. Appendices may be amended separately. However, no Appendix amendment may modify this CA by reference.

Section 704. Successors and Assigns.

This CA may not be assigned by a party without the express written consent of the other party. All covenants made under this CA shall bind and inure to the benefit of any successors and assigns of the parties whether or not expressly assumed or acknowledged by such successors or assigns.

Section 705. Entire Agreement.

This CA forms the entire agreement between the parties as to scope and subject matter of this CA. All prior discussions and understandings concerning such scope and subject matter are superseded and incorporated by this CA.

Section 706. Severability.

If any provision of this CA is held judicially invalid, the remainder of the CA shall continue in force and effect to the extent not inconsistent with such holding.

Section 707. Waiver of Breach.

If a party waives enforcement of any provision of this CA upon any event of breach by the other party, such waiver shall not automatically extend to any other or future events of breach.

Section 708. Notices.

Any notice, transmittal, approval, or other official communication made under this CA shall be in writing and shall be delivered by hand, facsimile transmission, or by mail to the other party at the address or facsimile transmission telephone number set forth below or at such other address as may be later designated:

NGB: JAMES E. MC CULLOUGH, Colonel, NGB, USPFO FOR IOWA
7700 NW Beaver Drive, Johnston, Iowa 50131-1902
Fax 515-252-4617

STATE: WARREN G. LAWSON, MG, ADJUTANT GENERAL OF IOWA
7700 NW Beaver Drive, Johnston, Iowa 50131-1902
Fax 515-252-4578

Section 715. Office of Primary Responsibility.

a. The Office of Primary Responsibility for this CA is the Army National Guard Information Systems Directorate (NGB-AIS).

b. The Director, NGB-AIS, for the purposes of this agreement, is a designee of the Chief, National Guard Bureau, and is the individual authorized to make final approval of this agreement and modifications thereto and to take any other action on behalf of NGB as specifically reserved under this agreement.

c. Once approved, a copy of the approved Agreement shall be forwarded to the Acquisition Directorate, Office of Cooperative Agreements, National Guard Bureau.

Section 716. 28E Agreement

Chapter 28E Code of Iowa provides that agencies of State Government may contract among themselves and the United States to make more efficient use of their powers enabling them to provide joint services and facilities and to cooperate in other ways of mutual advantage.

b. The Final Rule, Government-Wide Requirements for Drug-Free Workplace (Grants), issued by the Office of Management and Budget and the Department of Defense (32 CFR Part 280, Subpart f) to implement the provisions of the Drug-Free Work Place Act of 1988 is incorporated by reference and the State covenants and agrees to comply with all the provisions thereof, including any amendments to the Final Rule that may hereafter be issued.

Section 806. Environmental Protection.

a. The State agrees that its performance under this CA shall comply with: the requirements of Section 114 of the Clean Air Act (42 U.S.C. § 7414) and Section 308 of the Federal Water Pollution Control Act (33 U.S.C. § 1318), that relate generally to inspection, monitoring, entry reports, and information, and with all regulations and guidelines issued thereunder; the Resources Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA); the National Environmental Policy Act (NEPA); and any applicable Federal, State or Local environmental regulation.

b. The State shall insure that no facility used in its performance under this CA is listed on the Environmental Protection Agency (EPA) list of violating facilities pursuant to 40 CFR Part 15 without the concurrence of NGB. The State shall notify NGB of the receipt of any communication from EPA indicating that a facility to be or being used in its performance under this CA is under consideration for listing on the EPA list of violating facilities.

c. For the purposes of this section, NGB agrees that the State's obligations in Paragraphs a. and b. of this section above shall not apply to any armory, base, training site, or other facility or portion thereof, the operation and maintenance of which is funded under this CA, that is currently, listed as a violating facility, on the effective date of this CA, pursuant to 40 CFR Part 15; nor, shall such listing be the basis for NGB's termination for cause of this CA or for NGB's disallowance of any cost otherwise allowable under this CA. Subject to the availability of funds, the State and NGB agree to cooperate to remediate, as expeditiously as possible, any facility the operation and maintenance of which is within the scope of this CA, the condition giving rise to the listing of any such facility as a violating facility according to applicable statutes, regulations, or other agreements.

Section 807. Use of United States Flag Vessels.

The State agrees to comply with 46 U.S.C. § 1241(b) and regulations issued thereunder (46 CFR Part 381) as follows:

a. To use privately-owned United States flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) of any equipment, materials, or commodities that are both (1) procured, contracted for, or otherwise obtained with funds made available by NGB under this CA, and (2) transported by ocean vessel, to the extent such vessels are available at fair and reasonable rates;

b. To furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a) above to both NGB and to the Division of National Cargo, Office of Market Development, U.S. Maritime Administration, Washington, D.C. 20590; and,

c. Subject to existing contracts, to insert the substance of the provisions of this section in all contracts issued pursuant to this CA, and to cause such provisions to be inserted in all subcontracts issued pursuant to this CA, where the contract or subcontract is for $100,000 or more and where there is a possibility of ocean transportation of procured equipment or materials.

ARTICLE X - PROPERTY

Section 1001. Equipment.

The State shall account for and manage equipment acquired by the State under this CA and equipment provided by NGB for performance of this CA as provided for in 32 CFR § 33.32.

Section 1002. Supplies.

The State shall account for and manage supplies acquired by the State under this CA and supplies provided by NGB for performance of this CA as provided for in 32 CFR § 33.32.

Section 1003. Military Equipment and Supplies.

Notwithstanding Sections 1001 and 1002 above, use and disposition of military supplies and equipment issued to the State pursuant to applicable military regulations shall be according to such regulations. Nothing shall prevent the State from using such issued equipment or supplies in performance of this CA. The State shall be responsible for separately accounting for military equipment and supplies used in performance of this CA according to existing military accounting systems and procedures.

ARTICLE XII - LEGAL AUTHORITY

Section 1201. Legal Authority.

The State represents and warrants that it is under no existing or foreseeable legal disability that would prevent or hinder it from fulfilling the terms and conditions of this CA. The State shall promptly notify NGB of any legal impediment that arises during the term of this CA that may prevent or hinder the State's fulfillment of its obligations under this CA.

Section 1202. Opinion of Counsel.

Concurrent with its execution of this CA, the State shall furnish an opinion of counsel by the highest legal officer of the State, or his or her designee, that:

a. The State has the requisite authority to enter into this CA;

b. The State can make the warranty set forth in Section 1201;

c. The State is empowered to assume the responsibilities and obligations the State proposes to undertake under this CA;

d. The provisions of the CA intended to secure the interests of NGB are enforceable according to their terms;

e. The execution of this CA has been duly authorized; and,

f. That the individual signing this CA on behalf of the State has the requisite legal authority to bind and obligate the State.

APPENDIX 1
IOWA NATIONAL TELEVIDEO COMMUNICATIONS NETWORK
STATEMENT OF WORK

GENERAL:

Design and build a Fiber-Optics network that provides full motion interactive video classroom fully compatible with other Iowa Communication Network classrooms, desktop interactive video conferencing(dial-up point to point), voice, and data transmission to Iowa National Guard facilities.

DEFINITIONS:

Iowa National Guard Televideo Communications Network. Iowa National Guard Televideo Communications Network is defined as a fiber-optics networked, full motion interactive video, voice, and data transmission system connected to Iowa National Guard Facilities through the Iowa Communications Network.

Iowa Communications Network. The Iowa Communications Network (ICN) is a shared, statewide 2,800 mile SONET (Synchronized Optical Network) designed to offer a wide range of voice, data and video services to schools, libraries, state agencies, and other eligible public service entities. It will include three satellite uplink/downlink points of access and multiple microwave access points. It will also have the capability of connecting to all interchange carriers and local telephones throughout Iowa.

Defense Simulation Internet. Functions as a high capacity network test bed supporting a full spectrum of war fighting simulation interoperatility activities, in order to expand the commercial networking technology base available for defense modeling and simulation, and to develop an experience base, including required standards, for expanded Department of Defense use of distributed warfighting simulation.

Maintenance. The day-to-day periodic or scheduled work required to preserve a real property facility in such condition that it may be effectively used for its designated purpose. This includes work undertaken to prevent damage to a facility that otherwise would be more costly to restore, and work to sustain existing components such as renewal of disposable filters, painting, caulking, refastening loose siding and sealing asphalt pavement.

Repair. The restoration of a real property facility to such a condition that it may effectively be used for its designated functional purpose. Repair may be overhaul, reprocessing, or replacement of deteriorated component parts or materials.

Minor Construction. The erection, installation, or assembly of a new facility; the addition, expansion, extension, alteration, conversion, or replacement of an existing facility; or the relocation of a facility from one installation or location to another. This includes equipment (not furniture) installed and made a part of facilities and related site preparation, excavation, filling and landscaping, or other land improvements. Project cost cannot exceed the statutory ceiling, currently $300,000.

BUDGET:

Army Management Structure Codes (AMSCOs). AMSCOs are the official Army framework or common language for interrelating programming, budgeting, accounting, and manpower control through a standard classification of Army activities and functions. The charges to the CA are:

system. The first people hired will be assigned to state headquarters to write their job descriptions and those for the personnel to be hired at the Brigade and Battalion locations.

d. Task 4. Install the System in the following order.

(1) Install satellite equipment with capability on the one way video two way audio and two way interactive video conferencing.

(2) Install the fiber-optics cable from the county point of presence to the armories in priority set by Task 2 in accordance with (IAW) plan established in Task 2.

(3) Terminate the Fiber and get an analog signal in the Armories based on priorities set in Task 2.

(4) Install voice and data transmission an the network is installed based on priorities set in Task 2.

(5) Install the basic classroom sets as the network is installed based on priorities set in Task 2.

(6) Install experimental devices (for example - ATM, Desktop Video and simulators).

(7) Based on current budget estimates, it is anticipated that 57 sites can be completed. However, if actual costs are significantly higher, low priority sites may not be installed.

e. Task 5. Establish long term maintenance agreements, purchase and maintain a repair parts inventory.

FURNISHED DATA/PROPERTY:

a. The State of Iowa General Service Division will provide ICN documentation to include Phase I & II system design, as builts, maps and right-of-way information.

b. The Iowa National Guard will provide to the contract personnel at the site: office space, desks, chairs, telephones, general office supplies, storage space for tools and test equipment, AC power outlets for tools and test equipment, and access to paper copier and telefacsimile service at Camp Dodge or Installation sites.

PERIOD OF PERFORMANCE: Twenty-four (24) months beginning 1 October 1993.

DELIVERABLE PRODUCTS AND SCHEDULE:

a. Preliminary engineering review (Task 1). Thirty (30) days after approval to start work.

b. Final plan and system design with priority of work (Task 2). Sixty (60) days after approval.

c. Hiring of all personnel completed (Task 3). One hundred and twenty (120) days after approval.

d. Install with first classroom operational (Task 4). One hundred and twenty (120) days after approval.

e. Install with last classroom operational and all voice and data operational (Task 4). Nine (9) months after approval.

ORGANIZATION FOR THE PROTECTION AND ADVANCEMENT OF SMALL TELEPHONE COMPANIES

21 DUPONT CIRCLE, N.W. SUITE 700
WASHINGTON, D.C. 20036
202/659-5990 • 202/659-4619 (FAX)

April 22, 1994

Dear State Telephone Association Executive:

OPASTCO recently completed its rate averaging study, *Keeping Rural America Connected: Cost and Rates in the Competitive Era*, which highlights the specific needs of rural areas and focuses the industry on universal service. The study provides regulators, legislators, and the industry with the information they need to develop new public policy and alternative support mechanisms.

An OPASTCO representative will travel to your next meeting or conference to provide further details on the study. Please feel free to request an OPASTCO speaker through our Speakers Bureau. OPASTCO speakers are available to your group at no charge, but we ask that when possible your organization reimburse travel and room expenses. To request a speaker, contact Rachel Brown or Jill O'Rourke at 202/659-5990.

We're sure the study results are a topic of interest to your meeting attendees. Using actual cost data from 424 local exchange carriers and a survey of 5,000 rural subscribers, the study gives an accurate account of the level of support provided by rate averaging, the Universal Service Fund, dial equipment minutes weighting, and other existing policies and programs; and shows the impact on rural subscribers and on small telephone companies if such support were eliminated.

OPASTCO's study results indicate that removal of the support flows, along with intrastate and interstate toll rate deaveraging, would cause an average $31.27 increase to the rural subscriber's monthly telephone bill. Based on percentages derived from actual customer responses to the survey, 573,000 rural telephone subscribers (out of the 2.8 million rural subscribers in OPASTCO's study group) could disconnect their telephone service as a result of such an increase.

Please share these important results with your state regulators and legislators, and contact OPASTCO if you have any questions about the study or would like to have a representative address the study at your next meeting or conference.

Sincerely,

John N. Rose
Executive Vice President

allocator, and the federal **Lifeline** and **Link-up America** programs--would result in an average monthly increase of $12.84 in local telephone service charges for the study group LECs' subscribers. The deaveraging of inter- and intrastate toll rates would result in average monthly increases of $7.44 and $10.99 respectively. These figures combine for the total average monthly increase of $31.27 per subscriber. This equals a total annual cost of $1.05 billion for the OPASTCO Study Group LECs.

The increase amounts are averages; specific increases vary significantly from state to state and from one individual LEC to another. For instance, local service rates for the study group LECs in New Mexico would increase an average of $46.96 per month, while the local service increase would be more than $180 per month for one small LEC in Texas. The study gives state-by-state figures in written and graph forms, and also provides the highest and lowest increase for the individual LECs within each state.

Based on the residential subscriber responses to the OPASTCO Subscriber Survey, the study found that 4.3 percent of the respondents said they would discontinue their telephone service completely in response to a local telephone service rate increase of $5; 12.9 percent would disconnect if faced with a $10 increase; 27.1 percent would disconnect service at a $15 increase; and 44.7 percent would discontinue service if local service rates increased $25. Applying the OPASTCO Subscriber Survey disconnection percentage for the level closest to each of the local service rate increases calculated for the OPASTCO Study Group LECs shows that 20.4 percent of 573,000 of the 2.8 million subscribers would disconnect service.

Using the OPASTCO Subscriber Survey results, the study also presents a variety of information about the demographics of rural telephone subscribers and the communications services they use. It provides data on the telephone's role in the family and other relationships and in community maintenance. Furthermore,

--more--

EXECUTIVE SUMMARY

Keeping Rural America Connected:







Costs and Rates in the Competitive Era



OPASTCO

Organization for the Protection and Advancement of Small Telephone Companies

Keeping Rural America Connected: Costs and Rates in the Competitive Era

A study for the Organization for the Protection and Advancement of Small Telephone Companies (OPASTCO) by John Staurulakis Inc. and Patricia Lum and funded by OPASTCO and firms throughout the rural telecommunications industry.



Organization for the Protection and Advancement of Small Telephone Companies
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Washington, DC 20036
202/659-5990

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Tenino Telephone Company, WA
Totah Telephone Company Inc., OK
United Farmers Telephone Company, IA
United Utilities Inc., AK
Wabash Telephone Cooperative Inc., IL
Waverly Hall Telephone Company, GA
West Iowa Telephone Company, IA
Western New Mexico Telephone Company, NM
Winnebago Cooperative Telephone Association, IA
Zenda Telephone Company Inc., KS

Others

AT&T
CoBank
Iowa Network Services Inc.
Iowa Telephone Association
South Carolina Telephone Association
Telephone Association of New England
Western Rural Telephone Association

OPASTCO also extends special thanks to the 20 OPASTCO member companies who mailed the OPASTCO Subscriber Survey and to the 2,383 (out of 5,000) of their subscribers who took the time to complete and return the survey.

Finally, OPASTCO thanks the members of the Ad Hoc Rate Averaging Study Committee who gave much of their time and resources to make this study a reality:

Chairman Don Bond
President and General Manager
Public Service Telephone Company, GA

Edwin H. Eichler
President
Pigeon Telephone Company, MI

Phil Nelson
President
Hamilton Telephone Company, NE

Bob Halford
General Manager
Clear Lake Independent Telephone Company, IA

Jay Wilson Preston
President
Ronan Telephone Company, MT

Steve Hamlen
President
United Utilities Inc., AK

Hobart G. Rand
President and General Manager
Granite State Telephone, NH

Kent Jerome
Secretary/Treasurer
Iowa Telephone Association, IA

John N. Rose
Executive Vice President
Linda M. Buckley
Editor and Publications Manager
OPASTCO, Washington, DC

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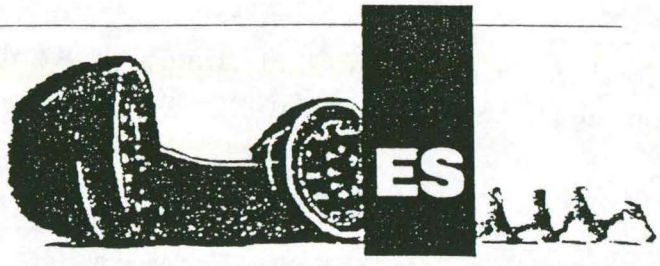
Executive Summary



Words appearing in BOLD are defined in Appendix A—Glossary

Chapter 1—The OPASTCO Study: An Overview

The Organization for the Protection and Advancement of Small Telephone Companies (OPASTCO) is a national trade association of nearly 450 small independently owned and operated **local exchange carriers (LECs)** serving more than two million subscribers in rural areas of the United States.

OPASTCO is quite concerned that the telecommunications bills before Congress and the regulatory reforms under consideration at the **Federal Communications Commission (FCC)** could have a severe and detrimental impact on the availability and price of basic local telephone service and long distance service for rural Americans. The rapid advances in technology and the advent of competition in practically every area of telecommunications have forced the industry to reexamine the traditional ways in which telecommunications services are delivered and paid for. At the very heart of this matter is the concept of **universal service** and the accompanying support mechanisms that have allowed telephone subscribers, both urban and rural, to have available the most reliable and reasonably priced telephone service in the world.

In response to these concerns, OPASTCO commissioned a study to attempt to identify and quantify the financial and social impacts on rural America should the actions of the FCC and Congress ultimately lead to the elimination of today's support mechanisms and a fundamental change in the concepts of universal service. These traditional support mechanisms and concepts include

- the geographic averaging of inter- and intrastate toll rates;
- long-term support;
- the Universal Service Fund (USF);
- dial equipment minutes (DEM) weighting;
- the 25 percent gross allocator; and
- the Lifeline and Link-up America programs.

Using the most recent financial data available and the results of a nationwide survey conducted specifically for this study, OPASTCO attempts to quantify not only the potential increases in basic

local service and **toll** rates that rural subscribers would face, but also the social implications of such increases.

Chapter 2—The Costs of Providing Universal Service to Rural America

The costs of providing telephone service to rural America are much higher than the costs of providing service to the more urban areas of the country. Small, rural LECs must provide service to fewer subscribers who usually are scattered throughout large geographic areas. The average number of subscribers per route mile and per square mile for a rural LEC are only 6.3 and 4.4 respectively. These figures differ dramatically from those of the **Bell operating companies (BOCs)** which have an average density of 130 subscribers per route mile and more than 330 per square mile.

Small, rural LECs also have a higher proportion of residential versus business subscribers; have higher unit costs for usage-sensitive equipment because they cannot take advantage of economies of scale; and have higher loop-related costs due to longer **local loops** and the remoteness of the areas they serve.

Chapter 3—Rural Costs, Rates, and Settlements: Understanding the Basics

The results throughout this study are easier to understand with a basic knowledge of the federal and state rules and procedures directing how small, rural LECs collect revenues from their customers. These include the FCC's Part 36 separations procedures and Part 69 **access charge** rules, the **National Exchange Carrier Association (NECA) pooling** process and **average schedule settlements** procedures, the **Universal Service Fund**, and various intrastate settlement arrangements.

Chapter 4—Eliminating Current Support Mechanisms: The Impact on Rural Subscribers' Telephone Bills

The current federal system of support mechanisms, which includes the policy of **geographically averaged** toll rates, assists high-cost rural LECs in maintaining reasonable telephone rates for their subscribers. Elimination of these supports would require rural LECs to recover the resulting revenue shortfall from their subscribers in the form of higher monthly basic local service charges and would result in higher inter- and intrastate toll rates for rural subscribers.

This study analyzes data from 424 small, rural LECs that settle on a cost basis in both the NECA **Common Line (CL)** and **Traffic-Sensitive (TS)** pools. The LECs represent approximately 2.8 million rural **access lines** and are referred to throughout this study as the OPASTCO Study Group LECs.

The total annual cost of losing today's support mechanisms and the **deaveraging** of inter- and intrastate toll rates for the 2.8 million access lines in the OPASTCO Study Group would be approximately $1.05 billion. Figure ES.1 shows that subscribers of the OPASTCO Study Group LECs could expect an average increase to their telephone bills—including both local service and toll service—of

Figure ES.3

Impact of Eliminating Support Mechanisms and Deaveraging Toll Rates on the Monthly Telephone Bills of the OPASTCO Study Group LECs' Subscribers

State	Total Current Subscriber Bill (A)	Increase to Local Service (B)	Interstate Toll Deaveraging Impact (C)	Intrastate Toll Deaveraging Impact (D)	Revised Total Bill After Eliminating Cost Support Mechanisms and Deaveraging (E)	Percentage Increase (F)
Alabama	$41.74	$11.48	$6.95	$11.25	$71.42	71.1%
Alaska	$49.90	$13.79	$6.90	$6.14	$76.73	53.8%
Arizona	$54.51	$9.64	$14.08	$2.36	$80.59	47.8%
Arkansas	$24.96	$11.95	$8.04	$11.92	$56.87	127.8%
California	$53.88	$28.13	$7.34	$20.72	$110.07	104.3%
Colorado	$49.73	$14.79	$16.05	$10.19	$90.76	82.5%
Connecticut	NA	NA	NA	NA	NA	NA
Delaware	NA	NA	NA	NA	NA	NA
Florida	$27.32	$13.55	$7.59	$10.37	$58.83	115.3%
Georgia	$40.84	$13.97	$5.18	$14.42	$74.41	82.2%
Hawaii	NA	NA	NA	NA	NA	NA
Idaho	$40.01	$22.86	$17.86	$10.21	$90.94	127.3%
Illinois	NA	NA	NA	NA	NA	NA
Indiana	$46.36	$8.56	$4.25	$12.87	$72.04	55.4%
Iowa	$49.92	$10.48	$5.19	$11.96	$77.55	55.3%
Kansas	$48.31	$14.52	$12.60	$11.94	$87.37	80.9%
Kentucky	NA	NA	NA	NA	NA	NA
Louisiana	$68.47	$22.29	$7.01	$21.92	$119.69	74.8%
Maine	$45.06	$14.54	$8.04	$9.12	$76.76	70.4%
Maryland	NA	NA	NA	NA	NA	NA
Massachusetts	NA	NA	NA	NA	NA	NA
Michigan	$50.69	$8.56	$4.13	$15.11	$78.49	54.8%
Minnesota	$49.94	$7.77	$3.80	$11.81	$73.32	46.8%
Mississippi	$45.78	$17.96	$7.36	$11.79	$82.89	81.1%
Missouri	$42.31	$12.11	$7.58	$15.48	$77.48	83.1%
Montana	$51.23	$18.31	$18.14	$7.97	$95.65	86.7%
Nebraska	$38.60	$19.93	$11.53	$16.93	$86.99	125.4%
Nevada	$46.46	$15.30	$22.26	$1.91	$85.93	85.0%
New Hampshire	$44.37	$10.84	$10.73	($3.71)	$62.23	40.3%
New Jersey	NA	NA	NA	NA	NA	NA
New Mexico	$47.71	$46.96	$53.87	$14.62	$163.16	242.0%
New York	$44.19	$9.82	$3.79	$10.28	$68.08	54.1%
North Carolina	$34.46	$4.87	$3.83	$5.03	$48.19	39.8%
North Dakota	$42.21	$24.23	$16.83	$19.98	$103.25	144.6%
Ohio	$53.20	$3.57	$3.05	$6.89	$66.71	25.4%
Oklahoma	$45.45	$19.90	$9.66	$17.34	$92.35	103.2%
Oregon	$47.53	$13.32	$8.83	$11.07	$80.75	69.9%
Pennsylvania	$39.58	$12.87	$9.00	$10.71	$72.16	82.3%
Rhode Island	NA	NA	NA	NA	NA	NA
South Carolina	$37.39	$6.43	$4.46	$6.25	$54.53	45.8%
South Dakota	$38.35	$16.35	$11.08	$16.20	$81.98	113.8%
Tennessee	$41.54	$6.16	$2.71	$5.33	$55.74	34.2%
Texas	$44.36	$27.39	$11.76	$25.99	$109.50	146.8%
Utah	$46.12	$16.53	$21.78	$17.04	$101.47	120.0%
Vermont	$42.89	$13.53	$17.56	$0.79	$74.77	74.3%
Virginia	$45.85	$12.89	$3.14	$17.70	$79.58	73.6%
Washington	$58.62	$12.84	$7.43	$5.18	$84.07	43.4%
West Virginia	$54.79	$23.81	$10.90	$14.78	$104.28	90.3%
Wisconsin	$43.77	$3.96	$3.38	$8.47	$59.58	36.1%
Wyoming	$47.92	$19.21	$32.02	$5.07	$104.22	117.5%
Total	$43.26	$12.84	$7.44	$10.99	$74.53	72.3%

Figure ES.5

Local Service Increases and Resulting Disconnections for the OPASTCO Study Group LECs' Subscribers

State	Access Lines (A)	Potential Increase to Local Service (B)	Percentage Who Said They Would Disconnect Service (C)	Total Access Line Impact (D)=(A)x(C)
Alabama	80,883	$11.48	12.9%	10,434
Alaska	289,513	$13.79	27.1%	78,458
Arizona	75,501	$9.64	12.9%	9,740
Arkansas	130,099	$11.95	12.9%	16,783
California	129,110	$28.13	44.7%	57,712
Colorado	22,680	$14.79	27.1%	6,146
Connecticut	NA	NA	NA	NA
Delaware	NA	NA	NA	NA
Florida	106,505	$13.55	27.1%	28,863
Georgia	149,802	$13.97	27.1%	40,596
Hawaii	NA	NA	NA	NA
Idaho	11,450	$22.86	44.7%	5,118
Illinois	NA	NA	NA	NA
Indiana	25,259	$8.56	12.9%	3,258
Iowa	10,938	$10.48	12.9%	1,411
Kansas	36,504	$14.52	44.7%	16,317
Kentucky	NA	NA	NA	NA
Louisiana	86,768	$22.29	44.7%	38,785
Maine	29,257	$14.54	27.1%	7,929
Maryland	NA	NA	NA	NA
Massachusetts	NA	NA	NA	NA
Michigan	140,289	$8.56	12.9%	18,097
Minnesota	47,828	$7.77	12.9%	6,170
Mississippi	31,668	$17.96	27.1%	8,582
Missouri	70,380	$12.11	12.9%	9,079
Montana	30,285	$18.31	27.1%	8,207
Nebraska	25,483	$19.93	27.1%	6,906
Nevada	32,679	$15.30	27.1%	8,856
New Hampshire	15,469	$10.84	12.9%	1,996
New Jersey	NA	NA	NA	NA
New Mexico	22,328	$46.96	44.7%	9,981
New York	103,543	$9.82	12.9%	13,357
North Carolina	272,761	$4.87	4.3%	11,729
North Dakota	12,836	$24.23	44.7%	5,738
Ohio	108,500	$3.57	4.3%	4,666
Oklahoma	58,617	$19.90	27.1%	15,885
Oregon	59,548	$13.32	27.1%	16,138
Pennsylvania	11,587	$12.87	27.1%	3,140
Rhode Island	NA	NA	NA	NA
South Carolina	101,123	$6.43	4.3%	4,348
South Dakota	13,730	$16.35	27.1%	3,721
Tennessee	72,423	$6.16	4.3%	3,114
Texas	122,797	$27.39	44.7%	54,890
Utah	12,071	$16.53	27.1%	3,271
Vermont	13,018	$13.53	27.1%	3,528
Virginia	3,550	$12.89	27.1%	962
Washington	46,867	$12.84	27.1%	12,701
West Virginia	18,411	$23.81	44.7%	8,230
Wisconsin	168,824	$3.96	4.3%	7,259
Wyoming	3,027	$19.21	27.1%	820
Total/Average	2,803,911	$12.84	20.4%	572,921

Distance learning can bring benefits not only in terms of sharing school resources, but also in the area of adult education and job training, another important ingredient in maintaining rural communities.

Telecommunications also can bridge the distance gap between rural communities and superior medical services. For the OPASTCO Subscriber Survey respondents, the median distances to the nearest doctor and hospital are 12.5 and 15 miles, respectively. On average, the nearest doctor is 19 miles away and the nearest hospital is 25 miles away. Also, many of the hospitals in rural areas are not equipped to handle the specialized needs of the communities they serve. Residents, therefore must travel even further to have their medical needs attended to. Health care issues are of particular concern because of the high percentage of elderly individuals living in rural areas.

Telecommunications also opens possibilities in the area of telecommuting, allowing working individuals to spend more time with their families and in community activities.

Because the business respondents constitute less than 10 percent of the OPASTCO Subscriber Survey responses, the results are only suggestive. However, almost 9 percent of the business respondents say they would consider relocating if their telephone bill increased by 25 percent or more, while 25 percent say they are not sure if they would relocate. Rural communities need to attract businesses, not lose them. Also, while few businesses say they would disconnect their service, many state that they would look to alternative carriers.

Today, basic local service rates for businesses are higher than residential rates, thereby contributing to the lower costs for residential subscribers. If basic local service and toll rates for rural businesses were to increase, it would become much more difficult to retain current business subscribers and attract new ones. Many of these businesses employ the citizens of the surrounding rural communities and therefore are very important to the economic survival of the communities.

Multi-line businesses usually are rural LECs' higher volume toll customers. To the extent businesses find they need to bypass LECs to avoid higher costs for telephone service, the costs of providing continued service to LECs' fewer remaining subscribers—mostly residential subscribers—will increase.

Chapter 7—A Review of Other Studies on the Effects of Competition

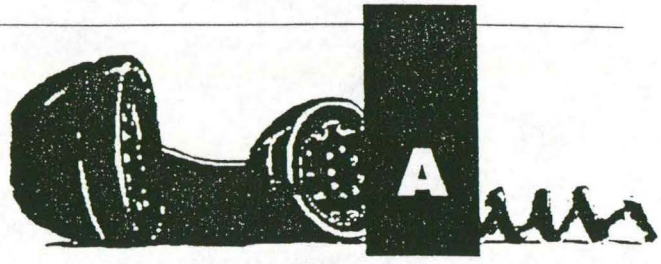
Three other industry studies also looking at the impact of competition on the cost and availability of telephone service in rural America include

What is the Price of Universal Service? Impact of Deaveraging Nationwide Urban/Rural Rates by the Telecommunications Industries Analysis Project;

The $20 Billion Impact of Local Competition in Telecommunications by Calvin S. Monson and Jeffrey H. Rohlfs for the United States Telephone Association; and

Competition in the Local Exchange: Appropriate Policies to Maintain Universal Service in Rural Areas by John C. Panzar and Steven S. Wildman.

Appendix A—Glossary



Words in the definitions appearing in **BOLD** are defined elsewhere in the glossary.

access—Access is the ability to enter or connect to the telecommunications network. There are two types of access—**switched access**, by which calls are switched to and carried via available facilities, and **special access**, by which calls are carried via dedicated facilities. Access is **originating** when it is for access to the network of the **local exchange carrier (LEC)** serving the location where the call originates and is **terminating** when it is for access to the network of the LEC serving the location where the call terminates.

access charge—**Local exchange carriers'** (LECs) customers, both telephone subscribers and **interexchange carriers (IXCs)**, pay LECs access charges for connection to the LECs' networks. The telephone subscribers pay a monthly **subscriber line charge**, while IXCs pay usage-based access charges. The access charges IXCs pay include **carrier common line** charges and **traffic-sensitive** charges.

access line—The circuit connecting the subscriber's premises to the **local exchange carrier's (LEC)** switching center. Generally, a LEC's number of access lines is approximately its number of subscribers.

average length of haul—The average distance a **local exchange carrier** carries **toll** calls; ALOH is part of the formula used to calculate the **subscriber plant factor** in some states.

average schedules—A set of formulas for determining the interstate **settlements** of those small **local exchange carriers (LECs)** that do not conduct a detailed **cost study** of their costs of providing telephone service. Developed and revised annually by the **National Exchange Carrier Association**, the average schedule formulas simulate the costs of those LECs that do conduct cost studies.

Bell operating companies (BOCs)—Prior to divestiture, AT&T owned both long distance and local telephone operations. When the court divested AT&T of its local telephone operations, it divided those operations into 22 BOCs, which were grouped into seven **regional holding companies (RHCs)**. (Sometimes the RHCs are referred to as regional Bell operating companies or RBOCs.) Many of the RHCs have since ceased using the individual BOC names and are now offering local telephone service under their RHC name. At divestiture, however, the RHCs and their respective BOCs were as follows:

custom calling features—Special features available in a **local exchange carrier's central office** switch, which can be offered to subscribers without subscribers needing any special equipment. Custom calling features include call waiting, three-way calling, call forwarding, and other miscellaneous features.

custom local area signaling service (CLASS)—Advanced custom calling features made possible through the capabilities of newer network signaling technologies. Among the possible CLASS features are automatic callback, distinctive ringing, selective call forwarding, and calling number delivery (caller ID).

deaveraging—Abandonment of the current telephone industry practice of charging for **toll** calls based on distance—not on the relative cost of carrying a call to a specific destination. The costs of carrying a call to some areas are much higher because there is less telephone traffic going to that area. But under the current practice of **geographic rate averaging**, the costs of carrying calls to high-cost, low-volume areas are averaged with the costs of carrying calls to high-volume areas, thus carriers charge uniform rates for carrying calls to all locations.

dial equipment minutes (DEM)—The number of minutes a **local exchange carrier's** switch is used for handling calls; as of 1993, DEM is the factor used to allocate local switching investment between the inter- and intrastate jurisdictions.

elements—The various components of the **access charges local exchange carriers** charge to **interexchange carriers**. Among the primary access elements are charges for switching calls, transporting calls, and directory assistance.

exchange—Generally the area served by one **local exchange carrier central office**.

extended area service (EAS)—A service which enlarges subscribers' local calling area so that for a higher monthly local service charge, calls to nearby locations are local calls instead of **toll** calls. Generally all affected subscribers are polled as to their interest in EAS prior to the **local exchange carrier** filing the **tariff** converting from toll to EAS for a specific area.

Federal Communications Commission (FCC)—An independent U.S. government agency, responsible directly to Congress, established by the Communications Act of 1934 and charged with regulating interstate and international communications by radio, television, wire, satellite, and cable. Intrastate services are under the jurisdiction of state public utility commissions.

Federal-State Joint Board—A body formed when regulatory issues have implications in both the inter- and intrastate jurisdictions. A joint board usually consists of three **Federal Communications Commission** commissioners and four state public utility commissioners.

fully distributed costing—A method of telephone service pricing in which all costs are distributed among all services provided (FCC Part 36 procedures).

geographically averaged/geographic averaging—see **deaveraging**

holding company—A parent company that owns one or more **local exchange carriers**.

independent—A **local exchange carrier** that never was part of the former Bell System.

local loop/loop—The communications channel between a subscriber and the **local exchange carrier central office** from which the subscriber's service is provided. **Loop costs** are the LEC's costs of installing and maintaining the local loop **plant**.

loop costs—see **local loop/loop**

Metropolitan Statistical Area (MSA)—A designation for the urban areas of the United States developed by the U.S. Census Bureau which the **Federal Communications Commission** used for granting cellular licenses.

minute of use (MOU)—The measurement, in minutes, of the time a **local exchange carrier**'s network or equipment is in use. For instance, **interexchange carriers** pay **access charges** based on the number of minutes they use the LEC's network; and equipment costs are divided between the inter- and intrastate jurisdictions based on the number of minutes the equipment is used for particular functions.

National Exchange Carrier Association (NECA)—An organization created by the **Federal Communications Commission** effective January 1, 1984, to file interstate access **tariffs** on behalf of **local exchange carriers (LECs)** and to manage the various access revenue **pools**. NECA also collects and distributes monies for the **Universal Service Fund** and the **Lifeline Program**.

non-traffic-sensitive (NTS)—Costs that are not based on the amount of traffic or activity, but instead remain the same regardless of the amount of traffic. **Local exchange carriers' (LECs)** NTS costs are recovered through **carrier common line access charges** from **interexchange carriers**, **subscriber line charges** from subscribers, and **long-term support** payments from those LECs no longer participating in the **National Exchange Carrier Association Common Line Pool**.

originating—see **access**

plant—The equipment used by a carrier in providing telecommunications service.

pool/pooling—A payment system under which revenues collected by **local exchange carriers (LECs)** are not kept, but instead are combined and redistributed based on factors such as the LECs' costs of providing service. There are various state pools, as well as the interstate pools administered by the **National Exchange Carrier Association (NECA)**. Originally there were three NECA pools—**common line (CL)**, **traffic-sensitive (TS)**, and **billing and collection (B&C)**—but the last was eliminated when interstate B&C was detariffed. At the end of the monthly pooling process, each participating LEC either owes monies to the pool or is due monies from the pool. NECA collects the monies due and distributes it to members who are recipients. Immediately after divestiture, all carriers participated in the NECA pools, but as of April 1, 1989, carriers have the option to withdraw from the pools and file their own **carrier common line** and/or TS **tariffs**.

subscriber line usage (SLU)—The total time subscriber **plant** is in use—a compilation of all subscriber plant **minutes of use** for all jurisdictions; the SLU factor is used in calculating **non-traffic-sensitive** costs and for allocating these costs between the inter- and intrastate jurisdictions.

subscriber plant factor (SPF)—The factor previously used to allocate **loop costs** or **non-traffic-sensitive** costs between the inter- and intrastate jurisdictions.

Subset—The designation the **National Exchange Carrier Association** uses to categorize its members according to size. Subset 1 includes the **Bell operating companies**, subset 2 includes the large **independent local exchange carriers (LECs)** with $40 million or more in annual telephone revenues, and subset 3 includes all other LECs.

switched access—see **access**

tariff—The document in which carriers—both **local exchange carriers** and **interexchange carriers**—set forth the charges for their services and the terms under which the services are provided. Tariffs for interstate services are filed with the **Federal Communications Commission**, while those for intrastate services are filed with state public utility commissions.

(NECA) Tariff 4—The interstate **tariff** filed by the **National Exchange Carrier Association** which sets forth the coordinates for all **local exchange carrier central offices**.

terminating—see **access**

Tier 1—A **local exchange carrier (LEC)** with annual operating revenues or $100 million or more.

toll—Calls for which subscribers incur a charge because the location called is outside their local service calling area. Toll calls can be intrastate or interstate calls, but the interstate toll calls often are referred to as long distance calls.

traffic-sensitive (TS)—Costs that vary based on the amount of traffic; the **pool** that the **National Exchange Carrier Association** administers for its **local exchange carrier (LEC)** members' TS costs; one type of usage-based **access charge interexchange carriers** pay LECs.

universal service—The concept, included in the Communications Act of 1934, that all subscribers—both urban and rural—are entitled to quality telephone service at reasonable rates. Specifically the act says ". . . to make available, so far as possible, to all the people of the United States, a rapid, efficient, Nation-wide, and world-wide wire and radio communications service with adequate facilities at reasonable charges."

Universal Service Fund (USF)—A federal program that pays support to those **local exchange carriers (LECs)** whose costs of providing basic local telephone service are higher than the national average so they can charge their subscribers reasonable local service rates. The USF accomplishes this by allowing high-cost LECs to recover additional revenue from the interstate jurisdiction, which reduces the amount of their costs allocated to the intrastate jurisdiction and thus keeps their local rates lower than they otherwise would be. USF assistance is distributed on a sliding scale, with the highest cost **study areas** receiving the most assistance.

SELZER ✧ BODDY

IOWA COMMUNICATIONS NETWORK SURVEY
FINAL REPORT

September, 1995

Communication Research
and Video Production
2501 Grand Avenue • Des Moines, IA 50312

Overall, about half of authorized users actually use the system. Some are more savvy when it comes to telecommunication technologies than others, but skill level does not seem to affect the degree to which an organization uses such technology. In other words, among authorized users, there does not exist a two-tiered market for the ICN. Both experts and novices use the same services to roughly the same degree. As a counter point, businesses do present just such a two-tiered market: some are heavy users of telecommunication technology and some are unversed. Authorized users are aware of the current hourly rate charged by the ICN, and do not favor much of an increase. Business persons, on the other hand, offer a wider range of what they consider an affordable price for use of a statewide fiber optics network. Both authorized users and businesses agree on one thing though: Telecommunication technology is a key to their future success.

TELECOMMUNICATION TECHNOLOGIES USE

Findings in this section deal only with authorized users.

About half of authorized users actually use the Iowa Communications Network. A plurality of authorized users (48%) say they are non-users of the ICN; another 38% consider themselves low-level ICN users. Eleven percent say they are mid-level users of the ICN, and only 3% consider themselves heavy users of the state's fiber optic network.

Authorized users perceive the state's fiber optic network as a good value. A majority (51%) say the hourly cost for the ICN is a fair value for the money. Another 27% think it a bargain, and 22% say it is too expensive for what it delivers. Those most likely to perceive the system as a bargain include the heaviest ICN users: government agencies (44% consider the cost a bargain compared to the average of 27%); libraries (35%) and institutions of higher education (35% say it is a bargain). Those who do not use telecommunication technologies are most likely to look critically at the cost of the ICN: 52% of this group say the system is too expensive for what it delivers (probably because it doesn't delivery anything to them).

Authorized users know the current hourly video rate of the system. Two rate groups pay two different amounts for video access on the ICN: libraries, educational institutions and state agencies pay five dollars an hour, while the medical community pays forty dollars an hour. The five dollar an hour rate group feels their amount is fair: 56% say five dollars an hour is affordable. Another 26% fall into the six to ten dollars an hour range, and 12% say more than ten dollars is affordable.

The second rate group, medical organizations, are willing to pay a bit more than the first group but would like to pay less than the current forty dollar rate. A plurality (37%) feel five dollars is the most appropriate rate. Twenty-one percent feel six to ten dollars is an affordable amount, and 20% say eleven to twenty-five dollars an hour is affordable. Only 22% would be willing to pay more than twenty-five dollars an hour for video services.

Levels of technological sophistication do not appear to influence the types of services respondents use. Overall, telecommunication technology use among authorized ICN organizations is light. Still, both more and less technologically savvy respondents use the

- 15% say selling the excess capacity of system under state ownership works for them; and,
- 11% would like the state to sell the system with assurances of affordable access.

The other six options garner support from fewer than one in ten respondents. Authorized users make one clear point in these findings: They do not want any ownership changes that affect their current use of the system, particularly regarding cost changes.

Even the #1 choice—a fully democratic system, accessible to all Iowans—has downsides for authorized users. If the state of Iowa were to expand authorized use to all Iowans, scheduling time would become a nightmare and overall quality would decline, according to current authorized users. Seventy-nine percent say scheduling would be more difficult with tens of thousands of additional users, and 36% perceive diminished overall quality (the highest percent of any of the ten options tested).

Those who know the most have a clearer vision: deal only with excess capacity. Authorized users who are very or fairly knowledgeable about the issues tested in this survey settle more clearly on a favorite reconfiguration than do other authorized users. More knowledgeable users find the strongest appeal in leasing the ICN's excess capacity; 21% say this option provides the greatest benefit to them. Further, they are more likely than average to imagine more frequent system improvements and expansion of service options if excess capacity is leased. That the state retain overall ownership while selling excess capacity earns second place among the more informed, with 19% envisioning the greatest benefit from this option.

Authorized users soundly reject the idea of an unfettered private system. Seven in ten authorized users (70%) say a privately owned fiber optics system with no assurances of affordable access would pose the greatest hardships on their organization. Another 7% reject the current ownership and authorization limits, and 6% say expanding the current system to include all Iowans poses the greatest burden to them.

Affordability and scheduling times are the greatest concerns under private ownership. Authorized users are almost certain private ownership without assured affordable access will result in significant price increases; 77% say the price will increase significantly under such a scenario, and another 17% expect a more moderate price increase. These respondents are not as pessimistic about price increases for any of the other nine options tested. In addition, more than half of authorized users (57%) expect more difficulty scheduling time on the network under private ownership. Cost and scheduling concerns force one-third of authorized users (34%) to imagine themselves losing their authorized user status under complete private ownership.

- They are more likely than average to believe that the service options available to them will decline; and

- They are more likely than average to imagine declines in the overall quality of the service they currently receive from the ICN.

Interpretation

Clearly, authorized users are expressing strong self-interest in their opinions of the changes under consideration. They recognize some benefit to leasing or selling excess capacity, capacity they are not currently using. These findings suggest authorized users find the greatest appeal in changes employing modest adjustments to the current system that have the least impact on them.

BUSINESS RESPONDENTS

As a point for comparison, this section discusses findings among business respondents. Keep in mind, only 9% of business's who received a questionnaire, participated in the survey. This is a low response rate and may signal something about the level of interest among this group.

Telecommunication technology use is two-tiered among Iowa businesses. More than one-quarter of business respondents (28%) say they are non-users of telecommunication technologies, while 32% say they are either heavy users (12%) or mid-level users (20%). One-in-four businesses (40%) consider themselves low-level users of the technology. By way of comparison, current authorized users cluster around the mid (32%) to low (53%) use levels.

The most popular telecommunication services among Iowa businesses include: non-Internet online data services (43% report current use of such services); voice services (32%); the Internet (25%); and video conferencing (10%). More than one-third (36%) are not using any telecommunication technology, compared to only 17% of authorized users who say the same.

Iowa businesses value high technology. Though some Iowa businesses lack expertise with telecommunication technologies, most see the technology as an integral part of their future. One-third of business respondents (34%) say increasing use of the technology in their business is very important, and 37% say it is fairly important. Another 16% say such technology is not important in their business. This compares to current ICN authorized users, who are more enthusiastic about telecommunication technology, with 74% saying it is very important to the future of their organization.

Businesses imagine higher quality with complete private ownership (option #1). In four different measures, businesses express the greatest affinity for a privately owned system, without assurance for currently authorized users. Option #1 gains the most support from business respondents in the following measures:

- 64% envision greater system improvements under complete private ownership.
- 66% say more service options would result from a complete sale of the system.
- 52% say overall quality of service would improve under option #1.
- 40% say unfettered private ownership would result in easier scheduling.

Some businesses, however, image problems with unfettered private ownership of the ICN. Although complete private ownership of the ICN (option #1) is perceived as the most beneficial option by 21% of business respondents, another 23% say it would present the most hardships to their business. An identical 23% say the current system (option #9) presents the most disadvantage to them, and another 23% do not know which option would pose the most hardship for them. Ten percent say the expanding authorized user status to all Iowans (option #10) would be the most disadvantageous.

Interpretation

While the low response rate among businesses may indicate less interest in the topic, and colors all other findings, one conclusion is clear: Compared to authorized users, businesses place greater trust in the private sector than in the state when it comes to owning a statewide fiber optics system. And still, some businesses have reservations about such an ownership scenario. As a secondary option to private ownership, business respondents find some benefit to price controls or wide-sweeping expansion of authorization status.

APPENDIX

IOWA COMMUNICATION NETWORK SALE OPTIONS
PERCEPTION OF COST IMPLICATIONS

Costs would:	Increase A Lot %	Increase A Little %	Stay The Same %	Decrease %
Authorized Users				
Option 1: Sale of Network (No Assurance)	77	17	2	4
Option 2: Sale of Network (with Assurances)	25	55	17	3
Option 3: Sale of Excess Capacity	8	47	35	10
Option 4: Public/Private Ownership	21	66	10	3
Option 5: State Ownership Private Operations	37	51	11	1
Option 6: State Ownership Private Management	20	61	19	-
Option 7: State Lease to Private Companies (Competitive)	14	43	35	8
Option 8: State Lease to Private Companies (Non-Competitive)	22	46	28	4
Option 9: State Ownership and Operations (No Change)	29	45	25	1
Option 10: State Ownership and Operations (No Limits)	23	41	20	16
Businesses				
Option 1: Sale of Network (No Assurance)	32	35	15	18
Option 2: Sale of Network (with Assurances)	32	38	20	10
Option 3: Sale of Excess Capacity	21	31	33	15
Option 4: Public/Private Ownership	24	44	26	6
Option 5: State Ownership Private Operations	27	42	24	7
Option 6: State Ownership Private Management	28	38	27	7
Option 7: State Lease to Private Companies (Competitive)	11	41	31	17
Option 8: State Lease to Private Companies (Non-Competitive)	21	40	28	11
Option 9: State Ownership and Operations (No Change)	38	27	31	4
Option 10: State Ownership and Operations (No Limits)	26	33	17	24

IOWA COMMUNICATION NETWORK SALE OPTIONS
IMPACT ON SYSTEM IMPROVEMENTS

System Improvements would happen:	More Often %	Less Often %	No Difference %
Authorized Users			
Option 1: Sale of Network (No Assurance)	38	33	29
Option 2: Sale of Network (with Assurances)	33	35	32
Option 3: Sale of Excess Capacity	41	18	41
Option 4: Public/Private Ownership	33	26	41
Option 5: State Ownership Private Operations	23	37	40
Option 6: State Ownership Private Management	22	30	48
Option 7: State Lease to Private Companies (Competitive)	37	19	44
Option 8: State Lease to Private Companies (Non-Competitive)	20	25	55
Option 9: State Ownership and Operations (No Change)	10	39	51
Option 10: State Ownership and Operations (No Limits)	36	29	35
Businesses			
Option 1: Sale of Network (No Assurance)	64	16	20
Option 2: Sale of Network (with Assurances)	46	29	25
Option 3: Sale of Excess Capacity	30	33	37
Option 4: Public/Private Ownership	33	34	34
Option 5: State Ownership Private Operations	26	34	40
Option 6: State Ownership Private Management	16	43	41
Option 7: State Lease to Private Companies (Competitive)	19	33	48
Option 8: State Lease to Private Companies (Non-Competitive)	10	40	50
Option 9: State Ownership and Operations (No Change)	2	58	40
Option 10: State Ownership and Operations (No Limits)	32	36	32

IOWA COMMUNICATION NETWORK SALE OPTIONS
IMPACT ON SERVICE OPTIONS

Change would result in:	More Service Options %	Fewer Service Options %	No Difference %
Authorized Users			
Option 1: Sale of Network (No Assurance)	47	28	25
Option 2: Sale of Network (with Assurances)	41	27	32
Option 3: Sale of Excess Capacity	37	20	43
Option 4: Public/Private Ownership	36	25	39
Option 5: State Ownership Private Operations	26	32	42
Option 6: State Ownership Private Management	24	23	53
Option 7: State Lease to Private Companies (Competitive)	34	18	48
Option 8: State Lease to Private Companies (Non-Competitive)	22	25	53
Option 9: State Ownership and Operations (No Change)	14	28	58
Option 10: State Ownership and Operations (No Limits)	41	31	28
Businesses			
Option 1: Sale of Network (No Assurance)	66	14	20
Option 2: Sale of Network (with Assurances)	52	23	25
Option 3: Sale of Excess Capacity	38	27	35
Option 4: Public/Private Ownership	38	29	33
Option 5: State Ownership Private Operations	28	23	49
Option 6: State Ownership Private Management	18	32	50
Option 7: State Lease to Private Companies (Competitive)	27	21	52
Option 8: State Lease to Private Companies (Non-Competitive)	17	33	50
Option 9: State Ownership and Operations (No Change)	4	46	50
Option 10: State Ownership and Operations (No Limits)	37	32	31

IOWA COMMUNICATION NETWORK SALE OPTIONS
PERCEPTION OF AUTHORIZED USER STATUS

	Yes, I would be an Authorized User %	No, I would Not be an Authorized User %
Authorized Users		
Option 1: Sale of Network (No Assurance)	66	34
Option 2: Sale of Network (with Assurances)	81	19
Option 3: Sale of Excess Capacity	88	12
Option 4: Public/Private Ownership	81	19
Option 5: State Ownership Private Operations	80	20
Option 6: State Ownership Private Management	80	20
Option 7: State Lease to Private Companies (Competitive)	81	19
Option 8: State Lease to Private Companies (Non-Competitive)	77	23
Option 9: State Ownership and Operations (No Change)	76	24
Option 10: State Ownership and Operations (No Limits)	81	19
Businesses		
Option 1: Sale of Network (No Assurance)	48	52
Option 2: Sale of Network (with Assurances)	47	53
Option 3: Sale of Excess Capacity	43	57
Option 4: Public/Private Ownership	39	61
Option 5: State Ownership Private Operations	39	61
Option 6: State Ownership Private Management	38	62
Option 7: State Lease to Private Companies (Competitive)	45	55
Option 8: State Lease to Private Companies (Non-Competitive)	38	62
Option 9: State Ownership and Operations (No Change)	20	80
Option 10: State Ownership and Operations (No Limits)	59	41

IOWA COMMUNICATION NETWORK SALE OPTIONS
OVERALL IMPACT OF CHANGE

Impact of change on respondent would be:	Major %	Minor %	No Impact %
Authorized Users			
Option 1: Sale of Network (No Assurance)	58	29	13
Option 2: Sale of Network (with Assurances)	37	41	22
Option 3: Sale of Excess Capacity	19	50	31
Option 4: Public/Private Ownership	25	48	27
Option 5: State Ownership Private Operations	28	43	29
Option 6: State Ownership Private Management	20	43	37
Option 7: State Lease to Private Companies (Competitive)	20	46	34
Option 8: State Lease to Private Companies (Non-Competitive)	19	41	40
Option 9: State Ownership and Operations (No Change)	19	35	46
Option 10: State Ownership and Operations (No Limits)	44	34	22
Businesses			
Option 1: Sale of Network (No Assurance)	30	41	29
Option 2: Sale of Network (with Assurances)	23	41	36
Option 3: Sale of Excess Capacity	18	42	40
Option 4: Public/Private Ownership	16	45	39
Option 5: State Ownership Private Operations	15	41	44
Option 6: State Ownership Private Management	16	40	44
Option 7: State Lease to Private Companies (Competitive)	16	37	47
Option 8: State Lease to Private Companies (Non-Competitive)	16	31	53
Option 9: State Ownership and Operations (No Change)	13	32	55
Option 10: State Ownership and Operations (No Limits)	27	40	33

Q12. Assume the ICN the state of Iowa would retain ownership and operation of the ICN and sell excess capacity for private ownership and operation. Based on what you know and compared to the current state-owned system, what changes would you expect under this option?

A. Costs would likely:	8	Increase a lot	47	Increase a little	35	Stay the same	10 Decrease
B. Scheduling time on the ICN would be:	15	Easier	50	More difficult	35	No difference	
C. My personal use of the ICN would:	27	Increase	13	Decrease	60	No difference	
D. Improvements to the system would happen:	41	More often	18	Less often	41	No difference	
E. I would likely have:	37	More service options	20	Fewer service options	43	No difference	
F. The quality of overall service would:	27	Improve	11	Decline	62	No difference	
G. The overall impact of the change on me would be:	19	Major	50	Minor	31	No impact	
H. Under this systems, do you believe you would be an authorized user?			88	Yes	12	No	

Q13. Assume the ICN would be co-owned by a joint state-private entity (e.g. partnership, cooperative, corporation). Based on what you know and compared to the current state-owned system, what changes would you expect under this option?

A. Costs would likely:	21	Increase a lot	66	Increase a little	10	Stay the same	3 Decrease
B. Scheduling time on the ICN would be:	18	Easier	53	More difficult	29	No difference	
C. My personal use of the ICN would:	18	Increase	22	Decrease	60	No difference	
D. Improvements to the system would happen:	33	More often	26	Less often	41	No difference	
E. I would likely have:	36	More service options	25	Fewer service options	39	No difference	
F. The quality of overall service would:	25	Improve	19	Decline	56	No difference	
G. The overall impact of the change on me would be:	25	Major	48	Minor	27	No impact	
H. Under this systems, do you believe you would be an authorized user?			81	Yes	19	No	

Q16. Assume the ICN continues to be owned and operated by the State of Iowa and excess capacity is leased to private contractors. Based on what you know and compared to the current state-owned system, what changes would you expect under this option?

A. Costs would likely:	14	Increase a lot	43	Increase a little	35	Stay the same	8 Decrease
B. Scheduling time on the ICN would be:	13	Easier	50	More difficult	37	No difference	
C. My personal use of the ICN would:	20	Increase	16	Decrease	64	No difference	
D. Improvements to the system would happen:	37	More often	19	Less often	44	No difference	
E. I would likely have:	34	More service options	18	Fewer service options	48	No difference	
F. The quality of overall service would:	28	Improve	13	Decline	59	No difference	
G. The overall impact of the change on me would be:	20	Major	46	Minor	34	No impact	
H. Under this systems, do you believe you would be an authorized user?			81	Yes	19	No	

Q17. Assume the ICN continues to be owned and operated by the State of Iowa and excess capacity is leased to a private operator in markets only where existing vendors are *not* capable or willing to provide the service. Based on what you know and compared to the current state-owned system, what changes would you expect under this option?

A. Costs would likely:	22	Increase a lot	46	Increase a little	28	Stay the same	4 Decrease
B. Scheduling time on the ICN would be:	15	Easier	44	More difficult	41	No difference	
C. My personal use of the ICN would:	14	Increase	18	Decrease	68	No difference	
D. Improvements to the system would happen:	20	More often	25	Less often	55	No difference	
E. I would likely have:	22	More service options	25	Fewer service options	53	No difference	
F. The quality of overall service would:	16	Improve	20	Decline	64	No difference	
G. The overall impact of the change on me would be:	19	Major	41	Minor	40	No impact	
H. Under this systems, do you believe you would be an authorized user?			77	Yes	23	No	

Q20. Based on your knowledge of the ICN as you understand it today, which ONE of the options just discussed would be the most beneficial to you? Please give only ONE answer.

2 The ICN is sold for private ownership and operation and current authorized users would not be assured affordable access.

11 The ICN is sold for private ownership and operation and current authorized users would be assured affordable access.

15 The State of Iowa retains ownership and operation of the ICN and sells excess capacity for private ownership and operation.

3 The ICN is co-owned by a joint state-private entity.

6 The State of Iowa retains ownership and the operation of the ICN is operated by a private contractor who assumes all risk.

5 The State of Iowa retains ownership and the management of the ICN is contracted to a private operator. The State of Iowa assumes all risk.

16 The State of Iowa retains ownership and operation of the ICN and excess capacity is leased to private operators.

8 The State of Iowa retains ownership and operation of the ICN and excess capacity is leased to private operators in markets only where vendors are not capable or willing to provide the service.

8 The State of Iowa retains ownership and operation of the ICN and access is limited to the current list of authorized users.

17 The State of Iowa retains ownership and operation of the ICN and all Iowans become authorized users.

- None

9 Don't know

State Public Policy Group
SELZER BODDY, INC.
Study #1277

184 Non-Authorized (Business) Users
September 1995

IOWA COMMUNICATION NETWORK SURVEY
FILLED-IN QUESTIONNAIRE

Q1. Please put an X in the box that best represents your workplace.

-	K-12 Education (included AEA's)	-	Higher Education
-	Library	-	Government Agency
100	Business	-	Hospital/Medical Clinic

Q2. Which of the following telecommunications technologies are you currently using: (Mark all that apply.)

25	Internet	1	Telemedicine
43	Other online data services	10	Video Conferencing
32	Voice Services	36	Not using any telecommunications technology
5	Distance learning (video)		

Q3. Do you consider yourself to be heavy user of telecommunication technology, a mid-level user, a low-level user, or a non-user of telecommunication technology?

12	Heavy user	20	Mid-level	40	Low-level	28	Non-user

Q4. Which of the following reasons best explains why you do not use telecommunications technologies more often than you currently do? (Mark all that apply.)

36	Cost of service	18	Don't know how to use
32	Cost of equipment	17	Don't know how to access technology
17	Technology not available in my area	41	Not necessary for my purposes
4	Not interested	7	None of these

Q5. Which of the following functions of the Iowa Communications Network (ICN) do you currently use?

2	Internet	-	Telemedicine
2	Other online data services	7	Video Conferencing
1	Voice Services	87	Not using ICN telecommunications technology
4	Distance learning (video)		

Q6. Do you consider yourself to be heavy user of the ICN, a mid-level user, a low-level user, or a non-user?

-	Heavy user	2	Mid-level	10	Low-level	88	Non-user

Q7. How important do you feel it is to incorporate telecommunications technologies into your business/organization?

34	Very important	37	Fairly Important	16	Not Important	13	Not sure

Q8. Overall, how would you rate the value you receive for the costs you pay to use the ICN?

14	A bargain	46	A fair value for the money	40	Too expensive for what it delivers

Q12. Assume the ICN the state of Iowa would retain ownership and operation of the ICN and sell excess capacity for private ownership and operation. Based on what you know and compared to the current state-owned system, what changes would you expect under this option?

A. Costs would likely:	21	Increase a lot	31	Increase a little	33	Stay the same	15 Decrease
B. Scheduling time on the ICN would be:	20	Easier	48	More difficult	32	No difference	
C. My personal use of the ICN would:	23	Increase	13	Decrease	64	No difference	
D. Improvements to the system would happen:	30	More often	33	Less often	37	No difference	
E. I would likely have:	38	More service options	27	Fewer service options	35	No difference	
F. The quality of overall service would:	25	Improve	25	Decline	50	No difference	
G. The overall impact of the change on me would be:	18	Major	42	Minor	40	No impact	
H. Under this systems, do you believe you would be an authorized user?			43	Yes	57	No	

Q13. Assume the ICN would be co-owned by a joint state-private entity (e.g. partnership, cooperative, corporation). Based on what you know and compared to the current state-owned system, what changes would you expect under this option?

A. Costs would likely:	24	Increase a lot	44	Increase a little	26	Stay the same	6 Decrease
B. Scheduling time on the ICN would be:	23	Easier	44	More difficult	33	No difference	
C. My personal use of the ICN would:	22	Increase	17	Decrease	61	No difference	
D. Improvements to the system would happen:	33	More often	34	Less often	34	No difference	
E. I would likely have:	38	More service options	29	Fewer service options	33	No difference	
F. The quality of overall service would:	32	Improve	27	Decline	41	No difference	
G. The overall impact of the change on me would be:	16	Major	45	Minor	39	No impact	
H. Under this systems, do you believe you would be an authorized user?			39	Yes	61	No	

Q16. Assume the ICN continues to be owned and operated by the State of Iowa and excess capacity is leased to private contractors. Based on what you know and compared to the current state-owned system, what changes would you expect under this option?

A. Costs would likely:	11	Increase a lot	41	Increase a little	31	Stay the same	17 Decrease
B. Scheduling time on the ICN would be:	17	Easier	40	More difficult	43	No difference	
C. My personal use of the ICN would:	20	Increase	10	Decrease	70	No difference	
D. Improvements to the system would happen:	19	More often	33	Less often	48	No difference	
E. I would likely have:	27	More service options	21	Fewer service options	52	No difference	
F. The quality of overall service would:	17	Improve	23	Decline	60	No difference	
G. The overall impact of the change on me would be:	16	Major	37	Minor	47	No impact	
H. Under this systems, do you believe you would be an authorized user?			45	Yes	55	No	

Q17. Assume the ICN continues to be owned and operated by the State of Iowa and excess capacity is leased to a private operator in markets only where existing vendors are *not* capable or willing to provide the service. Based on what you know and compared to the current state-owned system, what changes would you expect under this option?

A. Costs would likely:	21	Increase a lot	40	Increase a little	28	Stay the same	11 Decrease
B. Scheduling time on the ICN would be:	15	Easier	39	More difficult	46	No difference	
C. My personal use of the ICN would:	16	Increase	13	Decrease	71	No difference	
D. Improvements to the system would happen:	10	More often	40	Less often	50	No difference	
E. I would likely have:	17	More service options	33	Fewer service options	50	No difference	
F. The quality of overall service would:	11	Improve	29	Decline	60	No difference	
G. The overall impact of the change on me would be:	16	Major	31	Minor	53	No impact	
H. Under this systems, do you believe you would be an authorized user?			38	Yes	62	No	

Q20. Based on your knowledge of the ICN as you understand it today, which ONE of the options just discussed would be the most beneficial to you? Please give only ONE answer.

17 The ICN is sold for private ownership and operation and current authorized users would not be assured affordable access.

21 The ICN is sold for private ownership and operation and current authorized users would be assured affordable access.

9 The State of Iowa retains ownership and operation of the ICN and sells excess capacity for private ownership and operation.

3 The ICN is co-owned by a joint state-private entity.

3 The State of Iowa retains ownership and the operation of the ICN is operated by a private contractor who assumes all risk.

2 The State of Iowa retains ownership and the management of the ICN is contracted to a private operator. The State of Iowa assumes all risk.

5 The State of Iowa retains ownership and operation of the ICN and excess capacity is leased to private operators.

1 The State of Iowa retains ownership and operation of the ICN and excess capacity is leased to private operators in markets only where vendors are not capable or willing to provide the service.

3 The State of Iowa retains ownership and operation of the ICN and access is limited to the current list of authorized users.

11 The State of Iowa retains ownership and operation of the ICN and all Iowans become authorized users.

3 None

22 Don't know

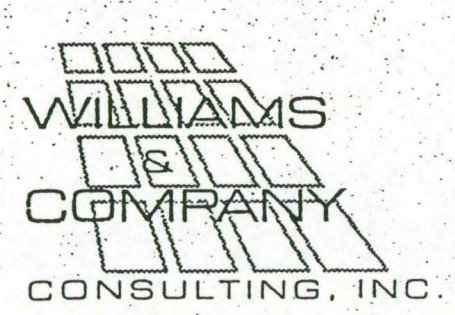
PREPARED FOR:

STATE PUBLIC POLICY GROUP

ICN STUDY REPORT

SEPTEMBER 15, 1995

PREPARED BY:



METHODOLOGY

Question 13: What are the positive and negative impacts of this option on the state's ability to retain long-term capacity sufficient to meet the present and future needs of the currently authorized users?

In order to answer this question we had extensive discussions with several telecommunications managers in a focus group setting to discuss the capacity issue. Much of the initial discussion centered around defining key areas that would need to be understood by everyone discussing the issue. Assumptions were drawn to allow the discussion to move forward and not spend too much time revisiting the same issues.

The following assumptions were made:

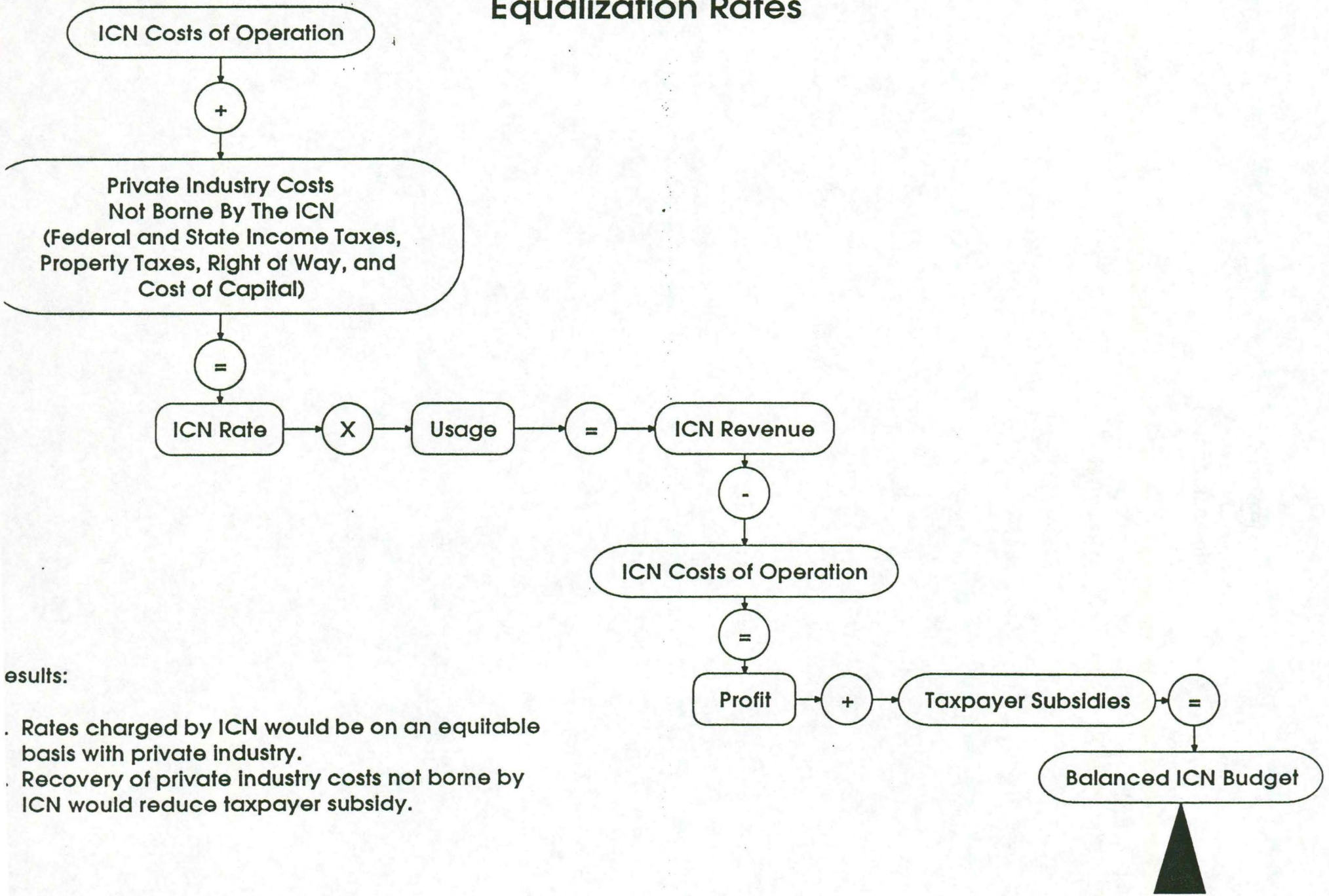
(1) **Definition of Excess Capacity** - It was agreed that excess capacity is a moving target due to technological advances in electronics equipment which multiplies the potential of fiber optics to carry video, voice and data signals. Most of the capacity that would be available through the ICN would be made available through the usage of existing electronics and/or additional electronics to be added to the system to increase capacity. The participants agreed that very little of the excess capacity would be in the form of dedicated or dark fiber which could be leased to other users. Excess capacity of the ICN is not definable at this time and would continue to be everchanging.

(2) **Sale of the Excess Capacity** - If a sale of the capacity would occur the sale price would also include some of the costs for the infrastructure or backbone of the system. Because of this, any sale to private industry without full and complete cost separation would become a state-subsidized activity and, therefore, would still be indirectly paid for by the taxpayers.

(3) **Legislative Subsidies** - In order for private industry to accept the 'assurances' that distance learning capabilities will still be made available under many of these options they must be convinced that state appropriations that subsidize the cost of the distance learning portion of the ICN must not spill over and also subsidize the other services provided by the ICN that compete with private industry.

(4) **Term Definitions** - The word **price** is used by the focus group participants to mean the amount of money that the end-user would have to pay for the service. **Cost** is the amount of money the ICN incurs in order to provide that service. The point being, these two terms are not interchangeable and have very different meanings in the following responses.

Equalization Rates



esults:

- Rates charged by ICN would be on an equitable basis with private industry.
- Recovery of private industry costs not borne by ICN would reduce taxpayer subsidy.

OPTION 2
Sale of Network
(With Assurances)

Not applicable.

OPTION 4
Private/Public Ownership

POSITIVE IMPACTS:

The focus group addressed the overall issue of private/public ownership from the standpoint of a clear understanding of excess capacity. The group felt that excess capacity is not clearly definable nor clearly separable from the backbone network system of the ICN. Since there is no clear separation between excess capacity and the existing network, it would be necessary for a common purpose and direction to exist between the private and public owners of the network. If excess capacity was the responsibility of private industry and the public purpose for the ICN was the responsibility of the public owners of the system these two objectives would be diametrically opposed and would be very difficult to create a win-win relationship. The business objectives of the two owners would be too different and they would always be conflicting.

NEGATIVE IMPACTS:

As a result of the existence of opposing objectives, the group felt that the Option 4's likelihood for long term success is very low. The ICN appears to be looking for alternative revenues to support the cost of the network. The objective of Option 4 appears to be a method to achieve an alternative revenue source for excess capacity. It is the position of the focus group that utilization of excess network capacity to generate revenues for the ICN is an indirect subsidy on the part of the taxpayers to providing an opportunity for competition with existing telecommunications providers in an unfair manner.

OPTION 6
State Ownership
Private Management

POSITIVE IMPACTS:

The state would have the ability to meet the excess capacity needs of currently authorized users through enhanced technologies and additional investment in the ICN.

NEGATIVE IMPACTS:

This option creates the opportunity for unfair competition with existing telecommunications providers through direct subsidies on the part of taxpayers. This would create a long term negative impact on the taxpayers of Iowa and on the economic viability of existing telecommunications providers.

OPTION 7
State Lease to Private Companies (Competitive)

POSITIVE IMPACTS:

This option would appear to allow the state the ability to retain long term capacities sufficient to meet the present and future needs of currently authorized users. This capacity can be met through investment in electronics which will expand the utilization of existing fiber.

NEGATIVE IMPACTS:

Option 7 calls for capacity leased by the state equal to the amount necessary to cover state operational costs and debt service plus depreciation. While this stated objective comes closer to pricing the excess capacity to other users on a basis that would recover the state's cost of those services, there is an inherent subsidization in the states operating costs on the part of taxpayers. For example, private utility companies pay federal and state income taxes, state property taxes, right of way costs, and other costs which are not a part of the ICN costs. If the ICN were owned and operated by private industry the state and local governments would receive tax revenues from the existence of the system. Those tax costs would be loaded into the pricing of excess capacity by a private utility company. Since the ICN is exempted from some of these costs, the indirect subsidy provided to the ICN in the form of lost revenues to state and local government once again creates an unfair competition with private industry.

OPTION 9
State Ownership and Operation (No Changes)

Not applicable.

METHODOLOGY

SAMPLE:

In choosing our sample we used a stratified random sampling method. The initial strata was to include those who provide service to a college(s) and the second was to provide service to hospital(s). Our initial sample was taken from the directory of active affiliate and associate members of the Iowa Telephone Association. It was further divided into (1-2,000 access lines), medium (1,000-3,000 access lines) and large (3,000-up access lines) telephone companies. We chose four from each group. If no companies fit into either of the strata we randomly selected from the appropriate list. Our population was then expanded to the list of telephone companies provided by the Iowa Utilities Board. From this we chose nine more companies totaling a sample of 21. The companies included long distance carriers and other providers who provide fiber optic services to the telecommunications industry.

METHOD/RESPONSES:

A survey was mailed to our sample group. The survey was designed to extract both the positive and negative impacts each option would have on the telecommunication providers. We received responses from three (3) small, medium and large (i.e., as defined above) local echange carriers for a total of nine (9). We received responses from four (4) long distance companies.

CONTENTS:

Section 1: Local Exchange Carrier Raw Data
This section includes the raw data results (i.e., verbatim) of the Local Exchange Carriers responses.

Section 2: Local Exchange Carrier Analysis
This section includes a summary or analysis of the positive and negative impacts each option would have on the Local Exchange Carrier

Section 3: Long Distance Carrier Raw Data
This section includes the raw data results (i.e., verbatim) of the Long Distance Carriers responses.

Section 4: Long Distance Carrier Analysis
This section includes a summary or analysis of the positive and negative impacts each option would have on the Long Distance Carrier.

OPTION 1
Sale of Network
(No Assurances)

POSITIVE IMPACTS:

- This sale would treat all telecommunications companies equal. Affordable rates are rates that are subsidized by the tax payer.
- We wouldn't have to deal with state financial competition in the local loop. Our negotiations on lease extensions would be with an entity that would hopefully be easier and quicker to deal with. Also, decisions as to the use of the systems would not be subject to political influences but on the free market.
- I can not think of any positive impact this could have on our company.
- The private industry would be on a more even playing field with us, regarding the rates they charge per month, they would not be subsidized by our local subscribers as tax payers thus keeping the competition out of our small telephone exchange for the time being.
- My company would know if we have a future or not. We would know who the operator is, and in all likelihood, his intentions.
- This would be great for telecommunication providers. Everyone would be on a level playing field with no tax payers money involved in supporting a telecommunication provider, but in talking to different legislators they have repeatedly stated that this would never happen.
- None that we can see.
- Private industry ownership would allow for competitive pricing on a level playing field. The way it appears today, the capacity of the network can be priced to authorized users without the need of the state to fully recover for debt retirement, interest and maintenance. Assuming continued appropriations from the legislature, the ICN can price services will below cost and provide a significant advantage over private industry in areas they may compete. If the sale went to private industry and particularly existing telecommunications providers, we may have the ability to interconnect our existing networks to the education facilities in our areas much sooner than the proposed ICN schedule.
- If ICN was sold to private at least we would be competeing on an even basis.

OPTION 2
Sale of Network
(With Assurances)

POSITIVE IMPACTS:

- None
- We wouldn't have to deal with state financial competition in the local loop. Our negotiations on lease extensions would be with an entity that would hopefully be easier and quicker to deal with. Also, decisions as to the use of the systems would be not subject to political influences but on the free market.
- This is probably the best option for our company.
- As long as access to capacity would be available to my company at the same rate as anybody else, no matter how big or small they are.
- My company would know if we have a future or not. We would know who the operator is, and in all likelihood, his intentions.
- Option 2 would take the state out of competition with private telecommunications companies for revenue dollars. Any buyer of the network facilities would then have to compete on a equal basis with the rest of the telecommunications companies for customers. A new buyer must base their prices on cost just like the rest of the industry. It would be a reasonable conclusion that any option to sell facilities would include assurances to the state to meet all their need for authorized users.
- None unless purchased by INS as we are stockholders and would be able to work out mutually beneficial arrangements.
- The sale to private industry would provide for competitive pricing on a level playing field. This option would provide some assurance that our current investments in fiber and electronics to connect a few of the Part III end points in our serving area would not be abandoned due to unaffordable rates.
- ICN should be sold to private enterprise. If necessary, state should subsidize buyer for education needs.

OPTION 3
Sale of Excess Network Capacity

POSITIVE IMPACTS:

- Very little. Possibility in time to purchase some of excess but realize that state owned network selling space on network below breakeven level gives state a socialistic outlook on government.
- There is no positive aspect unless the state stops allowing anymore users on the network except for educational institutions. We then wouldn't have to have direct state supported competition. It would be indirect which is just as bad.
- None
- This option does not have any positive assurances for my company.
- No known positive impacts.
- None
- None
- I cannot see any significant benefits for our company outside the fact that the anticipated lease payments for Part III end points connections would continue.

- This option could provide for a significant threat of bypass in our exchange areas. Since I do not know how the network costs would be allocated between the ICN portion and the excess capacity portion, the threat exists that the excess capacity could be leased at below market rates and in turn provide competitors artificially low cost access into our exchanges and ultimately to our high volume customers.

- State should not own the fiber networks that is paid for with tax money to compete unfairly with private companies. If the ICN continues to expand into the communications business they could become a monopoly. This doesn't seem fair when the government has cause to breakup of monopolies. Private companies can not compete against ICN when ICN doesn't have to charge rates to pay for original cost and their true expenses. The state uses the tax money we pay to be in competition against us; doesn't seem to fair.

NEGATIVE IMPACTS:

- No comments.
- It would still allow the same unfair state supported competition. It may make it easier for the purchaser to get into competition in our area. But, the state probably was heading that direction anyway and already took our medical facilities and schools away from us. It shouldn't effect our local schools since our company would ensure the schools would have the technology they needed at affordable prices.
- The ICN would still be tax supported.
- Again, our tax dollars are helping out the private industry, not only do you have the state competing in our service territory, you also have a private industry. My rural customers are going to hurt the most. You'll end up not only taking my business customers but also the urban as well, leaving my rural customers with high rates.
- This option seems to be very unworkable. Who are the eligible vendors in the industry?
- The State of Iowa should not be in the telecommunications business in competition with tax paying identities. The state does not set their prices based on their total cost of doing business. We must have fair competition for private business to survive.
- Bypass of facilities, too many investor with no knowledge of telephony involved, loss of revenue access.
- The ability of the state to adequately account for and acknowledge its cost has shown to be extremely difficult. With a private/public ownership structure this issue will be complicated further. For example, the allocation of costs to the public portion could be weighted based on the anticipated appropriations from the legislature or weighted to ensure the targeted return on the private investment. This, once again, could lead to the ability to price capacity and other services at rates below market and therefore have a competitive advantage.
- If any part is state owned, we will be subsidizing the state's part with our tax money.

NEGATIVE IMPACTS:

- None
- The same as in Option 1, 2 & 3. This is no different than leasing excess capacity. It has the same effect of creating an unfair competitive advantage because no capitol would need to be expended to put someone in the telephone business.
- As long as the ICN has ownership we can not compete with them.
- Again, our tax dollars will be supporting private organization due to on going expenses. They would come in our town and take our business customers away, thus leaving higher rates for others.
- There is already enough capacity in the existing private networks. By doing this you are artificially starting competition with no universal service requirements. My company and other telephone companies would suffer greatly by predatory pricing.
- If the state retains ownership of the network it will always be in competition with the private sector. Any options which it intends to lease capacity would be in direct competition with companies like INS for services. Private companies can never compete with the state because the state does not set their prices based on their total cost of doing business. Any entity which would lease capacity from the state will be getting a state tax payer subsidy to compete directly with our industry. Any options which the state still owns the facilities will never shut the door on who will be authorized to use the network at a tax payer subsidized rate. This in fact may lead to the possibility of a socialized telecommunication system.
- Although current authorized users and educational facilities would be assured affordable rates, these rates will undoubtedly be subsidized through higher rates for other users. Administrative fees could be astronomical as both state and private company would have cost in this area. We would be forced to compete with the state who would be operating in a tax-free environment while independent telcos are taxable.
- Dependent upon what the lease rate to the operator was and if there would be any restrictions as to what other types of services could be offered, there could once again be a serious threat of bypass by our high volume customers. Once you lose the large customers, the opportunity to provide upgraded services and new technologies becomes more difficult because your base to spread the costs over are significantly reduced.

OPTION 6
State Ownership
Private Management

POSITIVE IMPACTS:

- *Option 2 is the only fair option.
- *I don't see this much different from option 5. It has the same effect.
- *None
- None
- No known positive impacts.
- None
- At least it might be operated by some entity with prior telephone experience and expertise.
- If private management is told that the network is to remain primarily an educational network and move its focus from one of expanding services in direct competition with private industry, there may be an opportunity to work in more cooperative manner.
- None

OPTION 7
State Lease to Private Companies (Competitive)

POSITIVE IMPACTS:

- There are no positive impacts. All of the options in this study that allows for the state to compete with private sector is only going to market the customer pay more or service and improvements will not be made because there will not be the margin of profit.
- This is the same as Option 6.
- The ICN can not have a positive impact on our company.
- If the state can operate the system not for profit, our tax dollars will be well spent. Our company pays the same rate for capacity as any other private industry.
- No known positive impacts.
- None
- None
- No positive impacts except the current lease payments for Part III end point connections would continue.
- None

high volume customers. As for the state to become a long distance provider, this would be in direct competition with out company. This will have, an already does through its current program with the AEA's, an immediate negative impact on our company.

- The ICN could be taking our business from us. Also as a part owner of Iowa Network Services, they would be cutting into INS profits.

NEGATIVE IMPACTS:

- This option still have government involvement in competition with private enterprise. Because the ICN started doing only limited projects but that has grown to include more and becoming more competitive with private industry. Does any one not believe that this option will become competitive in the future.

- Same as Option 6 & 7.

- Still state owned.

- Down the road, the state changes its mind with no guarantees of any long term commitment, we would be forced into competition with the state again.

- This could lead to mandating prices for lease. Many of these services could be available, but the obvious come back would be that they are not competitive prices. In effect, mandating lease prices if telephone companies want to provide them. Defining services available in an area could be real bugaboo. To define private operations and private companies could also be extremely difficult and potentially damaging. If the State had the GUMPTION to follow through with this option, this would be fine. Unfortunately, I doubt if the Legislature has the "weatherall" to sustain the continuing bombardment of requests for additional authorized users. From a negative impact, this would continue the assault, just like I said above, on enlarging the authorized user base. This also takes away revenue for line haul for long distance facilities that my company has made an investment.

- If the state leased to private operation at their tax payer subsidized rate, then a private telecommunication provider had service at a later date at their real cost, the cost would be higher and the customer would complain about the higher cost.

- We would have no incentive to upgrade our facilities when we risk being under cut by a state subsidized provider.

- There is not a significant negative impact with this option. An area of concern with this option would be defining when a company is capable or willing to provide a service. Would it have to be at the same price that the ICN was offering?

- There are already other companies that provide these services.

NEGATIVE IMPACTS:

- As we have no one assigned to ICN now, it would have no negative impacts.
- Some of our larger customers have been taken away. This state supported competition is unfair and also the low rates being subsidized by tax dollars will be a constant drain.
- This is costing the state and also taking toll from the local telephone companies. There are cheaper ways to provide educational facilities in our area.
- We are in competition with the state, again, double taxes our customers. Our local rates could go up due to decrease in revenues. The state being able to do what ever they want to get added revenues, even if it means taking away our subscribers.
- The biggest negative impact is that I do not believe that the State has the gumption to follow through with this option. There is a continuing bombardment of requests for addition authorized users. The continuing authorization of additional users would take revenue from line haul for long distance facilities that my company has made an investment. The State prices its services below true costs and thus is predatory pricing.
- Option 9 would never shut the door on who will be authorized to use the network at a taxpayer subsidized rate. With the general assembly able to change the laws from year to year, this could never be put in stone.
- We would be trying to compete with a tax-exempt state subsidized operation who would have unfair advantage.
- The way the ICN is operating today is already having a negative impact on our company. The reselling of toll, internet access, video conferencing services are all services that we offer today and offered before the ICN offered them. This subsidized competition will continue to impair our ability to offer new or expanded services to all of our customers. Our commitment is to offer new technologies to all of our customers, including the high cost rural customers. Without the high volume users, this will become more and more difficult at affordable prices.

OPTION 10
State Ownership and Operation (No Limits)

POSITIVE IMPACTS:

- No positive impacts.
- None
- None
- As long as our user fee of the network would be the same, for any other provider.
- I would be able to afford and would not need to make my first trip to see Communist countries as their philosophies would be enacted in Iowa!
- None
- None
- There are no significant benefits to our company with this option. Only positive would be that we might be able to recover a portion of our cost in connection with the Part III end points that we serve.
- None

- See option 9. This would be like playing monopoly with someone who could change the rules with every role of the dice, go directly to jail, do no pass go, do not collect. Nobody wants to play with no opportunity to win or even survive. This whole situation reeks of socialism and excess gov't involvement.

- The negative impact would be tax subsidized competition. Results would be bypass of high volume customers, lost incentive to provide new services to customers who may not have access to ICN, inability to achieve rate of return necessary to provide these services. Private business operations and government operations are completely different. You cannot make them "look" the same. There is no way we would be able to compete with the ICN on a level playing field without some limitations on the use of the network.

- They will be taking business from our company with unfair competition. Then when the state's revenue decreases because of our decrease in revenue, they will have to raise taxes to keep the ICN Network going.

OPTION 1
Sale of Network
(No Assurances)

POSITIVE IMPACTS:

- Two respondents indicated there were no positive impacts on their company.
- The remaining respondents indicated that this sale would put all telecommunications providers on the same level (i.e., not subsidized), keeping the state from competing with their companies.

NEGATIVE IMPACTS:

- Two respondents indicated there were no negative impacts on their company.
- The threat of competition from the purchaser is a concern among the remaining respondents. The potential for losing their best customers exists. This will result in higher costs to pass on to their remaining customers and decreased revenue.
- One respondent indicated that this was not a good option due to "no assurances". The buyer should have some regulations. Another respondent indicated rates should be kept affordable for education.

OPTION 3
Sale of Excess Network Capacity

POSITIVE IMPACTS:

- All the respondents indicated no significant positive impacts.
- Only positive impact was the anticipated lease payments for Part III end point connections would continue.

NEGATIVE IMPACTS:

- All of the respondents indicated this scenario would create unfair competition with the state and with new providers:
  - The tax-exempt State would be competing with providers who pay taxes.
  - New providers would be able to compete with existing providers without needing the capital existing providers have already invested.
- All respondents indicated this option would be detrimental to their company. This option would result in loss of their best subscribers, force local rates up, and hurt business development.
- One respondent expressed concern with the assurances and in competing with an entity that is subsidized. Additionally, if the state still owns facilities, the respondent indicated there may not be a limit to who will be authorized to use the network at a subsidized rate.

OPTION 5
State Ownership
Private Operations

POSITIVE IMPACTS:

- Four of the respondents indicated there are no positive impacts for this option.

- The positive impacts:
  - The operator would be on same level as other telephone companies.
  - The possibility of the operator having prior telephone experience and expertise.
  - No positive impact unless INS operated it.
  - Lease payments on existing Part III end points would continue.

NEGATIVE IMPACTS:

- Most of the respondents indicated this scenario would create unfair competition with the state and with new providers:
  - The tax-exempt State would be competing with providers who pay taxes.
  - New providers would be able to compete with existing providers without needing the capital existing providers have already invested.

- For all respondents, a threat for loss of their best customers exists. This will result in higher costs to pass on to their remaining customers and decreased revenue.
  - Opportunity to provide upgraded services and new technologies becomes more difficult.

- Two of the respondents expressed concern with the assurances and in competing with an entity that is subsidized. One of these respondents indicated there may not be a limit to who will be authorized to use the network at a subsidized rate.

OPTION 7
State Lease to Private Companies (Competitive)

POSITIVE IMPACTS:

- A majority of the respondents indicated no positive impacts.

- Positive impacts:
  - If the state can operate the system not for profit, our tax dollars would be well spent.
  - Current lease payments for Part III end point connections would continue.

NEGATIVE IMPACTS:

- All of the respondents indicated this scenario would create unfair competition with the state and with new providers:
  - The tax-exempt State would be competing with providers who pay taxes.
  - New providers would be able to compete with existing providers without needing the capital existing providers have already invested

- For all respondents, a threat of losing their best customers exists. This will result in higher costs to pass on to their remaining customers and decreased revenue.

- Several respondents indicated concern over the state becoming a long-distance provider. One respondent mentioned that the state would be directly competing with their company.

- Three of the respondents expressed concern with the assurances and in competing with an entity that is subsidized. Two of these respondents indicated there may not be a limit to who will be authorized to use the network at a subsidized rate.

OPTION 9
State Ownership and Operation (No Changes)

POSITIVE IMPACTS:

- Most of the respondents indicated that this would be positive only if access was limited to the current users.

NEGATIVE IMPACTS:

- All of the respondents indicated this forces their companies into unfair tax subsidized competition with the state.
- For all respondents, a threat of losing their best customers exists. This will result in higher costs to pass on to their remaining customers and decreased revenue.
- Most of the respondents expressed concern with the possibility of future expansion of authorized users.

OPTION 10
State Ownership and Operation (No Limits)

POSITIVE IMPACTS:

- Consensus: no positive impacts.
- Only one respondent indicated it would be positive if their user fee of the network would be the same for any other provider.

NEGATIVE IMPACTS:

- All of the respondents indicated this forces their companies into unfair tax subsidized competition with the state.
- For all respondents, a threat of losing their best customers exists. This will result in higher costs to pass on to their remaining customers and decreased revenue.

OPTION 1
Sale of Network
(No Assurances)

POSITIVE IMPACTS:

- The new owner(s) of the ICN would become another provider of network and network services in competition with other providers in the marketplace. This is the economic model that rewards efficient, innovative providers and maximized benefits for customers by providing price/value optimization for products and services.

- ICN becomes controlled by an entity we can compete with. It puts a big player in the market for partnering, leasing, etc. Pro-consumer.

- Existence of the network represents competition to private enterprise. As long as there is incentive to increase revenues for the ICN, there will be increased threat of competition. Therefore, sale of the network, if the sale reflects true cost of the network, means the competition will at least not be tax subsidized.

- The ICN and our company are competitors for shares of the public sector marketplace. Our company participates in the marketplace with many state and federal rules governing how we market our services. Since the ICN has none of these rules, particularly around cost of service, they currently enjoy a distinct advantage in selling telecommunication services to public sector customers. It would be reasonable to assume that a private company, purchasing the ICN under Option 1, would come under some type or regulatory environment. So even though a new competitor would enter the marketplace, they would do so under the same regulatory rules, and having fully reimbursed Iowa taxpayers for their investment in the network, it and my company would compete in a balanced marketplace.

- With no requirement for any assurances, a private company will charge all users what the market will bear, which at a minimum could be cost plus a return on investment. This would create a situation where current ICN users would begin to shop for more cost effective alternatives to the ICN. My company would enter the competition for these customers' services and be able to compete with the parity described above.

- A private company buying the ICN and selling services would become a participant in Iowa's tax structure. This would add parity to the present competitive situation since the ICN does not have to cover taxes, investment, or depreciation as part of this cost of providing service. Also, all of Iowa's citizens and corporations could benefit from additional, significant revenues for other citizen needs.

OPTION 2
Sale of Network
(With Assurances)

POSITIVE IMPACTS:

- None
- This could present opportunities to grow in Iowa.
- Existence of the network represents competition to private enterprise. As long as there is incentive to increase revenues for the ICN, there will be increased threat of competition. Therefore, sale of the network, if the sale reflects true cost of the network, means the competition will at least not be tax subsidized.
- All three assurances result in less pressure on us as a "provider of last resort." It would be less likely under Option #2 that we would see a significant migration of public sector customers from the ICN. Although we would not have an opportunity for the market, we would also not see increased expense.
- The ICN has been a catalyst for new telecommunications applications, i.e., Internet access, distance learning, host access, etc. These applications have resulted in new markets for us. We have been working collaboratively with Iowa's public sector customers to offer options for additive sources. Under Option #2, the schools and state agencies would continue to use the ICN; and as a result, the momentum for new applications and data opportunities would continue.
- The assurances would add a greater probability that the ICN buyer would compete under similar rules and regulations as we do. In order to protect the schools and state agencies, some governmental body is going to have to oversee compliance, and this oversight will tend to bring competitive parity. This oversight could also extend to supervision of the network sale to make sure Iowa's taxpayers are fully compensated for their ICN investment.
- A private company buying the ICN would become a participant in Iowa's tax structure. This would add parity to the present competitive situation since the ICN does not have to cover taxes as part of their cost of providing service. Additionally, all of Iowa's citizens and corporations could benefit from additional, significant revenues for other citizen needs.
- This private company could become another major contributor to some of the State's socially responsible telecommunications programs such as 911 and

- Since this is a sell option, just like Option #1, there is still the possibility that the State could be put in a situation where they would have to sell for too low a price. If this occurs, a new competitor would enter the marketplace with facility infrastructure cost far below those of other service providers. Under these conditions, the balanced marketplace would again be jeopardized, and the citizens of Iowa would be subsidizing the start-up or expansion of a private company as opposed to educational programs. The solution to this concern would be close scrutiny by an oversight group to make sure that Iowa's taxpayers are fully compensated for their investment in the ICN.

- Again, because of the MFJ, we cannot be a bidder in the ICN sale process.

NEGATIVE IMPACTS:

- State retained ownership and operation of the ICNs current capacity would deprive the end-users of the benefits of the competitive model.

- Loss of customers, reduction of employees , disincentive to invest in Iowa. Additionally as we lose customers we would likely abandon cable and other equipment thus our shareholders and/or ratepayers would suffer a financial burden. The state of Iowa would see a reduction in tax revenues as we abandon cable, lay off employees, and reduce network investments.

- The state would directly compete with interexchange carriers. The state would be selling a service that private enterprise provides. Private enterprise has to price its services with consideration for risk and cost of capital, full operating costs, depreciation and taxes. Competition from the state would be a threat to the successful existence of any company providing similar services.

- If no company was willing to accept regulatory constraints as a condition of buying the excess capacity, there would be pressure to sell excess capacity without regulatory rules. If this were to occur, we would be forced to compete in an environment where our rules made it impossible for us to compete with other providers who have no similar rules.

- We have capacity for sale on many of the same network routes as the ICN. This means we would not be one of the companies buying excess capacity from the ICN.

- Since we also have capacity for sale (as regulated services) along most of the ICN routes, we would be in direct competition with the ICN for capacity sales to other telecommunications providers. Without significant changes, the market forces in the area are slanted toward the ICN.

- Because of the MFJ, we cannot be a bidder in any piece of the ICN sale process.

- The state/private partners would present competition to our business. The cost basis for this state/private partnership has been tax subsidized and the risk for this entity has been borne by tax payers. This option places the state in the role of competitor with private enterprise. This state/private enterprise would gain competitive advantages over other providers of similar services through control of technology and access to the ICN.

- All three assurances result in less pressure on us as a "provider of last resort." It would be less likely under Option #3 that we would see significant migration of public sector customers from the ICN. Although we would not have an opportunity for the market, we would also no see increases costs.

- If no company was willing to accept regulatory constraints as a condition of buying the excess capacity, there would be pressure to sell excess capacity without regulatory rules. If this were to occur, we would be forced to compete in an environment where our rules made it impossible for us to compete with other providers with no such constraints.

- We have capacity for sale on many of the same network routes as the ICN. This means we would not be one of the companies buying excess capacity from the ICN. Although this in itself is not a negative impact, it is important for the Task Force to know that the ability to buy excess capacity is **not** a positive for us.

- Since we also have capacity for sale (as regulated services) along most of the ICN routes, we would be in direct competition with the ICN for capacity sales to other telecommunications providers. Without significant changes, the balanced marketplace in this arena is slanted toward the ICN.

- The negative impact of sub-option #1 is directly related to the extent of the public-owned utilities list of authorized users. If only public entities and telecommunications providers are authorized users, all of the negative impacts of SUB-OPTIONS #2 & #3 would apply. If the public-owned utility could see any users, the imbalance in the marketplace would increase and create vulnerability of lost revenues in all our customer bases.

lease, operate the system, and provide all three assurances with the current level of public sector revenues and make a profit. It seems that the private company could require some type of State subsidy, either concessions or incentives. That being the case, this could create a formidable competitor who would have a considerable, State-subsidized, competitive price advantage over all other market participants.

- Since no rules or regulatory constraints are mentioned, it is assumed none would apply to the private company. We must comply with many complex State and Federal rules and regulations. We would have a distance competitive disadvantage against a competitor who had no rules or regulations.

OPTION 7
State Lease to Private Companies (Competitive)

POSITIVE IMPACTS:

- None
- Would allow private sector to expand via excess capacity or by allowing entrepreneurs to enter.
- No positive impact
- All three assurances result in less pressure on us as a "provider of last resort" for existing ICN users. It would be less likely under Option #7 that we would see a significant migration of public sector customers from the ICN to private business providers.

NEGATIVE IMPACTS:

- Continued ownership by the state and the retention of assurances would deprive end-users of the benefits of the competitive model. The state should not be in the position of providing long distance services in competition with private industry. ICN excess capacity should not be sold to commercial customers. These commercial customers include consumers, businesses, and privately-funded institutions. Such an attempt would in fact put the State Government in competition with other entities in the private sector, effectively adding bias and distorting the normal working of the open, competitive marketplace.
- Could cause stranded investment. Provide a disincentive to invest in Iowa. Can't easily define "excess capacity". Where does state intervention into the private sector stop; i.e., gas, electric, fast food, etc.?
- This option represents direct competition by state government with our company. A major portion of our companies revenues are derived from leasing capacity to private businesses and telecommunications companies. This option would make the state a direct competitor in every market our company serves. When we lease capacity, we have to price services taking into account the costs of operations, depreciation, capital and taxes. It is important to note that the state used some of our tax dollars to build and operate the ICN and that under this option, those tax dollars would bused to compete directly with the company. In addition to leasing capacity, we also offer long distance, voice, video and data services.

OPTION 8
State Lease to Private Companies (Not Competitive)

POSITIVE IMPACTS:

- The "non-competitive" leasing of excess capacity could provide vendors with access to facilities without the expense of construction.
- Services would be provided to areas not economically feasible for private sector providers.
- No positive impacts
- We would not be significantly impacted (positively) by this additional feature to the present method of operation.

NEGATIVE IMPACTS:

- Continued ownership by the state and the retention of assurances would deprive end-users of the benefits of the competitive model.
- Distortion of the market due to ICN being a supplier.
- If a private company wants a telecommunications service and is willing to pay a cost necessary for a provider to deliver the service, the provider will deliver the service. Demand for service has built the world's best telecommunications system in this country through private enterprise. The demand for state of the art telecommunications services also led the creation of our company. That demand continues to drive the growth of our company and its services. This option would stifle that demand and provide services to competitors and/or potential customers by a tax subsidized competitor.
- We would not be significantly impacted (negatively) by this additional feature to the present method of operation.

- Annual threat (via legislative approval) of user expansion. Private sector still subject to political process controlling the ICN not consumers, shareholders and technological change.

- The continuing policy debate over authorized users, authorized use coupled with the limited resources available to educational institutions will continue to pose a threat to our business. Educational users today suggest offering ICN services to our customers in order to bring more revenue into the network. That revenue would come from the private sector into the public sector. Even the term "educational use" leads to problems since the application of this limitation can be so arbitrary. For example, would it be "educational" if a private business used the ICN to teach its sales force or clients about a new product? Unless and until that state strictly and clearly defines its interests to the public schools and state government uses and users, this network presents a threat to private enterprise.

- The ICN and our company do not compete in a balanced marketplace for public sector (ICN authorized users) telecommunication business. But through creativity and relationship-building, we have been able to develop solutions that we both think are win-win.

- The no-change option seems to generate comments that in the real world the ICN would not be a successful business. These comments always seem to be accompanied with suggestions on how the ICN could operate more like a business. These suggestions usually feature increased competition with existing telecommunications providers and, as one of those providers, we have cause to be alarmed. We are anticipating that the rapid growth of educational applications and educational usage will settle some of these concerns with the no-change option.

businesses. It is unlikely that the ICN could successfully keep the three assurances and follow this rule.

- Under this option, the ICN could be such a large player that they will have to address the provision emergency services such as 911 and develop a socially responsible position on universal service. If the ICN does not or cannot accept these responsibilities, then the State will need to find someone who will. If the ICN does not accept these responsibilities, we feel it could be compelled to develop solutions and fill these service gaps (regardless of profitability). It has been our historical role in these situations to be "provider of last resort". Again there is an issue of fairness in the competitive marketplace. If the ICN does not have the same financial and social responsibilities as we do, then there is not a balanced marketplace, and we are at an unfair competitive disadvantage.

OPTION 1
Sale of Network
(No Assurances)

POSITIVE IMPACTS:

- Two of the respondents indicated that this option would be beneficial to the consumer (i.e., pro-consumer).

- The majority of the respondents indicated that even though this brings another competitor into the marketplace, the competition will not be tax subsidized--two respondents stipulated that the network must be sold at true cost.

- One respondent indicated that this could only be positive if the new owner was under some type of regulatory environment, which would put them at the same level of competition.

- One respondent indicated that if the new owner were to contribute to programs such as 911 and universal service, this would relieve some of their financial and administrative obligations in these areas.

NEGATIVE IMPACTS:

- All the respondents indicated that this option would bring a new competitor with statewide reach.

- One respondent indicated that if the new owner does not have the same regulatory rules and financial and social responsibilities, it will put their company at a distinct competitive disadvantage.

OPTION 3
Sale of Excess Network Capacity

POSITIVE IMPACTS:

- Two of the respondents indicated there were no positive impacts due to the tax-subsidized competition.
- Two respondents indicated that private ownership and operation of excess capacity would at least remove the state as a competitor to private industry.
- One respondent indicated that this option could potentially increase the number of telecommunications providers, resulting in new service market opportunities for their company.
- One respondent indicated the assurances will result in less pressure (i.e., expense) to them as a last resort provider for these services.

NEGATIVE IMPACTS:

- One respondent indicated that they would be in direct competition with the ICN for capacity sales to other telecommunications providers. If the excess capacity was sold without regulatory constraints it would make it impossible for them to compete.
- Two respondents indicated that competition from the state would be a threat to their existence in Iowa.

OPTION 5
State Ownership
Private Operations

POSITIVE IMPACTS:

- Two respondents indicated there were no positive impacts.
- One respondent indicated this option could provide potential improvement of ICN operation.
- One respondent indicated the assurances will result in less pressure (i.e., expense) to them as a last resort provider for these services.

NEGATIVE IMPACTS:

- One respondent indicated there would be no negative impacts.
- Two of the respondents indicated they would be in unfair competition with a private organization that is state-subsidized. One of these respondents indicated that they would have a distinct competitive disadvantage against a competitor who had no regulations.

OPTION 7
State Lease to Private Companies (Competitive)

POSITIVE IMPACTS:

- Two respondents indicated there are no positive impacts.
- One respondent indicated this option would allow the private sector to expand via excess capacity or by allowing entrepreneurs to enter.
- One respondent indicated the assurances will result in less pressure (i.e., expense) to them as a last resort provider for these services.

NEGATIVE IMPACT:

- All of the respondents indicated that they would be in direct, unfair competition with the state for all the services they offer in every market they serve. This option would have an extremely negative impact on all of the respondents' companies.

OPTION 8
State Lease to Private Companies (Not Competitive)

POSITIVE IMPACTS:

- Two of the respondents indicated there are no positive impacts.
- Two respondent indicated this option could provide vendors with access to facilities without the expense of construction.

NEGATIVE IMPACTS:

- Two respondents indicated this option would provide services to competitors and potential customers by a tax subsidized competitor.

OPTION 10
State Ownership and Operation (No Limits)

POSITIVE IMPACTS:

- Most of the respondents indicated no positive impacts.
- One respondent indicated this option could present opportunities for entrepreneurs and creative uses of technology.

NEGATIVE IMPACTS:

- All the respondents indicated this option would put them in unfair, competition with the state. With no limits, this option poses an even bigger threat to the respondents' companies.

METHODOLOGY

Question 20: What are the positive and negative impacts of this option on Iowa businesses and citizens?

This question was addressed by doing secondary research and by asking telecommunications providers what impact each option would have on the groups specified. Each option is viewed from four different perspectives: (1) rural citizens, (2) urban citizens, (3) existing business, and (4) the economic development impact.

(5) Local competition will accelerate when the private sector is involved, supporting **economic development** throughout the State.

(6) The system will have backup capabilities in case of operating failures.

(7) The telecommunications business is an ever-changing industry. Private industry will provide state-of-the-art facilities on an ongoing basis to all users of the network. (Taxpayers will not pay for equipment upgrades due to obsolescence.)

Existing **businesses** would have an opportunity to use the network to help gain an economic advantage over competitors in other parts of the country. This may help to ensure businesses would be able to stay in Iowa and take advantage of global marketing opportunities. Iowans would not have to subsidize the authorized user services. Business would be able to take advantage of new technology as it becomes available and make use the ICN infrastructure.

There are many examples that show how video conferencing technology pays for itself many times over in many **businesses**. "People linked by video can work closely together without spending money or time traveling. That's a powerful, cost-saving advantage for any business."[4] The state infrastructure could be used in this scenario to help businesses take advantage of these savings and, at the same time, keep the cost to the user down if the business is within close proximity to the network. If the cost for fiber optics is too high they may choose a satellite system if it is more economical. Although manufacturers and independent businesses generally rated enhanced telecommunications services lower than Part I, II and III users, they still feel that access to these services is 'somewhat important' to their business success.[5]

Economic Development would be enhanced through additional access to business and industry through the network. It will be another 'selling point' to potential business prospects to relocate to Iowa. Services could be 'custom' provided to private users. The net economic benefits of accelerated telecommunications infrastructure technology deployment for completion of Part III and fiber to the curb are two of the factors that may have moderate-to-significant impacts for the state of Iowa.[6] In Option 1, Part III is not mandated.

to obsolescence.)

Existing **businesses** would benefit from this option. They would be provided access to the system but might also be required to subsidize the services provided to the authorized users through added cost in their rates. The network would provide potential cost saving benefits to ensure a competitive position in the global marketplace by providing new technology that would be most beneficial to these users.

There are many examples that show how video conferencing technology pays for itself many times over in many **businesses**. "People linked by video can work closely together without spending money or time traveling. That's a powerful, cost-saving advantage for any business."[4] The state infrastructure could be used in this scenario to help businesses take advantage of these savings and, at the same time, keep the cost down if the business is within close proximity to the network. If the cost for fiber optics is too high they may choose a satellite system if it is more economical. Although manufacturers and independent businesses generally rated enhanced telecommunications services lower than Part I, II and III users, they still feel that access to these services is 'somewhat important' to their business success.[5]

Economic development activities could be enhanced through this approach if the cost to business and industry can remain competitive and still help to subsidize the authorized user access. The provider must also be convinced that this is a good investment for the system before helping to attract the business. The net economic benefits of accelerated telecommunications infrastructure technology deployment for completion of Part III and fiber to the curb are two of the factors that may have moderate-to-significant impacts for the state of Iowa.[6] In Option 2, Part III is mandated.

the state of Iowa.[6] In Option 3, Part III is mandated.

The telecommunications industry experts who participated in the focus group to discuss excess capacity also addressed this issue. Since this group believes that Option 3 is only workable if the ICN is allowed to indirectly compete with private industry in an unfair manner, the positive impact of this on Iowa businesses and citizens is that they may have services offered to them at a lower cost as a result of taxpayer subsidized competition.

The negative impacts of this option, according to focus group participants, are that in the long term, the financial viability of Iowa telecommunications providers will be damaged causing them to invest less in the future telecommunications system in the state. It would also damage their ability to continue to provide low-cost services to the citizens of Iowa. It is also their belief that, in the long term, economic development impacts to the state of Iowa will be negative if the telecommunications providers suffer financial losses. This is because the providers would not be able to provide assistance to economic development efforts.

telecommunications services lower than Part I, II and III users, they still feel that access to these services is 'somewhat important' to their business success.[5]

Economic development activities would be enhanced through this approach if the cost savings or benefits to business and industry can help ensure these businesses remain competitive. Network access for all users will be a key selling point to businesses in the global marketplace. It will make it easier to gain access to the network by utilizing the existing fiber optics infrastructure. Higher rates due to subsidization of authorized users may occur. The net economic benefits of accelerated telecommunications infrastructure technology deployment for completion of Part III and fiber to the curb are two of the factors that may have moderate-to-significant impacts for the state of Iowa.[6] In Option 4, Part III is mandated.

The telecommunications industry experts who participated in the focus group to discuss excess capacity also addressed this issue. They believe that, in the short run, the positive impacts due to Option 4 would appear to be enhanced services at more affordable prices. However, because this option could lead to the deterioration of the economic viability of existing telecommunications providers within the State, they feel that this option will have a long-term negative impact.

marketplace. This will help to overcome communication obstacles from living in a less populated area. Higher rates due to subsidization of authorized users will occur. The net economic benefits of accelerated telecommunications infrastructure technology deployment for completion of Part III and fiber to the curb are two of the factors that may have moderate-to-significant impacts for the state of Iowa.[6] In Option 5, Part III is mandated.

The telecommunications industry experts who participated in the focus group did not feel that there are any positive impacts to businesses and citizens. It is their opinion that the ability for a private operator to unfairly compete with existing telecommunications providers through taxpayer subsidies will result in a long-term, negative impact on Iowa businesses and citizens. This impact is due to the deterioration of the economic viability of existing providers and the negative impact on future economic development activities.

OPTION 7
State Lease to Private Companies
(Competitive)

Rural and urban citizens should benefit from this option because the educational and health care services are still available at affordable rates. This could help to retain and grow populations within the state. The taxpayers would continue to subsidize the cost to provide services to these users. In addition, the service provider would also be able to offer additional services that may be more attractive and affordable to the urban population (ie Internet and government information access[1]) by utilizing the ICN infrastructure. Based on the Arthur D. Little Study conducted in December, 1992, "fiber to the curb will only be economically attractive over the next five to ten years if telephone and television service are jointly provided".[2] This may eliminate the advantage for citizens to use the system.

All citizens phone rates could go up in a 'non-leaser' system if the 'leaser' is also allowed to pick up the phone service to businesses and educational facilities (cream skimming). The remaining customers will pay higher rates because costs will be spread over a smaller customer base.

Existing **businesses** would benefit from this option because they would be provided access to the system. Would provide potential cost saving benefits to ensure a competitive position in the global marketplace. This option would also make the network services available through public facilities so each business would not have to buy their own system. The business could pay for the service provided by another entity and not have to worry about ownership issues. If the cost to business is not prohibitive, this will be a benefit. It is expected that "the 'low end' user will be paying some percentage less than they are paying carriers today and costs will go down as more users come on the network".[7] Taxpayers would subsidize the authorized user costs.

There are many examples that show how video conferencing technology pays for itself many times over in many **businesses**. "People linked by video can work closely together without spending money or time traveling. That's a powerful, cost-saving advantage for any business."[4] The state infrastructure could be used in this scenario to help business take advantage of these savings and, at the same time, keep the cost down if the business is within close proximity to the network. If the cost for fiber optics is too high they may choose a satellite system if it more economical. Although manufacturers and independent businesses generally rated enhanced telecommunications services lower than Part I, II and III users, they still feel that access to these services is 'somewhat important' to their business success.[5]

Economic development activities would be enhanced through this approach if the cost

OPTION 8
State Lease to Private Companies
(Not Competitive)

Rural and urban citizens should benefit from this option because the educational and health care services would still available at affordable rates through the state-provided system. This could help to retain and grow populations within those areas. The taxpayers would continue to subsidize the cost to provide services to these users. In addition, the service provider would also be able to offer additional services that may be more attractive to the urban population due to the large population area (i.e., Internet and government information access[1]) by utilizing the ICN infrastructure. Based on the Arthur D. Little Study conducted in December, 1992, "fiber to the curb will only be economically attractive over the next five to ten years if telephone and television service are jointly provided".[2] This may eliminate the advantage for citizens to use the system.

All citizens will have the option to hook onto the fiber optic network if they have the need by utilizing the services provided by a private telecommunications provider if the provider leases part of the excess capacity from the state. There would be no cost assurances that this service would be affordable to these customers. The installation costs would be higher for the rural vs. urban consumer due to the larger amount of fiber required for the installation. Rates provided to authorized users may change when private ownership takes over and begins to change the 'real cost' of the new system instead of the state-charged costs. This price increase would cause customer complaints and dissatisfaction.

Existing **businesses** would potentially benefit from this option. They would be provided access when they are ready to take it over through a lease agreement. Once the private sector takes over, additional opportunity would be available for more 'personalized' services. This option would provide potential cost savings and benefits to ensure a competitive position in the global marketplace. Subsidization would occur until a private company takes over the system.

There are many examples that show how video conferencing technology pays for itself many times over in many **businesses**. "People linked by video can work closely together without spending money or time traveling. That's a powerful, cost-saving advantage for any business."[4] The state infrastructure could be used in this scenario to help business take advantage of these savings and, at the same time, keep the cost down. If the cost for fiber optics is too high they may choose a satellite system if it is more economical. Although manufacturers and independent businesses generally rated enhanced telecommunications services lower than Part I, II and III users, they still feel that access to these services is 'somewhat important' to their business success.[5]

Economic development activities would be enhanced through this approach if the cost

to business and industry can help ensure these businesses remain competitive and the system benefits can be provided in the way each business wants them. The net economic benefits of accelerated telecommunications infrastructure technology deployment for completion of Part III and fiber to the curb are two of the factors that may have moderate-to-significant impacts for the state of Iowa.[6]

The focus group participants feel that the result of this option will be a positive impact on Iowa businesses and citizens in the long run because the existing telecommunications providers will maintain economic viability and the economic model of free and open competition will be enhanced.

On the negative side, the group feels that the availability of affordable telecommunications services which are not subsidized to provide lower pricing in the short-term may take longer to be available to Iowa businesses and citizens. They also feel that the long-term benefits of this option will override the short-term negative impacts.

of the system. They feel that the long-term impact on businesses and citizens and economic development potential would be negative. Also, if the ICN continues to operate the system they will also have to maintain it. In this option, the only method for gaining funds to keep the system operational is through burdening Iowans with additional taxation.

to business and industry can remain competitive and still help to subsidize the authorized user access. The net economic benefits of accelerated telecommunications infrastructure technology deployment for completion of Part III and fiber to the curb are two of the factors that may have moderate-to-significant impacts for the state of Iowa.[6] If private use is deterred by rates that are too high, taxpayers will still be required to 'pay' for the system. In Option 10, Part III is mandated.

The focus group believes that the positive impact of this option is that the state will be able to retain long-term capacity sufficient to meet the present and future needs of the currently authorized users.

On the negative side, there is a substantial negative impact on the Iowa businesses and citizens due to the direct subsidization of unfair competition with existing telecommunications providers within the State. The result of this option is a much higher cost alternative which will result in a higher cost to businesses and citizens. This will occur either through higher communications costs or in the form of additional taxation which will result in a negative long-term impact on the State's economic development activities.

Question 24: Under this option who assumes the risk? Is the entity capable of bearing this risk? Who are the beneficiaries of success?

Question 25: Analyze this option's performance potential. Will the option work very well?

Question 26: What is this option's likelihood for long-term success?

Questions 24, 25 and 26 were addressed by the focus group of telecommunications industry leaders.

OPTION 1
Sale of Network
(No Assurances)

Who assumes the risk?

The private buyer assumes the risk.

Is this entity capable of bearing the risk?

The State should make sure the entity is capable of bearing the risk prior to sale.

Who are the beneficiaries of success?

The buyer would be the direct beneficiary of success, through competitive rates and an up-to-date, well maintained system.

Analyze this options performance potential. Will the option work very well?

This option will likely not be an acceptable one since it does not address the concerns of the currently authorized users of the ICN system, particularly state and local governments, schools and federal government users, including national guard and telemedicine.

resolve the issue of unfair competition because of subsidies and cost differentials in operations on the part of state government versus private utilities.

OPTION 4
Private/Public Ownership

Who assumes the risk?

Ultimately, the taxpayers assume the risk.

Is this entity capable of bearing the risk?

Yes, but it is questionable as to whether taxpayers should be asked to bear the risk that this alternative offers.

Who are the beneficiaries of success?

The beneficiaries under this option would be outside vendors who may be desirous of entering the state and being able to compete with existing telecommunications providers in an unfair manner due to indirect subsidization on the part of Iowa tax payers.

Analyze this options performance potential. Will the option work very well?

It is the opinion of the focus group that the mission of private enterprise in managing excess capacity versus the mission of the ICN in providing educational services would create opposing objectives which would not spell long term success for the venture.

OPTION 6
State Ownership
Private Management

Under this option, who assumes the risk?

The ultimate risk is borne by the taxpayers of Iowa.

Is this entity capable of bearing the risk?

Yes, but it is questionable as to whether taxpayers should be asked to bear the risk that this alternative offers.

Who are the beneficiaries of success?

The private manager who is awarded the contract on the part of the ICN would be the only beneficiary in this option.

Analyze this options performance potential. Will the option work very well?

This option's performance potential is low due to the belief that it will result in unfair subsidies.

OPTION 8
State Lease to Private Companies (Not Competitive)

Under this option who assumes the risk?

The taxpayers of Iowa assume the ultimate risk.

Is this entity capable of bearing the risk?

Yes, but it is questionable as to whether taxpayers should be asked to bear the risk that this alternative offers.

Who are the beneficiaries of success?

The beneficiaries of success are the existing users of the Iowa Communications Network.

Analyze this options performance potential. Will the option work very well?

Due to the effective competition that currently exists, this option is virtually no different that Option 9 which is state ownership and operation of the ICN as it is currently operated with no changes.

OPTION 10
State Ownership and Operation (No Limits)

Under this option who assumes the risk?

The taxpayers of Iowa ultimately assume the risk of this option.

Is this entity capable of bearing the risk?

Yes, but it is questionable as to whether taxpayers should be asked to bear the risk that this alternative offers.

Who are the beneficiaries of success?

In the short run the beneficiaries of success will appear to be the current users of the ICN and the new users who will be offered lower price services because of unfair subsidization. However, there are no long term beneficiaries of the success of this option.

Analyze this options performance potential. Will the option work very well?

In the short run the option may appear to work well, however in the long run it will lead to the deterioration of the ICN and to the deterioration of the economic development of Iowa.

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IOWA COMMU CA NS NETWO
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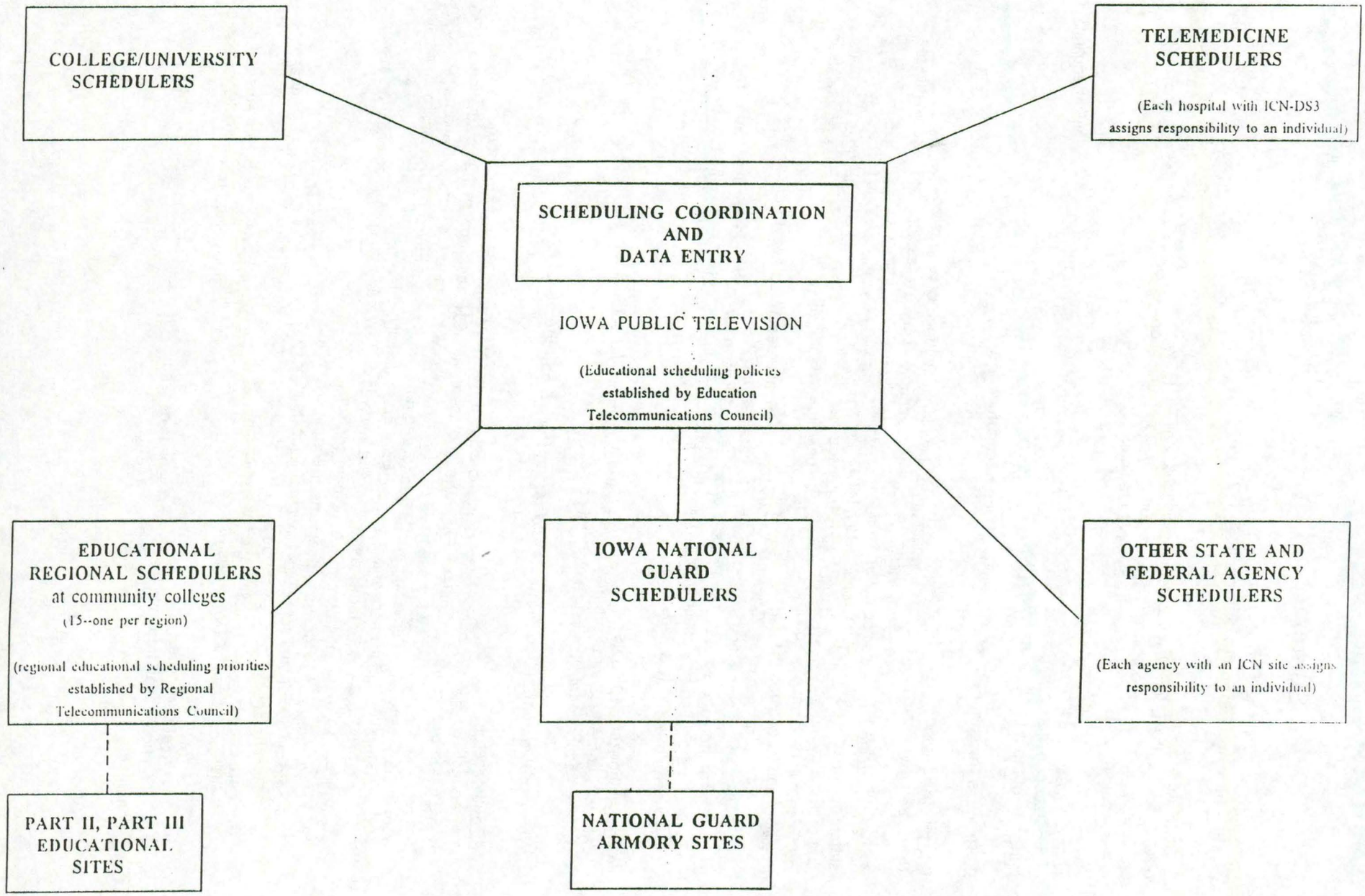


Exception: "On-Demand" (immediate) requests are ned directly from site to IPTV at 515/242-3182.

Implications for Telemedicine Grants



The following information was obtained through a survey of current telemedicine grant recipients:

Grant Title: Midwest Rural Telemedicine Consortium: Pilot Demonstration Project

Description: Evaluation of the use of teleconsultations [ie., specialty consultations via interactive video communications affects]: quality of care, patient and provider satisfaction, access to health care services and costs of delivering services

Awarded: Health Care Financing Administration, Office of Research and Demonstrations (HCFA ORD)

Received: Mercy Foundation (on behalf of Midwest Rural Telemedecine Consortium)

Start date: July 15, 1994 until July 14, 1997 (three years, dependent on future availability of funds)

Status: Ongoing

Total Amount: $1,777, 831 [for the first budget period of July 15, 1994 to January 14, 1996]

Matching funds: $882, 950 [proposed for first budget period only] from 8 participating hospitals

***Choice of telecommunications carrier is not a condition of the grant, so if ICN were unable to satisfy cost, scheduling or performance criteria, there is no reason to believe that the funding agency would prohibit selection of a competing provider of telecommunications services.

Grant Title: National Laboratory for the Study of Rural Telemedecine

Description: Hook up (point-to-point) six community hospitals in a telecommunications network to the University of Iowa hospitals and clinics. Deliver two educationals programs and three clinical services.

Awarded: National Library of Medecine

Received: University of Iowa

Started: April 1, 1994 until March 31, 1997 [3 years]

Status: Ongoing

Total Amount: $7.25 million, no matching funds.

Option #	*How does each option studied affect your grant?*	*How does each option affect your ability to secure future grants? (if at all)*	*How does each option affect your ability to continue conducting telemedecine?*
1	Would have to revise our grant	Unknown (depends on whether or not telemedicine falls under private ICN lease	Would have to alter program or re-consider viability of using telemedecine
2	Would allow maintenance of present objectives	""	status quo
3	""	""	status quo
4	""	""	status quo
5	""	""	status quo
6	""	""	status quo
7	""	""	status quo
8	""	""	Might have to alter program or reconsider viability
9	""	""	status quo
10	""	""	status quo

MERCY HEALTH SERVICES
A sponsored work of the Sisters of Mercy Regional Community of Detroit

MERCY HOSPITAL MEDICAL CENTER
400 University Ave. • Des Moines, Iowa 50314

MIDWEST RURAL TELEMEDICINE CONSORTIUM

400 University Ave.
Des Moines, Iowa 50314-3190
515-247-8750 • FAX 515-248-8928

September 22, 1995

Mr. Ben Grimley
State Public Policy Group
100 Court Ave.
Des Moines, IA 50309

RE: Affect of ICN Changes on Telemedicine

Dear Ben:

Thank you for your September 21 fax transmittal requesting information about the potential effects of actions under consideration by the 461 Task Force upon the ability of the Midwest Rural Telemedicine Consortium (MRTC) to perform our project, secure future grants, and continue to conduct telemedicine.

In response, I am forwarding the information requested (see enclosure). In addition, as part of the MRTC's response, I would like to clarify a few points:

"How does each option studied affect your grant?"

It is important to point out that the MRTC's choice of telecommunications carrier(s) is not a material condition of the grant. To put it another way, the purpose of the grant awarded by HCFA is to study health care (telemedicine), not technology (communication medium). Thus, if the ICN were unable to satisfy the MRTC's requirements with respect to cost, schedule or performance criteria, there is no reason to believe that the funding agency (Health Care Financing Administration) would prohibit the MRTC from selecting a competing provider of telecommunications services.

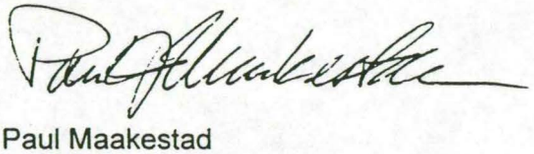
In terms of project cost, it appears that Option No. 1 represents the only scenario which would discourage the MRTC from continuing to use the ICN for intra- or inter-LATA services. This observation is based on two assumptions: (1) that the purchaser(s) would raise the cost of the MRTC's usage of the ICN, and (2) that consensus can be reached regarding the "affordability" of Option Nos. 2-10. It should be noted, however, that the validity of both assumptions should be investigated. First, the ICN's current rates for the types of services used by the MRTC are only slightly lower than those available from private carriers, which would indicate that the MRTC is already being charged at a market-competitive rate. Second, there is room for concern as to whether the state, ICN users, and one or more private "partners" will ever be able to reach consensus regarding the definition of "affordability."

"How does each option affect your ability to continue conducting telemedicine?"

As previously noted, the major factors associated with telecommunications that affect the continued (and expanded) use of telemedicine relate to cost, schedule and performance criteria. A balance must be achieved among these three elements of project success. Because no uniform policies exist regarding reimbursement for services provided via telemedicine, it is essential that efforts are taken to ensure that capital [equipment] and operating [network] costs do not become a barrier to telemedicine. In addition, use of the ICN by health care providers was delayed for over a year due to the lobbying activities of telecommunications industry stakeholders; further delays would undoubtedly thwart future advances in telemedicine via the ICN. Finally, given the rapid rate of technological change in the area of interactive video communications, the state must carefully consider whether the option ultimately selected will result in a situation in which customers may reasonably expect that the ICN will remain technologically competitive. The MRTC expects that Option 9 ("No Change") is most likely to perpetuate legislative turmoil concerning the ICN's function and role as a state entity which, in turn, would impede the development of a cohesive technology migration plan.

If you have any questions or comments regarding my response to your request for information, please call me. On behalf of the MRTC, thanks again, Ben, for the opportunity to provide feedback to the 461 Task Force.

Sincerely,



Paul Maakestad
Project Director

encl

cc: Carmela Brown, Vice President, Mercy Hospital Medical Center
MRTC Executive Committee
Perry Meyer, Vice President, IH&HS

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Overview of Senate File 2089

In January 1993, Governor Terry E. Branstad signed Executive Order 46, which created the ICN Telecommunications and Informational Management Council. The Council was charged with managing the ICN until the Legislature could address the issue of governance. The management team identified in this executive order consisted individuals already holding positions within state government. They were asked, in addition to their other duties, to oversee the operation of the network until a formal structure could be established.

In 1994, the Legislature passed Senate File 2089, which established a formal governance structure for the network and expanded the authorized user base to include hospitals, physician clinics, federal government, judicial system, and U.S. Postal Service. Below is an overview of SF 2089, and a copy of the enrolled bill is attached.

Governance

- ✔ Established a three-member governing board, the Iowa Telecommunications and Technology Commission (ITTC) to supervise the management, development and operation of the network.

- ✔ Required that ITTC members be appointed by the Governor to six-year staggered terms, with the Auditor of State serving as an ex-officio member. All three commission members are subject to Senate confirmation.

- ✔ Authorized the ITTC to appoint an Executive Director, who is subject to Senate confirmation.

- ✔ Established four advisory committees to the ITTC and authorized the ITTC to establish other advisory groups as necessary.

    - Educational Telecommunications Council (ETC) consists of 18 members appointed by various educational communities. The council makes recommendations on policies involving the educational use of the network.

    - Regional Telecommunications Councils (RTCs) are nine-member groups established in each merged area to assist the ETC.

    - Telemedicine Advisory Committee is established to recommend policies and regulations governing telemedicine use.

    - Telecommunications Advisory Committee is a five-member body established to advise the ITTC on telecommunications matters. This committee's membership will represent the industry.

SENATE FILE 2089

AN ACT

RELATING TO THE IOWA COMMUNICATIONS NETWORK BY ESTABLISHING A BOARD, AN EXECUTIVE DIRECTOR OF THE BOARD, AND AN EDUCATIONAL TELECOMMUNICATIONS ADVISORY COUNCIL AND PROVIDING AN EFFECTIVE DATE.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

Section 1. Section 2.32, Code 1993, is amended by adding the following new subsection:

NEW SUBSECTION. 9. If an appointment subject to senate confirmation is required by statute to be made by an appointing authority other than the governor, the duties assigned under this section to the governor shall be performed by the appointing authority.

Sec. 2. Section 18.3, subsection 5, Code 1993, is amended by striking the subsection.

Sec. 3. Section 18.133, subsections 1, 2, 3, and 4, Code Supplement 1993, are amended to read as follows:

1. "Commission" means the Iowa telecommunications and technology commission established in section 18.133A.

~~1~~ 1A. "Director" means the executive director ~~of the department of general services or the director's designee~~ appointed pursuant to section 18.133B.

2. "Private agency" means an accredited nonpublic schools and school, a nonprofit ~~institutions~~ institution of higher education eligible for tuition grants, or a hospital licensed pursuant to chapter 135B or a physician clinic to the extent provided in section 18.136, subsection 13B.

3. "Public agency" means a state agency, an institution under the control of the board of regents, the judicial department as provided in section 18.136, subsection 13C, a school corporation, a city library, a regional library as

provided in chapter 256, and a county library as provided in chapter 336, or a judicial district department of correctional services established in section 905.2, to the extent provided in section 18.136, subsection 13A, an agency of the federal government, or a United States post office which receives a federal grant for pilot and demonstration projects.

4. "State communications" refers to the transmission of voice, data, video, the written word or other visual signals by electronic means ~~to serve the needs of state agencies~~ but does not include ~~communications activities of the state board of regents~~, radio and television facilities and other educational telecommunications systems and services including narrowcast and broadcast systems under the ~~division of~~ public broadcasting division of the department of education, department of transportation distributed data processing and mobile radio network, or law enforcement communications systems.

Sec. 4. Section 18.133, Code Supplement 1993, is amended by adding the following new subsection:

NEW SUBSECTION. 1B. "Network" means the Iowa or state communications network.

Sec. 5. NEW SECTION. 18.133A IOWA TELECOMMUNICATIONS AND TECHNOLOGY COMMISSION -- MEMBERS -- DUTIES.

1. COMMISSION ESTABLISHED. A telecommunications and technology commission is established with the sole authority to supervise the management, development, and operation of the network and ensure that all components of the network are technically compatible. The commission shall ensure that the network operates in an efficient and responsible manner consistent with the provisions of this chapter for the purpose of providing the best economic service attainable to the network users consistent with the state's financial capacity. The commission shall ensure that educational users and the use, design, and implementation for educational applications be given the highest priority concerning use of the network. The commission shall provide for the centralized, coordinated use and control of the network.

(d) Ensure that rural communities have access to comparable services to the services provided in urban areas resulting from any plans to construct, install, repair, or maintain any part of the network.

(2) In determining which proposal to recommend to the general assembly to accept, consider what is in the long-term best interests of the citizens of the state and the network, and utilize, if possible, the provision of services with existing service providers consistent with those best interests. In determining what is in the long-term best interests of the citizens of the state and the network, the commission, at a minimum, shall consider the cost to taxpayers of the state.

(3) Deliver a written report and all proposals submitted in response to the request for proposals for Part III to the general assembly no later than January 1, 1995. The commission shall not enter into any agreement related to such proposals without prior authorization by a constitutional majority of each house of the general assembly and approval by the governor.

f. Annually prepare a written five-year financial plan for the network which shall be provided to the general assembly and the governor no later than January 15 of each year. The plan shall include estimates for income and expenses for the network for the five-year period and the actual income and expenses for the preceding fiscal year. The plan shall include the amount of general fund appropriations to be equested for the payment of operating expenses and debt ervice. The plan shall also include any recommendations of ie commission related to changes in the system and other ems as deemed appropriate by the commission. The commendations of the commission contained in the plan shall clude a detailed plan for the connection of all public ools to the network, including a discussion and evaluation all potential financing options, an estimate of all costs urred in providing such connections, and a schedule for leting such connections, including the anticipated final letion date for such connections.

g. Review existing maintenance contracts and past contracts to determine vendor capability to perform the obligations under such contracts. The commission shall report to the general assembly prior to January 1 of each year as to the performance of all vendors under each contract and shall make recommendations concerning continued funding for the contracts.

h. Pursue available opportunities to cooperate and coordinate with the federal government for the use and potential expansion of the network and for the financing of any such expansion.

i. Evaluate existing and projected rates for use of the system and ensure that rates are sufficient to pay for the operation of the system except to the extent such use is subsidized by general fund appropriations as authorized by the general assembly. The commission shall establish all hourly rates to be charged to all authorized users for the use of the network. A fee established by the commission to be charged to a hospital licensed pursuant to chapter 135B, a physician clinic, or the federal government shall be at an appropriate rate so that, at a minimum, there is no state subsidy related to the costs of the connection or use of the network related to such user.

j. Make recommendations to the general assembly, as deemed appropriate by the commission, concerning the operation of the network.

Sec. 6. NEW SECTION. 18.133B EXECUTIVE DIRECTOR APPOINTED.

The commission shall appoint an executive director of the commission, subject to confirmation by the senate. Such individual shall not serve as a member of the commission. The executive director shall serve at the pleasure of the commission. The executive director shall be selected primarily for administrative ability and knowledge in the field, without regard to political affiliation. The governor shall establish the salary of the executive director within range nine as established by the general assembly. The salary

1. A private or public agency, other than a state agency, local school district or nonpublic school, city library, regional library, county library, judicial department, judicial district department of correctional services, agency of the federal government, a hospital or physician clinic, or a post office authorized to be offered access pursuant to this chapter as of the effective date of this Act, shall certify to the commission no later than July 1, 1994, that the agency is a part of or intends to become a part of the network. Upon receiving such certification from an agency not a part of the network on the effective date of this Act, the commission shall provide for the connection of such agency as soon as practical. An agency which does not certify to the commission that the agency is a part of or intends to become a part of the network as required by this subsection shall be prohibited from using the network.

2. a. A private or public agency which certifies to the commission pursuant to subsection 1 that the agency is a part of or intends to become a part of the network shall use the network for all video, data, and voice requirements of the agency unless the private or public agency petitions the commission for a waiver and one of the following applies:

(1) The cost to the authorized user for services provided n the network are not competitive with the same services ovided by another provider.

(2) The authorized user is under contract with another ovider for such services, provided the contract was entered o prior to April 1, 1994. The agency shall use the network video, data, and voice requirements which are not provided uant to such contract.

3) The authorized user has entered into an agreement with ommission to become part of the network prior to June 1, which does not provide for use of the network for all data, and voice requirements of the agency. The sion may enter into an agreement described in this agraph upon a determination that the use of the network video, data, and voice requirements of the agency ot be in the best interests of the agency.

b. A private or public agency shall petition the commission for a waiver of the requirement to use the network as provided in paragraph "a", if the agency determines that paragraph "a", subparagraph (1) or (2) applies. The commission shall establish by rule a review process for determining, upon application of an authorized user, whether paragraph "a", subparagraph (1) or (2), applies. An authorized user found by the commission to be under contract for such services as provided in paragraph "a", subparagraph (2), shall not enter into another contract upon the expiration of such contract, but shall utilize the network for such services as provided in this section unless paragraph "a", subparagraph (1), applies.

Sec. 12. NEW SECTION. 18.133H REPORT OF SAVINGS BY STATE AGENCIES.

A state agency which is a part of the network shall annually provide a written report to the general assembly certifying the identified savings associated with the state agency's use of the network. The report shall be delivered on or before January 15 for the previous fiscal year of the state agency.

Sec. 13. Section 18.134, subsection 1, Code Supplement 1993, is amended to read as follows:

1. The ~~department of general services~~ commission may purchase, lease-purchase, lease, and improve property, equipment, and services for telecommunications for public and private agencies~~, including the broadcast and narrowcast systems~~, and may dispose of property and equipment when not necessary for its purposes. However, the ~~department of general services~~ commission shall not enter into a contract for the purchase, lease-purchase, lease, or improvement of property, equipment, or services for telecommunications pursuant to this subsection in an amount greater than five hundred thousand dollars without prior authorization by a constitutional majority of each house of the general assembly, or approval by the legislative council if the general assembly is not in session. The commission shall not issue any bonding

rtment, judicial district departments of correctional
ices, hospitals and physician clinics, agencies of the
ral government, and post offices.

. The financing for the procurement costs for the
rety of Part I of the system except for the communications
ections between central switching and institutions under
control of the board of regents, and nonprofit
itutions of higher education eligible for tuition grants,
for the video, data, and voice capacity for state agencies
for Part II and Part III of the system, shall be provided
he state. ~~The financing for the procurement costs for~~
~~-II of the system shall be provided from the state.~~ The
ncing for the procurement and maintenance costs for Part
of the system shall be provided ~~eighty percent from~~ by the
e ~~and twenty percent from the local school boards of the~~
~~s which receive transmissions from the system.~~ A local
ol board, governing authority of a nonpublic school, or an
education agency board may elect to provide one hundred
nt of the financing for the procurement and maintenance
for Part III to become part of the system network. ~~The~~
~~school boards may meet all or part of the match~~
~~ements of Part III of the system through a cooperative~~
~~ement with community colleges.~~ The basis for the amount
e match financing is ~~eighty~~ one hundred percent of a
interactive audio and ~~one-way~~ interactive video
ion for Part III of the system, and such data and voice
as is necessary. ~~The local school boards and~~
~~y colleges may meet the match requirements for Part~~
~~he system from funds they have already spent for their~~
~~from funds available in the school budget, or from~~
~~eived from other nonstate sources. In the case of~~
~~systems, in order to upgrade facilities to the~~
~~tions of the state communications network, the local~~
~~ards and community colleges, in lieu of a cash match,~~
~~he match requirements from funds they have already~~
~~their systems provided that the state match does not~~
~~lesser of eighty percent of the total cost of the~~

~~upgraded system or eighty percent of the replacement cost of~~
~~the system. The communications equipment funds used as a~~
~~match by a community college shall be calculated based on~~
~~verified expenditures for capital, equipment, hardware, and~~
~~software for long distance learning technologies, including~~
~~both audio and visual transmission. The communications~~
~~equipment used as a match shall not subsequently be used as a~~
~~match by another educational entity or for another part of the~~
~~system. A local school board may request the school budget~~
~~review committee to adjust the allowable growth for the school~~
~~district so that the resulting increase in budget could be~~
~~used for the match.~~ If a school board, governing authority of
a nonpublic school, or area education agency board elects to
provide one hundred percent of the financing for the leasing
costs for Part III, the school district or area education
agency may become part of the network as soon as the network
can reasonably connect the district or agency. A local school
board, governing authority of a nonpublic school, or an area
education agency board may also elect not to become part of
the system network. ~~Such election shall be made on an annual~~
~~basis. State matching funds shall not be provided for Part~~
~~III of the system until Part I and Part II of the system have~~
~~been completed.~~ Construction of Part III of the system,
related to a school board, governing authority of a nonpublic
school, or area education agency board which provides one
hundred percent of the financing for the leasing costs for
Part III, may proceed ~~before Part I and Part II of the system~~
~~have been completed~~ as determined by the commission and
consistent with the purpose of this chapter.

4. The ~~department of general services~~ commission shall
develop the requests for proposals that are needed for a state
the Iowa communications network with sufficient capacity to
serve the video, data, and voice requirements of state
agencies and the for educational telecommunications
applications ~~required by the Iowa public broadcasting board.~~
The department commission shall develop a request for
proposals for each of the systems that will make up the

9. The procurement and maintenance of electronic equipment including, but not limited to, master receiver antenna systems, studio and production equipment, and broadcast system components shall be provided for under ~~department-of-general services'~~ the commission's contracts. The Iowa public broadcasting board and other educational entities within the state have the option to use their existing or replacement resources and agreements in the operation and maintenance of these systems.

10. In addition to the other evaluation criteria specified in the request for proposals issued pursuant to this section, the ~~department-of-general-services~~ commission, in evaluating proposals, shall base up to two percent of the total possible points on the public benefit that can be derived from a given proposal due to the increased private telecommunications capacity available to Iowa citizens located in rural Iowa. For purposes of this subsection, an area of the state is considered rural if it is not part of a federally designated standard metropolitan statistical area.

12. ~~The-Iowa-public-broadcasting-board,-in-consultation with-its-narrowcast-system-advisory-committee,-shall-determine the-fee-to-be-charged-per-course-or-credit-hour-by-the originating-institution,-and-the-fees-shall-be-substantially the-same-for-comparable-courses.~~ The commission, on its own or as recommended by an advisory committee of the commission and approved by the commission, shall permit a fee to be charged by a receiving site to the originating site. The fee charged shall be for the purpose of recovering the operating costs of a receiving site. The fee charged shall be reduced by an amount received by the receiving site pursuant to a state appropriation for such costs, or federal assistance received for such costs. Fees established under this subsection shall be paid by the originating site directly to the receiving site. For purposes of this section, "operating costs" include the costs associated with the management or coordination, operations, utilities, classroom, equipment, maintenance, and other costs directly related to providing the receiving site.

14. Notwithstanding chapter 476, the provisions of chapter 476 shall not apply to a public utility in furnishing a telecommunications service or facility to the ~~department-of general-services~~ commission for the ~~state~~ Iowa communications network or to any authorized user of the Iowa communications network for such authorized user's connection to the network.

Sec. 16. Section 18.136, Code Supplement 1993, is amended by adding the following new subsection:

NEW SUBSECTION. 4A. The state shall lease all fiber optic cable facilities or facilities with DS-3 capacity for Part III connections for which state funding is provided. The state shall lease all fiber optic cable facilities or facilities with DS-3 or DS-1 capacity for the judicial department, judicial district department of correctional services, and state agency connections for which state funding is provided. Such facilities shall be leased from qualified providers. The state shall not own such facilities, except for those facilities owned by the state as of January 1, 1994.

The lease provisions of this subsection do not apply to a school district which elects to provide one hundred percent of the financing for the district's connection.

Sec. 17. Section 18.136, Code Supplement 1993, is amended by adding the following new subsection:

NEW SUBSECTION. 12A. The auditor of state shall, no less than annually, examine the financial condition and transactions of the commission as provided in chapter 11. A copy of the auditor's report concerning such examination shall be provided to the general assembly.

Sec. 18. Section 18.136, Code Supplement 1993, is amended by adding the following new subsection:

NEW SUBSECTION. 13A. Access to the network shall be offered to the judicial district departments of correctional services established in section 905.2, provided that such departments contribute an amount consistent with their share of use for the part of the system in which the departments participate, as determined by the commission.

Duties of the advisory committee, and of additional advisory committees the board may from time to time appoint, shall be specified in rules of internal management adopted by the board.

Members of advisory committees shall receive actual expenses incurred in performing their official duties.

Sec. 23. ORGANIZATION OF COMMISSION. Notwithstanding any other provision to the contrary, the Iowa telecommunications and technology commission shall develop a written proposal to be submitted to the governor for the governor's approval relating to the structure and organization of the commission. The commission shall identify existing positions which exist in state departments or agencies directly related to the duties and mission of the commission and shall request in the proposal that those positions be transferred to, and be under the control of, the commission. The request shall be submitted to the governor no later than January 1, 1995, with a copy to be submitted to the house of representatives and the senate at the same time.

Upon approval by the governor, the department of management shall provide for the transfer of funds appropriated for those positions to the commission from the department or agency in which the position was located prior to the transfer. If persons are transferred from employment with a department or agency to employment with the commission, the persons shall not be required to forfeit any accrued seniority or other benefits.

Sec. 24. COMPATIBLE SCHOOL DISTRICT SYSTEMS. Notwithstanding any contrary provisions of this Act, a K-12 school district, on or before July 1, 1994, may certify to the commission in writing that the K-12 school district has a full motion interactive video system which is fully compatible with the network. Upon receipt of such certification and a determination by the commission that the district's system is fully compatible with the network, access to the network shall be permitted as soon as practical. A K-12 school district which provides the certification to the commission as provided

in this section may petition the commission for reimbursement of the costs associated with providing the connection incurred by the district.

Sec. 25. COMMISSION EVALUATION. The commission shall evaluate and complete a cost-benefit analysis concerning the use of video conferencing by the area education agencies. The commission shall provide a written report and any recommendations concerning this evaluation to the general assembly by no later than March 15, 1995.

Sec. 26. IOWA UTILITIES BOARD STUDY. The Iowa utilities board shall conduct a study to determine the overall impact of the Iowa communications network on the private telecommunications industry in Iowa. The board shall provide a written report to the general assembly by no later than January 15, 1996, detailing the results of the study.

Sec. 27. TEMPORARY AUTHORITY OF CHIEF EXECUTIVE OFFICER. All duties and responsibilities of the Iowa telecommunications and technology commission shall be performed by the ICN chief executive officer appointed by the governor pursuant to executive order number 46 signed on January 5, 1993, until such time as the initial appointments to the commission have been made and the commission has organized itself.

Sec. 28. INITIAL IOWA TELECOMMUNICATIONS AND TECHNOLOGY COMMISSION APPOINTMENTS. The initial members of the Iowa telecommunications and technology commission shall be appointed on or before July 1, 1994, to the following terms:

1. One member shall be appointed for a term of six years.
2. One member shall be appointed for a term of four years.
3. One member shall be appointed for a term of two years.

Sec. 29. CODE EDITOR TRANSFERS. The Code editor shall transfer sections 18.132 through 18.137 to be a new chapter 8D. The Code editor shall correct all internal citations and references consistent with the transfer of Code sections as provided in this section.

Sec. 30. CONTINUATION OF APPLICABILITY OF EXISTING RULES. Rules applicable to the Iowa communications network in effect on the effective date of this Act shall remain effective until

Questions & Answers

1. Please define "cost of services." How does this definition compare with the private sector's definition?

ICN	Private Industry
The ICN's definition of "costs for services" is based on Iowa Code § 8D.1(l), which states: The ITTC will set the cost for services and "...ensure that rates for use of the system are sufficient to pay for the operation of the system, excluding the cost of construction and lease costs for Parts I, II, and III." Therefore, ICN rates: • Are based on Operating Costs *(personnel, system maintenance, utilities, local exchange carrier payments, toll costs, access fees, fiber location/relocation)* • Exclude depreciation costs for equipment and debt service (both principal and interest). Source: Iowa Communications Network	Cost of Service in the private industry includes all costs the company incurs to provide the individual product or service. In addition, the rates charged for all the products and services offered by the company must produce sufficient revenues to cover all the costs of the firm, including all common costs and overheads. The cost of service is the sum of: • Depreciation* *Depreciation rates of a regulated utility are set by either the Iowa Utilities Board (IUB) or the IUB in conjunction with the FCC. These rates may, and usually do, differ from those established by the Internal Revenue Service.* • State and Federal Taxes* *All local, state, and federal taxes paid or incurred by the utility.* • Operating Costs *This includes costs of labor, maintenance, material and supplies, sales promotion and advertising, uncollectible bills, and various other services required.* • Administration Costs *This includes ongoing expense to service customer accounts, accounting expenses to process and bill for services, pensions and benefits, and office space (including utilities).* • Return on Investment* *Return on Investment, also referred to as Cost of Capitol, includes the cost of debt as well as a reasonable profit rate. The IUB establishes the return on investment that is allowed on the regulated utilities investment in Iowa.* Source: Iowa Network Services

**Denotes categories that exist in the private sector determination of "cost for service", but are not included in the ICN's determination.*

3. **What was the original cost of the equipment for Parts I and II before depreciation?**

ICN staff provided the following information on the original costs for Parts I & II.

Construction Payments	Period of Payment	Amount Paid
Kiewit Network Technologies *Construction Bills 1-41*	5/92 to 6/95	$ 93,937,188
Other Vendor Payments	5/92 to 6/95	$ 694,314
Total Capital Project ***Payments for Parts I and II***		**$ 94,631,502**

Do the depreciated costs provided in the inventory for Parts I and II include labor costs?

Yes, all costs relating to the construction of Parts I and II *(including physical assets, freight, installation costs, etc.)* are included in the depreciated costs.

4. **Clarification is needed on what each entity owns.**

The ICN staff is currently preparing a new inventory which will address this request. Attached is a preliminary map that demonstrates some of the ownership.

5. **If the state were to sell the ICN, who maintains the system? What is the status of the maintenance contract?**

The maintenance contract is dependent on the State's continued payment of the Certificates of Participation for Parts I and II. This is a legal question currently being researched by the Attorney General's Office.

6. **Because the ICN has several investors, does the ICN have an implied obligation to continue to provide service to authorized users?**

This is an issue that will be reviewed by the Attorney General's Office.

ICN Response

Yes. By nature of the investments made by private/public universities and colleges, National Guard, Federal Emergency Management Agency, state and federal agencies, and hospitals, authorized users undertook significant financial risk in changing services and investing in their physical plant to use the capabilities of the ICN at current rates. This is a long-term investment which does not provide an effective return on investment without long-term integration of high technology.

IOWA COMMUNICATIONS NETWORK
FACILITY AND EQUIPMENT RESPONSIBILITIES

ICN Iowa Communications Network

