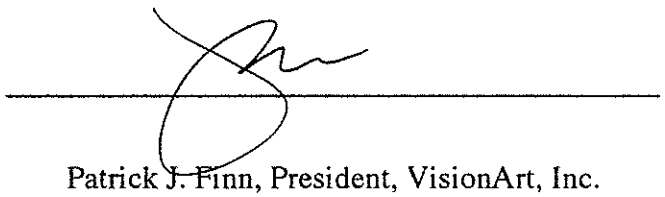
Response
to the
Regional Development Corporation
Request for proposals No. 98-1

TELECOMMUNICATIONS NETWORKS IN NORTH CENTRAL NEW MEXICO

submitted by

VisionArt, Inc.
with partners
New Mexico TechNet
and
The UNM Bureau of Business and Economic Research
and
Participating Consultants



Patrick J. Finn, President, VisionArt, Inc.
Signature of Authorizing Representative

We have received Addendum No. 1 dated April 3, 1998

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APPROACH AND TECHNICAL COMPONENTS TO FULFILLING THE STATEMENT OF WORK

EXECUTIVE SUMMARY

VisionArt, Inc, New Mexico TechNet, and UNM Bureau of Business and Economic Research are uniquely positioned to fulfill the Scope of Work as outlined in this Request for Proposals. These firms have extensive experience in developing telecommunications projects in north central New Mexico and understand the challenges and reality of project implementation in the tri-cultural region. The project team, in conjunction with its' consultants, realize the importance of applications driving the appropriate technology.

The focus of this proposal is the people who will ultimately utilize and benefit from a regional broadband network. The customers' needs must be met and the stakeholders' motivated to action to garner full regional participation. Technology changes the way we engage in relationships, enhances cultural identity, and how we work. The human factors that impact that change are a significantly greater challenge than the implementation of a telecommunications network. Any development project in north central New Mexico needs to have an awareness of this unique environment and the people who live here.

"Telecommunications can play a catalytic role in rural economic development."(Parker, 1989) With the necessary infrastructure and other regional resources, the potential for economic revitalization in north central New Mexico is greatly increased. Rural New Mexicans deserve to have an equal opportunity to participate in the new economy and determine their own destinies Building the network with them will only strengthen the chances for their participation and involvement in the deployment of a successful regional network.

INTRODUCTION

The purpose of this proposal is to initiate the design and implementation of local community networks linked to a regional network in north central New Mexico. There are potentially 7 nodes that would cover the defined area (Nodes are defined as the local calling areas.) This proposal would extend earlier work to facilitate and develop infrastructure solutions that reduce costs, improve the regions competitive position, and provide unprecedented services to its citizens.

In this proposal we make a clear distinction between the two major components referenced in the Request for Proposal No. 1-98. Those are:

- The creation of local or community networks; and
- Linking those networks into a regional network

Although integrated, each component contains a different set of organizational, financial, and managerial requirements. Nonetheless, there are overlapping issues. This approach allows a coordinated effort which will compliment and support the other, leveraging resources and time to implementation. This proposal will address both individually and in aggregate.

Telecommunications offers a unique opportunity for rural economic development diversification strategies. It can provide communities with the ability to directly compete in the national and global economies. Because much of the economic benefit is indirect (Parker, 1989), additional incentives are required to stimulate telecommunications investment.

Without an up-to-date telecommunications infrastructure, the rural communities and Pueblo communities of northern New Mexico will be left behind, ultimately denied the economic, educational, and quality of life opportunities these new technologies have created. If these communities are going to continue to be viable, they will require an adequate telecommunications infrastructure, a well-educated and knowledgeable workforce, educational and support services, a

foundation for community development and identity, and the assistance of policy makers to build an environment appropriate for 21st century economic growth.

Our research indicates six critical success factors ensure a community's ability to effectively apply telecommunications for economic development purposes. They are, in order of importance:

1) Infrastructure

The Internet is the primary vehicle for transmitting information between a local community and the rest of the world. This is accomplished via high-speed lines provided by local or regional phone companies, and local and national Internet service providers(ISPs). A report by Computer Intelligence (1997), indicates the increase in Internet use from 1996-1997 (including on-line services and ISPs), was 108%.The highest increase was reported in the workplace. The greatest increase in access was with local or regional Internet service providers (ISPs). Similar studies have also indicated a decrease in proprietary on-line services access (e.g. America Online, Compuserve, Microsoft Network, Prodigy, and AT&T WorldNet) over the past year. Local and regional ISPs are now serving more Americans than proprietary on-line services.

Speed (and the need for adequate bandwidth to support it) remains a top priority for Internet users. The Graphic Visualization and Usability Center (GVU) survey reports fifty-five percent of users are connecting at a modem speed of 33.6k or less, and that thirty-one percent plan to upgrade their speed in the next six months.

The explosive growth of Intranet users is another significant indicator for increased bandwidth demand over the next two to three years. A recent report by International Data Corporation projects the number of Intranet users to reach 133 million by the year 2001. Although security remains a key issue (as does privacy for individual users), more than sixty-one percent of US businesses are expected to invest in or increase their budgets for Intranets in 1998. Predicted key growth areas are in the communications and banking industries.

Our 1998 research of businesses and public institutions in New Mexico indicates that 43.3% are using email. The users anticipated an increase of thirty-two percent in 1998. Of those polled, thirteen percent were planning to add high speed lines (56 KB or greater), twenty-seven percent planned to add computers, sixteen percent were planning on adding phone lines, and fifteen percent were planning to add dedicated fax or modem lines.

2) Local Leadership

The current leadership literature describes the ability to develop and maintain business strategies with such adjectives as global-minded, interconnected, dynamic, and cutting-edge. A review of recent articles on "community leadership" reveals that successful community leaders understand and appreciate the supply and demand issues as they affect individuals and organizations. Otis White, in a paper prepared for the Community Leadership Quarterly, emphasizes that quality of life, which used to be an incidental component of economic development, is now the central element Businesses and organizations require a teleliterate and educated workforce, good connections to world markets, and "a nice place to call home." Local leadership is the key to making this a reality.

3) Workforce Development and Teleliteracy

The emergence of networked information technologies and their applications is changing the way people view their jobs and their leisure time. This is no less true of people who live and work in rural communities. In her report on a series of community meetings held by the Colorado Rural Development Council (1996), Flo Raitano writes that people wanted more information about how telecommunications and technology could help small businesses in rural communities. Although most understood the value of advanced telecommunications services for themselves and their communities, they highlighted the need for assistance at home as well as in business. It is important that high schools, community colleges, state university branches, and businesses offer comprehensive telecommunications education programming for all community residents.

The ability to use a computer is no longer limited to white-collar workers in an office. According to a recent survey from FIND/SVP, the number of people working at home

(telecommuters) has increased fifteen percent for each of the past two years. Thirty-five percent of today's telecommuters use the Internet. Most are linked to offices via e-mail from home. Forty-three percent have multiple phone lines. While seventy-one percent of telecommuters work as full-time employees, the remaining (and rapidly increasing) percentage are contract and temporary workers.

4) Marketing

According to surveys conducted in early 1997, more than forty million US citizens are connected to the Internet. Adults use on-line services primarily to gather information for personal needs (e.g. research for government/ community, medical, financial, travel, or other information and services), as well as for entertainment, education, news, and shopping/product information. Women comprise over forty percent of total Internet users. Children (ages 10-18) are the fastest-growing user group.

One 1997 study by the Graphic Visualization and Usability Center (GVU) reveled that over eighty percent (of over 10,000 respondents) use the Internet daily and consider e-mail and the Web to be an indispensable technology. CommerceNet/Nielsen Media Survey ranked the methods users employ to locate on-line information: on-line search engines, asking friends and relatives, gathering Internet addresses from newspapers/ magazines, links from other Web sites, or simply, on-line browsing.

As more citizens continue to enter cyberspace, telecommunications play a more significant role in business growth and development nationally. Sixty-eight percent of the GVU survey participants have ordered products or services on-line. They noted the primary reasons for shopping on the Web; 1) convenience; 2) availability of vendor information; 3) no pressure from salespeople; 4) and saving time.

5) Public Policy and Financing

Public policy will have a critical effect with on electronic commerce at both local and global levels. Although still in its infancy, electronic commerce will impact the way business is transacted throughout the economy. "Out of the 10,000 users surveyed, sixty-eight percent ordered products or services on-line. Men are more likely to purchase on the Web than women (seventy-three percent vs. fifty-nine percent). However, the biggest concern for 30.49% of Internet users today is privacy." (GVU Survey, 1997).

The rapid evolution of the Internet and global telecommunications infrastructure in recent years has challenged both state and local leaders to successfully integrate policy development with technological innovation. Thomas Spacek (1996), in a paper on communications policy, suggested a set of "guiding principles for a new policy framework" which address the following: openness and competition, balancing societal needs with private sector investment and profitability, regulation and pricing issues, and government support. It is clear from VisionArt's current research and analyses of infrastructure data, that local policy support is critical to technology-based economic and community development, and must be informed by data and information about the community's current capacity and anticipated demand for telecommunications.

6) Land and Building Infrastructure

In order to attract new and expanded telecommunications businesses, communities must offer technology-specific options in addition to basic economic development incentives (i.e. real estate tax abatements, energy savings, flexible financing, and transportation access). Such businesses must have access to a telecommunications infrastructure that enables them to secure inexpensive (and competitive) high speed capacity. This capacity must support Internet connectivity, LAN and/or WAN connectivity, and state-of-the-art voice, video and data transmission.

Many small businesses are finding small shared business centers in telecommuting centers and technology parks more economical. Similar incentives must be offered to developers considering construction and management of these sites. This will encourage businesses to relocate their operations to more affordable rural areas like north central New Mexico.

Application Identification

The design of the network will be defined by the types of applications it utilizes. Successful networking is characterized by clarity of purpose. The first step is an intimate understanding of the audience. Who are they? What types of content, activities, and services do they want? What are their cultural, economic, educational, and social needs? And what types of education and training may be required to fully answer these issues?

These questions must be answered during the technical design phase to ensure that the appropriate technologies are considered . Substantial research has been done in northern New Mexico; however, further investigation is needed to adequately address investment in community networks and a regional network.

Another factor which must be addressed immediately is the sustainability of the community and regional networks. While the communities themselves will be responsible for sustainability, the relevance of content and usefulness of the technology is critical to successful implementation and continued market viability. Market demand for telecommunications services can serve as a catalyst for change and growth in this region. We have identified four major socioeconomic sectors (stakeholders / customers) to be considered as potential revenue sources:

- Business and Industry;
- Public Services and Government;
- Healthcare;
- Education.

Integrating these issues in a diverse culture will be at the core of networking development. Our experience and research shows that networked computers are a controversial technology often held in suspicion by nearly every segment of society, particularly those who might benefit from it most. With access restricted economically, educationally and physically, many people conclude they do not need it. Nonetheless, they all seem to agree that accessing computers and the Internet is a very necessary skill for their children. And in many cases, the children are educating and training their parents.

In the rural areas of this region, these skills will be the minimum required for future opportunities for these people. Businesses, educational institutions, healthcare, and government all recognize and support the need for K-12 computerized technology education. It has been proven in northern New Mexico that local community networks, as community-based organizations, can work with these sectors to build networks committed to equitable access. The community networks can offer a full range of multicultural educational and training courses to address these three key access issues (economic, educational, and physical).

In summary, telecommunications enable rural communities to capitalize on their strongest comparative advantages - quality of life, strong work ethics, and relative low-cost labor force. We recognize that the successful implementation of this plan is primarily about people, and not technology. This is possible when individuals, organizations, and communities understand how technology can enrich their lives, empowering them to effectively integrate technology into the workplace, organization, and community.

Proposed Project Organization

This project is organized by five groups that will participate in delivery of the scope of work. It is designed for flexibility and to meet unforeseen circumstances that might occur. "The Project Team" will lead and coordinate the activities. The "Project Consultants" will work on pieces appropriate to their expertise. The "Community Partners" are the local stakeholders in developing the community-based nodes. The "Technology Advisory Committee" will assist with exploring the available technical options and defining the existing infrastructure. The " Economic

Development Advisory Committee" will serve to provide input on existing economic development activities and anticipated opportunities that will occur once the network is operational.

1) Project Team
    VisionArt, Inc. (Lead Organization)
    TechNet (Partner)
    Bureau of Business and Economic Research (Partner)
2) Confirmed Project Consultants
    Karen Bueller, National Indian Telecommunications Institute
    Lori Moye, Decker-Parrish
    Amy Borgstrom, Appalachian Center for Economic Networks
    Michael Montoya, Industry Network Corporation (INC.)
3) Community Partners
    Community Colleges
    Government Leaders
    Chamber Leaders
    Local community networks
    Local Internet Service Providers
    Local business leaders
4) Technology Advisory Committee
    NM State Broadband Group
    USW (see letter)
    GTE (see letter)
    Department of State Communications
    National Guard
5) Confirmed Economic Development Advisory Committee
    TRADE (Lisa Cochrun)
    Local Economic Development Groups
    Senator Domenici's Rural Payday Initiative (Patrick Vanderpool)
    New Mexico Economic Development Department (Donnie Quintana)

Assumptions And Guiding Principles

The introduction of community and regional networks presents a real challenge to society. It requires us to rethink the way we conduct business, solve problems, view opportunities, communicate with each other, and use information. Managing this change is a collaborative and creative process that relies on an abiding concern, interest and leadership. While the technical aspects of networking are crucial as a delivery mechanisms, they are secondary to the skills, abilities, and needs of the people who will use them.

PART I: INFORMATION COLLECTION

A. Regional Considerations

Current Reality

There are various information collection projects either in progress or recently completed in the region. Although this information can be leveraged, additional detailed community-based information on the region will be necessary for the implementation plan. Current projects include:

1. A Telecommunications Evaluation of Taos and the surrounding area by VisionArt;
2. A Feasibility Study for the La Jicarita Enterprise Community for a telecommunications company by VisionArt;
3. A Telecommunications Study of Five New Mexico Towns for the Purpose of Economic Development by VisionArt,

4. The implementation of a statewide network by the National Guard;
5. The upgrading of the State communications system recently funded by the legislature;
6. The Northern New Mexico Telemedicine Project sponsored by LANL, and Northern New Mexico College;
7. A Feasibility Study in Los Alamos for a community network;
8. A recent market survey by US West to expand services in the Taos calling area;
9. Senator Domenici's Rural Payday Initiative is working with communities in the region to establish economic development projects.
10. The Tri-County Higher Education Association's (Santa Fe Community College, Northern New Mexico's Community College, and UNM-Los Alamos) recent efforts to develop curricula, adapt courses for distance learning, and develop internship programs for students through a grant from Microsoft

Stakeholders/Participants

Information collected in the region will serve two purposes:

- To raise the level of awareness for those surveyed, and;
- For utilization by the communities for economic development.

The information collected will be valuable to both the public and private sector to leveraging investment and resources and to avoid expensive redundancy. Understanding the tri-cultural market in the region is essential to evaluate the needs and constraints in rolling out new services and infrastructure.

Working closely with the stakeholders will stimulate involvement, and provide for continuous updating of information in this rapidly evolving industry. This type of collaboration and value-added information management will be a selling point when seeking additional funding for the network. Participants are those identified under Project Organization/Community Partners.

Known Barriers

Geographical isolation and a small population base has created a lack of infrastructure and services for much of northern New Mexico. Without additional economic incentives, telecommunications providers are unlikely to build necessary infrastructure or provide services. As a consequence, much of this population has very little access, educational opportunities, information or knowledge about telecommunications providers.

Many communities, Pueblos, and organizations in the region are working independently, and often competitively, to provide their local areas with telecommunications services. Given the limited resources available, collaborating and resource sharing will greatly enhance these services. Information collection and aggregation can enable a regional coherence that does not currently exist. And finally, telecommunications have the potential to bring isolated individuals together in relationship-rich environments.

Vision/Mission

To create a constituency for the regional network by involving Business and Industry, Public Services and Government, Healthcare, and Education by collecting information, raising awareness, and aggregating regional demand.

Desired Results

The intent of this proposal would be to build awareness of the personal and economic benefits of telecommunications to all the citizens of the region, and to encourage stakeholder

involvement in information collection and resource sharing. Additionally, the scope of work includes the creation of baselines to track the degree of collaboration among telecommunications initiatives.

Sustainability and Leveraging of Resources

Northern New Mexico is well-positioned to take advantage of outside resources to develop a regional network. One example is the "Telecommunications Development Fund" (TDF). TDF was created out of the Telecom Reform Act and is capitalized with about $20 million. The fund will make financial investments (loans and equity, no grants) in telecommunications businesses in an effort to boost competition and extend services, and to help minority-owned businesses. Internet access and e-commerce businesses should qualify. Lending operations may begin in June. Included in the information process, research will be undertaken to identify similar resources for expanded regional telecommunications development.

Since the cornerstone of a regional network will be the individual community networks, it is critical that financial viability be addressed at the outset. How can these community networks add value to their communities, and what will users pay for those services? Our research on financially successful community networks breaks down into eight factors:

1. **Replicability:** all components of the system could be replicated by other communities
2. **Scaleability:** the ability to grow the system technically
3. **Innovation:** the opportunity to create new ways of working based on the old.
4. **Information and content:** developing high interest, useful community-based information
5. **Collaborative partnerships:** the intention to closely involve supporters, stakeholders, and people within the community that share similar interests
6. **Capacity building:** the ability to build new individual and organizational capacities throughout the community
7. **Community asset mapping:** detailing the assets that exist in the community and state this clearly and evaluate the outcomes
8. **Community ownership:** the ability to weave community ownership and network availability into the community and assisting the local population in managing the changes technology brings

Our research suggests that the following seven cost centers where value is great enough to charge for products and services. Each can provide income for a community network if a community wishes to focus on one or more. The cost centers are:

1. **Infrastructure and access:** Offering basic Internet access, and resale of high speed data lines to other organizations;
2. **Communications enhancement:** Offering specialized groupware, enhanced listserv moderation and hosting;
3. **Author and creator:** Offering services with data collection, data analysis, composing, revising, representing, content development;
4. **Publisher:** Acting as a publisher for general and administrative publications, acquisition, marketing/sales/promotion, distribution, financing, rights, management, copy editing/design, in-house authorship;
5. **Intermediary:** Providing services in data and information enhancement, media integration, formatting, specialized research;
6. **Buyer:** Offering services with selecting, acquisition, intellectual knowledge management, preservation/ archiving, basic and specialized training, publicity;
7. **Reader/user/consumer:** User-based services with informal peer communication, searching/evaluating, acquiring, using, recognizing;

Methodology

Participation will be encouraged through focus groups, stakeholders meetings, surveys, and individual contacts. Initial interviews will be conducted with stakeholders and community partner groups to determine their expectation of this kind of project, current degree of collaboration, and the resources they could make available to others. Enrolling stakeholders at the local level will be critical to the overall success of the community and regional network.

Implementation

Implementation of this proposal will design and articulate the means by which the change can be introduced and recommend steps to improve relationships, work, and life among the individuals, organizations, and communities. This proposal would introduce incremental improvement that builds on existing regional processes and organizations. The accumulated data analysis and subsequent introduction of the networking concepts is geared toward successive stages of incremental development that are readily accessible and discernible.

The proposals provision of a robust design calls for a thorough evaluation of all known barriers to reduce resistance to network deployment, and find the most economical methods for change interventions. Finally, a critical part of the implementation will be a transparency of process. This requires that all information regarding the proposal, its objectives, and outcomes be disseminated throughout the region.

B. Inventory of Existing Plans, Components, Resources, and Facilities

Current Reality

Due to the competitive environment, the collection of this type of data can be difficult. However, the project team has received commitments from US West and GTE to work with them in identification of the necessary components for the implementation plan.

Stakeholders/Participants

The primary stakeholder is the Regional Development Corporation and the citizens of northern New Mexico. The collection of this information will be necessary for a comprehensive regional network plan. The participants in this category will include those mentioned above, Project Organization/Technology Advisory Committee.

Known Barriers

Our research indicates that local and regional awareness do not include easy access to telecommunications information. The high cost of telecommunications access further limits participation. Additionally, given the competitive climate, telecommunications providers are reluctant to provide information about their services areas, often to the extent of exclusion of the general population.

Vision/Mission

To obtain as much information that is available to successfully develop the implementation plan.

Desired Results

To obtain comprehensive telecommunications information as outlined in the RFP, and involve the local telephone companies as much as possible in the information collection.

Methodology

VisionArt, TechNet and BBER will hold roundtable discussions with telecommunications providers who have previously implemented successful projects both in the region and nationally. We will also conduct an extensive survey of regional needs and interest to construct an appropriate business case for telecommunications providers, as necessary.

Implementation

The information gathered in this section would be used to determine the needs of Part III, Network Design.

PART II: MARKET IMPACT AND REGIONAL ECONOMIC IMPACT ASSESSMENT AND SUSTAINABILITY

Current Reality

The economics of rural telecommunications as a development tool are not well-researched at this time. The field is too new to draw empirical data. Nonetheless, anecdotal evidence can be drawn from the results of projects such as La Plaza Telecommunity in Taos, Charlottes Web in North Carolina, the Appalachian Center for Economic Networks (AceNet) in Ohio ,and the successful rural efforts in Nebraska.

Nonetheless, there are economic indicators that can be used as a metric for evaluating the impact of broadband telecommunications infrastructure. These include; job creation, higher salaries, improved living conditions, relocation of businesses, existing business growth or improvement, economic diversification, local access to global markets, and improved community services.

Stakeholders/Participants

- Economic Development Organizations
- Regional Businesses
- Firms considering northern New Mexico as a relocation site

Known Barriers

The lack of clearly defined economic development and business applications reduces the perceived understanding and value of telecommunications. In addition, the lack of a economic development vision for the region inhibits possibilities for collaboration and coordination between telecommunications providers and stakeholders. As result, there is a lack of capital for implementation, a lack of recognition that telecommunications are necessary to compete in the global marketplace, and inadequate access, support and resources, for possible users.

Vision/Mission

To show proof-of-concept that telecommunications can drive economic development, provide "real world" examples of how telecommunications has benefited other rural regions, and to build public perception that ties economic development to telecommunications.

Desired Results

The implementation of this proposal would begin to address the gap between urban and rural unemployment, and effectively increase the number of information-intensive businesses. Additionally, it would increase exports out of the region to the global market, increase the number of professional positions the region, and act in ways to recruit new technology businesses to the area.

Methodology

The methodology of this part of the proposal would be three fold. It would survey regional stakeholders for degree of participation in a regional network. In this way, stakeholders could combine needs and resources in order to make a business case for increased telecommunications investment and infrastructure. Secondly, it would research other successful regional networks, gathering economic and financial data in order to assess the value to north central New Mexico. Finally, Bureau of Business and Economic Research at UNM with VisionArt would collect area demographic information for business and residents, assess area market needs, and determine products and product mix. Further, the team will develop product pricing structure, estimate gross revenues for the local network, and collect capital and operating costs data for the local network. In conclusion, this financial analysis would develop proforma statements (5 year project horizon), estimate net returns, internal rate of return, and net present value, and perform sensitivity analysis on price and market penetration parameters.

Implementation

In addition to the financial, economic analysis, and needs-based analysis, this portion of the proposal would highlight any additional barriers to access. Information would then be shared with the communities in the targeted region to begin the process of education, economic development, and possible collaboration with similar communities. The regional assessment will include the identification of organizations by county (at the sectoral level) impacted by the introduction of the proposed telecommunications infrastructure. This will be determined from the historical experience of other local networks in other states operating under conditions comparable to those in the four-county region. Existing businesses in the four counties will be identified and impact (based upon similar regional projects) will be estimated. Further, based upon the injection the local network, new business opportunities may arise (also obtained from historical data and by projected spending of the local network and affiliated companies). This process will use the UNM FOR-UNM Econometric model to estimate the induced impacts for the region.

PART III: SYSTEM DESIGN AND IMPLEMENTATION

A. Topologies and Architectures for the Regional Telecommunications System.

The cable TV model: This model is not practical since the majority of communities in the eligible service area do not now have cable TV. It is unlikely that a new cable TV provider will come into the area and invest the needed monies to wire small pockets of low-income communities

spread over large geographical areas with significant right-of-way, geographic, and geologic challenges.

Hybrid-fiber-X model: This model has a number of advantages. While the majority of communities in the eligible service area do not currently have fiber, they do have POTS service over copper wires. It is improbable that a new telecommunications provider will come into the area and invest the needed monies to install fiber to small pockets of low-income communities spread over large geographical areas with significant right-of-way, geographic, and geologic challenges. There is, however, fiber owned by the two largest providers used as their own communications backbones.

There are four existing telecommunications providers (Local Exchange Carriers or LECs) in the area: US West, GTE, Universal Telephone Company of the Southwest, and Eastern New Mexico Regional Telecommunications Cooperative). GTE and US West serve over ninety-eight percent of the area and population:. Both have fiber connecting some of their Central Office (COs) facilities. Both also use copper and wireless transmission to connect COs in the area.

Wireless model: This model may be workable however, the cost of establishing a complete digital network in the area could be prohibitive. There are significant right-of-way, geographical, political, and geologic challenges associated with this model. The State of New Mexico has an out-dated analog wireless network serving some of the region. They have estimated that it will take a significant investment (tens of millions of dollars) to upgrade this to a digital system. The analog system is not capable of providing adequate bandwidth to support the State's needs at this time. Even with such an upgrade, the coverage would still not reach all the communities that need to be included in this RFP.

While wireless communications is an alternative that could be used in some areas, it will requires on-going maintenance, management, and configuration support. Nonetheless, there are new technologies that may be considered in regards to this proposal.

Satellite model: This model is not economically possible at this time. Two-way, interactive satellite communications is still a very expensive option for more than occasional use.

Direct connection to the Internet. There are a variety of new products being offered by telecommunications providers based on DSL (Digital Subscriber Line) technologies. All could have limited use in the eligible service area. DSL technologies require that the "cable length" from the CO to the end customer be less than 2.5 miles, with virtually unimpeded facility in place. Even in Santa Fe and Los Alamos, the two most densely populated communities, it is unlikely that more than fifty to sixty percent of the sites would qualify for such service. Certainly, in other areas, distances are too great for this to be a useful alternative.

Local community/regional networks: It is not feasible for local communities to "own" their own telephone company and Central Office equipment. The support, maintenance, configuration, etc. requirements associated with this would be overwhelming to most of the communities in the service area. Nonetheless, they can lease TCP/IP and video networks from the existing telecommunications providers in the region.

Use of existing and upgraded systems: This is the most feasible and cost effective method of providing advanced communications facilities for the eligible communities. Both GTE and US West are in the process of upgrading their own infrastructure in the area. (See list of communities served by each company). Both companies have committed to continue to upgrade facilities (see letters from US West and GTE). Both companies have Frame Relay networks serving the majority of communities. US West does not currently include Taos in its Frame Relay Service (FRS) "cloud", but it is the one of the three communities in the list of those "next" in New Mexico to be added.

Frame Relay Service is one of the most cost effective methods of providing circuits over long distances with limited facility. That is because the facility can be "shared" among several customers at the same time.

The major drawback to using FRS connections is that the GTE and US West "clouds" are separate. They do not intersect or connect in any way. By tariff, the GTE cloud and the US West cloud cover territory in each others service area. At the moment, it requires a "private" network-to-

network interface (NNI) to provide transmission from a GTE FRS connection to a US West FRS connection.

B. Implementation Recommendations

It is recommended that one or more local Internet Service Providers (ISPs) or community networks be subsidized in each of the primary dialing areas (Espanola, Chama, Cuba, Taos, Pecos, Santa Fe/Los Alamos, and Penasco) on a sliding scale basis (i.e. each 6 months, the subsidy is reduced over a 2 year period).

In each of these communities, the project team would follow a similar process to determine the recipient of these subsidies:

a. Choose the group of individuals (no more than eight) that would represent the community and provide the function of a "Board of Directors" or oversight committee for the purpose of selecting and monitoring the chosen ISP's or community network's performance during the period.

b. Define the services that the ISP or the community network would have to provide. This might include providing Internet access to the schools, libraries, community centers, Pueblos, local government offices, as well as dial-in Internet access, Usenet news, web services for community interest, government services, chat rooms, tourist information, training, etc.

c. Define the services and resources that the community would contribute to the ISP or community network. Co-location of equipment at a school or local community center, production and delivery of information for web servers, commitments to sign up for certain services (web pages, dial-in accounts, contracts for services, announcements in community publications).

d. Provide a financial model showing the costs (equipment and leased telecommunications services) for required services and the value of the provided resources. Establish the required subsidy for the service on a declining basis over the 2 year period, based on a reasonable business case (i.e. if the cost of each service was $x.xx, and there were yy customers for each of the services, what subsidy would be required). New Mexico TechNet is willing to provide assistance to each oversight committee in this effort. TechNet can provide cost estimates of equipment and telecommunications services throughout the area. Vision Art will assist in providing information on labor, space, demographic, advertising, training, and other costs in the area. The National Indian Telecommunications Institute has committed to provide training to the Pueblos as part of the implementation plan. The subsidy to the ISP or community network should be $0.00 at the end of the 24 month period. (See section on sustainability)

e. Determine other selection criteria to be used in choosing the ISP or community network (integrity/credibility, previous business experience, technical knowledge, teaching experience, knowledge of the community, degree of commitment to the community, involvement in other community organizations).

f. Document the Request for Proposal criteria and publish it in a variety of ways suitable for the community.

g. Accept responses.

h. Choose one or more finalists to interview, and select one or more awardees.

i. Assist the ISP or community network in getting started. New Mexico TechNet will provide Internet connectivity and technical assistance as needed. Awardees are not required to go through New Mexico TechNet, but must demonstrate sufficient technical knowledge to be assured of a reasonable ability to provide the service if they elect to go through another ISP.

j. Monitor the performance of the ISP or community network in meeting the required services. The ISP or community network should have a contract with either the community oversight committee or with New Mexico TechNet in order to identify the specific subsidy amounts and the services to be provided. During the 2-year period, the oversight committee is allowed to audit the financial records of the ISP or community network and recommend an increase or decrease in the subsidy amount, or a cancellation of the contract for non-performance. New Mexico TechNet will assist in any inquiries from the oversight committees regarding performance of particular ISPs and the community networks. In the event that an ISP or community network

chosen by committee fails to perform, TechNet will assist in the continuation of service for the area while an alternate choice is made.

PART IV: THE COMMUNITY NETWORKS AND LOCALLY ORIGINATING ISPs

Current Reality

Seven nodes currently exist in the region, with twelve school districts.

Stakeholders/Participants

- All communities in the region
- Business, Public Services and Government, Education, Healthcare Institutions

Known Barriers

The known barriers are many and common to many rural areas around the US. Economic, geographic, educational, infrastructure, facility, and technical capacity vary widely. As indicated earlier, there is a wide variation in perceptions of perceived benefits. Access, education, economics and local politics play a large factor in these perceptions.

Vision/Mission

To have a locally originating ISP or community network in each node with capacity varying in each community, depending on the community need, connected to the region.

Desired Results

This proposal would require community networks to be locally owned and operated, and be financially viable and sustainable. Local stakeholders would work with VisionArt and TechNet to determine the level of 'basic service' to be provided by the community networks or community ISPs.

Methodology

This proposal advocates a bidding process in each community to any interested party to deliver pre-defined community-based services at a locally affordable cost. Each community networks or ISP will act at the local level with the following roles and responsibilities:

Provide 'basic services ' as determined to the community of service
Provide evidence of financial viability and a sustainability plan.

Implementation

Implementation would clearly define the roles and responsibilities of the local community networks and the regional network.

PART V: THE REGIONAL NETWORK

Current Reality

There is no entity in the region to aggregate the telecommunications demand, or to provide the necessary leadership for economic development activities that would result from an adequate regional infrastructure.

Stakeholders/Participants

The local community networks and the region at large would benefit from the leadership provided by a regional network organization.

Known Barriers

This proposal recognizes a lack of coordinated funding and implementation efforts by the public and private sectors. At this time, because the region lacks a management entity there is difficulty in moving forward with implementation. Implementation of this proposal would meet that need.

Vision/Mission

To coordinate a the leadership of north central New Mexico in the development of the telecommunications infrastructure efforts and to build capacity among individual community leaders and stakeholders, to facilitate the development and funding of basic network services for data, audio and video communications in each of the targeted communities in the region, and to provide a mechanism for cooperation in regulatory issues. Finally, this proposal would work with the major telecommunications providers to stimulate major infrastructure improvement and upgrade.

Desired Results

The results of this portion of the proposal would be two-fold. First, it would provide for a collaborative leadership to collaborate on a common vision, economic development, and to educate, enroll, and engage north central New Mexicans in information technology. As a result, information infrastructure decisions could be based on regionally shared principles and collaboration. This collaborative network would also provide technical assistance and resources.

Methodology

The process for the development of a regional entity will be remain flexible as the project matures. In the short term the RDC is funded to do this work. Nonetheless a transitional strategy for this work should be developed as part of the implementation of an organizational approach.

Part of the information collection process will determine what type of organizational entity would best fulfill this role.

Implementation

An integrated management approach is necessary to address the inherent issues presented by the people and the technology in the development of a regional network. The regional network must work closely with local community networks to facilitate the change process within each of

these communities. The role of the regional network must be to build access, facilitate community-and-relationship building, increase educational opportunities, and assist the collection of content.

Once the rural, underserved, and access barriers are finally overcome, the role of the regional entity will change. It is possible that a pre-existing organization could then take over the RDC's roles and responsibilities. However, at this stage of development the regional network (RDC) will act at the regional level as the central coordinating team.

PART VI: INTEGRATING THE COMMUNITY NETWORK AND THE REGIONAL NETWORK

Regional Network Board (RNB) is an option as an organizational entity. It would be comprised a representatives from each community network and other regional stakeholders. The other stakeholders could include Los Alamos National Laboratory, major regional employers, regional economic development organizations, and the two-and four -year colleges in the region. This would provide a regional people network to compliment the technical network for future funding and to stimulate and promote regional cooperation in economic development utilizing telecommunications.

PART VII: EXPERTISE

Patrick J. Finn, VisionArt Inc., President and CEO

Patrick Finn founded VisionArt as a consulting, media production, and telecommunications research and development firm in January 1997. The VisionArt team has many years of experience in the application and development of telecommunications as a vehicle for local market penetration and in understanding the challenge and potential of technology and how it relates to human dynamics, performance, and group interaction.

Mr. Finn co-founded and directed La Plaza Telecommunity Foundation for three years in Taos, New Mexico. He and his partners developed one of the first community-based web sites in the country. Subsequently, he was the interim president of the National Association for Community Networking and consulted for that group in the startup phases of development.

Mr. Finn has worked with Connect New Mexico and developed the web site at New Mexico Rain as a clearinghouse for telecommunications activities in New Mexico. In these endeavors he worked with Los Alamos National Lab, the NM Economic Development Department, the NM State Department of Education, and other state offices..

Additionally, Mr. Finn has been an advisor to US Senator Pete V. Domenici on telecommunications and currently serves as the Teleliteracy Committee Chair for the Senator's Rural Economic Development Initiative - "Rural Payday." Most recently Mr. Finn completed a telecommunications study of five rural New Mexico towns for the purpose of economic development and a similar study for the Town of Taos. These studies included community-wide surveys, facilitating community task force meetings, trainings, and the assessment and evaluation of their telecommunications infrastructure which resulted in recommendations to the Economic Development Department for future expansion. Currently Mr. Finn is developing a business and feasibility plan for a telecommunications company for La Jicarita Enterprise Community.

Cyd Strickland, Ph.D., VisionArt, Inc., Project Associate

Cyd Strickland is an independent consultant, teacher, and facilitator, whose background is complemented by successful careers as an entrepreneur in the high technology industry, and as an administrator at CalTech and Stanford University. She is noted for her work as the founding employee of Cisco Systems, Inc.

Her consulting practices focuses on electronic communication in communities and the workplace, executive consulting, and issues of access to computing technologies. In addition,

Cyd has taught courses in group process, electronic communication, system dynamics modeling, knowledge management, and systems thinking. Currently, she is on the Senior Faculty of the Fielding Institute's Organizational Design and Effectiveness Program.

Cyd has published widely on community networking, gender and computers, on-line relationships, multicultural access to computers, and the social impact of computing technologies. She is currently researching the impact of offering networked computer technologies in the multicultural communities of rural northern New Mexico.

Marianne Granoff, New Mexico TechNet, Director of Operations

UNM, Albuquerque, New Mexico. MS Computer Science
UNM, Albuquerque, New Mexico. BUS emphasis in Psychology
Iowa State University, Ames, Iowa. B.A.

Marianne Granoff has been the Director of Operations at New Mexico TechNet since January, 1991. Her prior experience includes over 25 years as a Programmer, Systems Analyst, Manager of Information Systems, and Information Systems Consultant with the University of New Mexico, Digital Equipment Corporation, General Electric Company, Lovelace Medical Center, and Intel.

Since coming to TechNet, Marianne has been responsible for adding over 300 new Internet connections and increasing state-wide dial-in capabilities by a factor of 20. Her efforts resulted in significantly expanded free dial-in capabilities for educational users, and subsidized Internet access for schools. She is actively involved in TechNet's educational and economic development programs. She was a member of the New Mexico's National Information Infrastructure Project, and has served as an advisor to the NM State Department of Education regarding Internet access for schools.

NEW MEXICO TECHNET

New Mexico TechNet, Inc. is a self-supporting, private, non-profit corporation, operating throughout New Mexico and on the Navajo Reservation in Utah, Arizona, and Colorado. It provides for the management of a State-wide fiber optic computer network to serve the needs of the State of New Mexico, the State Universities and State-wide research, educational, and economic-development interests.

TechNet was originally created by the State of New Mexico, the three State research universities (NMIMT, NMSU, UNM), and the National Laboratories and Research Organizations (Sandia, Los Alamos, White Sands, Air Force Weapons Laboratory, Department of Energy, etc.) doing business in New Mexico.

In 1994, TechNet formed TFP, Inc., a wholly-owned for-profit subsidiary. Business activities that are similar to those of other for-profit companies are handled by TFP, Inc. TechNet continues to operate as a private, non-profit corporation.

Traffic measurement has been a consistent part of the service we offer to our customers. Bandwidth utilization statistics are kept continuously by TFP's network management nodes, and can be presented in textual or graphical format, with daily or monthly profile summaries and continuous format for trend analysis.

TechNet/TFP manages approximately 300,000 IP addresses, manages and monitors circuits and routers behind our customers' primary connections to us, and provides consulting to organizations not connected to us on routing and other national connectivity issues. We have been providing such services for over 13 years.

Part 1 Budget	
Personnel	
Principal	7,500
Project Associate	7,500
Technical Partner	5,000
Call Center Supervisor	1,000
Administration	770
Call Center Staff	500
Call Center Staff	500
Employee Taxes	1,065
Personnel Total	23,835
Outside Consultants Totals	7,500
Materials	
Telephone	3,000
Printing and Copying	1,000
Promotion	1,000
Travel - Mileage	1,000
Materials Total	6,000
SUBTOTAL	37,335
Administration & Overhead	5,600
Tax	2,567
GRAND TOTAL	**45,502**

Part II Budget	
Personnel	
Principal	4,000
Project Associate	2,000
Technical Partner	2,000
BBER Staff	9,000
Call Center Supervisor	500
Administration	770
Call Center Staff	300
Call Center Staff	300
Employee Taxes and Firings	2,768
Personnel Total	**21,638**
UNM Overhead	**5,974**
Outside Consultants Total	**5,000**
Matreials	
Telephone	2,550
Printing and Copying	1,000
Promotion	1,000
Travel - Mileage	2,000
Materials Total	**6,550**
SUBTOTAL	**39,162**
Administration & Overhead	5,874
Tax	3,096
GRAND TOTAL	**48,132**

Part III Budget	
Personnel	
Principal	5,000
Project Associate	5,000
Technical Partner	10,000
Administration	770
Employee Taxes	589
Personnel Total	**21,359**
Outside Consultants Totals	**5,000**
Materials	
Telephone	1,000
Printing and Copying	1,000
Promotion	1,000
Travel - Mileage	500
Materials Total	**3,500**
SUBTOTAL	**29,859**
Administration & Overhead	4,479
Tax	2,053
GRAND TOTAL	**36,391**

APPENDIX 1
Service And Calling Areas In The RDC Region

Santa Fe County	Service Area	Dialing Area
Cerrillos	USW	Santa Fe
Cienega	USW	Santa Fe
Edgewood	USW	Albuquerque
Gallisteo	USW	Santa Fe
Glorieta	Universal	Pecos
Golden	USW	Albuquerque
Lamy	USW	Santa Fe
Madrid	USW	Santa Fe
Nambe	USW	Santa Fe
Nambe Pueblo	USW	Santa Fe
Pojoaque	USW	Santa Fe
Pojoaque Pueblo	USW	Santa Fe
Santa Cruz	GTE	Espanola
Santa Fe	USW	Santa Fe
Stanley	USW	Albuquerque
Tesuque	USW	Santa Fe
Tesuque Pueblo	USW	Santa Fe
White Lakes	ENMR	White Lakes
Los Alamos County	**Service Area**	**Dialing Area**
Los Alamos	USW	Santa Fe
White Rock	USW	Santa Fe
Rio Arriba County	**Service Area**	**Dialing Area**
Abiquiu	GTE	Espanola
Alcalde	GTE	Espanola
Brazos	GTE	Chama
Canjilon	GTE	Chama
Cebolla	GTE	Chama
Chama	GTE	Chama
Chimayo	GTE	Espanola
Cordova	GTE	Espanola
Coyote	GTE	Cuba
Dixon	GTE	Espanola
Dulce	GTE	Chama
El Rito	GTE	Espanola
El Vado	GTE	Chama
Embudo	GTE	Espanola

Ensenada	GTE	Chama
Espanola	GTE	Espanola
Gallina	GTE	Cuba
Hernandez	GTE	Espanola
La Madera	GTE	Espanola
Lindrith	GTE	Cuba
Lumberton	GTE	Chama
Monero	GTE	Chama
Ojo Caliente	GTE	Espanola
Rinconada	GTE	Espanola
Rutheron	GTE	Chama
San Ildefonso Pueblo	USW	Santa Fe
San Juan Pueblo	GTE	Espanola
Santa Clara Pueblo	GTE	Espanola
Tierra Amarilla	GTE	Chama
Truchas	GTE	Espanola
Vallecitos	GTE	Espanola
Velarde	GTE	Espanola
Youngsville	GTE	Cuba
Taos Area	**Service Area**	**Dialing Area**
Angel Fire	USW	Angel Fire
Arroyo Hondo	USW	Taos
Arroyo Seco	USW	Taos
Eagle Nest	USW	Angel Fire
El Prado	USW	Taos
Questa	USW	Questa
Rancho de Taos	USW	Taos
Red River	USW	Red River
Talpa	USW	Taos
Taos Pueblo	USW	Taos
Taos	USW	Taos
Other Pueblos of the 8 Northern Indian Pueblos		
Area	**Service Area**	**Dialing Area**
Penasco	USW	Penasco
Picuris Pueblo	USW	Penasco

MILESTONES	RFP SECTION ADDRESSED	TASKS	PARTICIPANTS	TIME
Participant Identification	Part I-A	**1)** Identify local leaders, champions, and stakeholders through contacts and surveys **2)** Advertise local meetings **3)** Convene local advisory committees and stakeholders **4)** Identify potential local bidders	Project Team Community Partners Karen Bueller, NITI	Month 1
Community Awareness About Telecommunications	Part I-A	**1)** Develop presentation about eco.dev and telecom **2)** Define required services to be delivered	Project Team Community Partners	Month 2
Developing Vision	Part I-A	**1)** Develop local vision **2)** Develop regional vision	Project Team Community Partners	Month 2,3
Developing Goals and Objectives	Part I-A Part III- B	**1)** SWOT analysis **2)** Formalize Goals and Objectives	Project Team Community Partners	Month 2,3
Situation Analysis	Part I-B Part II Part III-A	**1)** Write Survey Instrument **2)** Survey Calls **3)** Follow up calls and meetings **4)** Roundtable with Telcos **5)** Meetings with Economic Development **6)** Applications identification **7)** Redefine required services to be delivered	Project Team Telecom Adv. Com. Eco. Dev. Adv. Com. Amy Brogstrom, AceNet	Month 1, 2, 3
Analysis of Key Issues by Community	Part I-B Part II Part III-A	**1)** Existing Infrastructure Eval **2)** Teleliteracy Eval **3)** Marketing Eval **4)** Resource Eval **5)** Land and Building Eval **6)** Pilot Project Eval **7)** Overall SWOT analysis **8)** Resource Eval	Project Team Telecom Adv. Com. Lori Moye, D/P	Month 4
Developing Strategies	Part I-A Part II Part III-B	**1)** Publish RFP for local networks **2)** Accept responses. **3)** Review and choose finalist/s **4)** Assist in setup **5)** Develop local financial models	Project Team Lori Moye, D/P	Month 4
Drafting the Implementation Plan	All	**1)** Aggregate data and findings into a final report	Project Team	Month 4, 5

U S WEST Communications, Inc.
201 3rd Street Northwest, Suite 600
Albuquerque, NM 87102

U S WEST

April 22, 1998

Mr. Sidney Singer, Chair
RDC Board of Directors
2999 Calle Cerrada
Santa Fe, NM 87505

Dear Mr. Singer:

After reviewing additional facts and inputs regarding the RDC's RFP 98-1 for telecommunications networks in North Central New Mexico, including the questions and answers generated from the Bidders Conference, U S WEST would like to reiterate our sincere interest in supporting the RDC's vision and focus on the importance of telecommunications-based applications to future economic development in Santa Fe, Los Alamos and Rio Arriba Counties.

U S WEST intends to support the recommendations that are generated as a result of the awarded bidders' response to this RFP, and be responsive to Part III.C (and Part III.B if appropriate). U S WEST will bid on a network described by the parameters identified by the selected consultant, subject to the RDC's economic limitations and requirements defined. U S WEST will work collaboratively with the selected firm to design and implement the Regional Telecommunications System Design.

We continue to agree that the RDC's efforts to stimulate the development of telecommunications infrastructures and the deployment of leading-edge telecommunications applications are important elements of an integrated "tele-development" plan for the region which could leverage the region's assets to create knowledge based industry.

As outlined in our memo of March 26, 1998, we still believe that it would be in the best interests of all concerned for U S WEST to serve in the role outlined above. Again, we will be pleased to both support the consultant chosen and to compete for any implementation services require by the RDC as a result of this project.

Should you have any questions regarding our decision, or if you would like to speak to us regarding the integration of the RDC's tele-development efforts and our own, please do not hesitate to call us at the numbers listed below.

Regards,

Randall Jones	Daniel Sanchez	Connie Larson
Strategic Account Manager	Local Markets Manager, NM	Senior Market Manager
U S WEST Communications	U S WEST Communications	U S WEST Communications
(505) 245-5564	(505) 245-5957	(612) 663-5573

cc: Rich Smith, ICF-Kaiser/Economic Strategy Group
Raul Pena, Sales Manager, New Mexico, U S WEST Communications

One Tampa City Center
201 N. Franklin Street
Tampa, FL 33602

April 23, 1998

Marianne Granoff
New Mexico Technet
5921 Jefferson NE
Albuquerque, NM 87109
Ph: (505) 345-6555
FAX: (505) 345-6559

Dear Ms. Granoff,

I have reviewed the Regional Development Corporation Request For Proposals No. 98-1, Telecommunications Networks in North Central New Mexico. As the local provider of telecommunications services in Northern New Mexico, specifically Rio Arriba County, GTE prides itself in providing the most advanced telecommunications services available. As such, GTE will support infrastructure development in Northern New Mexico to meet the demand for services in the area.

Demand for advanced services will be the main driver for additional infrastructure provisioned in Northern New Mexico. If forecasted demand is such that additional facilities are necessary, then GTE will plan accordingly to provision additional capacity in both Outside Plant facilities and Central Office hardware. As actual service types are defined and specific locations for demand are identified, GTE planners and engineers will be able to facilitate the installation of additional capacity.

As previously discussed, GTE would be more than willing to team with New Mexico Technet in creating a World Class Telecommunications Network in North Central New Mexico. Please contact me at (813)273-2916 if you want to discuss this matter further.

Sincerely

Dan Ochenrider

Dan Ochenrider
Account Manager-Internet Markets
GTE Network Services

CYD STRICKLAND

P.O. Box 208
El Prado NM 87529
505.7373.5290
cyd@newmex.com

Professional Experience

Senior Faculty. (1998 - present). Fielding Institute, Organizational Design and Effectiveness Program, Santa Barbara, California.

Adjunct Faculty. (1996-present). Antioch University, Seattle.

Evaluator. (1998) La Jicarita Enterprise Community and VisionArt, Inc. Feasibility Study for the creation of a telecommunications company. Taos and Penasco, New Mexico.

Consultant. (1997-present). VisionArt, Inc., Taos, New Mexico.

Business Consultant. (1997-present). Wordcrafter, Taos, New Mexico.

Consultant. (1996). Westtcorp, Taos, New Mexico.

Consultant. (1994-1996). La Plaza Telecommunity Foundation. Taos, New Mexico.

Founding Employee (1986-1991). Cisco Systems,. Inc.

Manager, Customer Test and Repair, 1990-91.
Senior Master Scheduler, 1989-90.
Manager, Manufacturing Logistics, 1986-89.

Education

Ph.D. (1998). The Fielding Institute. Human and Organizational Systems.

M.A. (1995). The Fielding Institute. Organizational Development.

B.A. (1993) Antioch University, Seattle. Management and Leadership.

Grand Diplome. (1992). Cordon Bleu, London, England.

Professional Organizations

American Management Association
American Sociological Association
Association for Software Design
Association for Computing Machinery
Computer Professionals for Social Responsibility
The Internet Society
National Organizational Development Network

Client List

Bellevue Community College
Alberta Multicultural Commission
Northwest Center for Emerging Technologies
Antioch University, Seattle
Cisco Systems,. Inc.
Wesstcorp
Shards, etc.
The Fielding Institute
University of Washington, Tacoma
La Plaza de Taos Telecommunity
VisionArt, Inc.
Wordcrafter

Patrick J. Finn, President and CEO
VisionArt, Inc.
P.O. Box 468
419 Geronimo Lane
Taos, NM 87571

Spring, 1998

CURRENT STATUS

Patrick J. Finn is currently President and CEO of VisionArt and Media Productions, Inc. and Principal Consultant for Vision Consulting.

BACKGROUND INFORMATION

Patrick J. Finn, former President of the Board of Directors of La Plaza Telecommunity Foundation, Inc. (La Plaza), has successfully implemented the concepts of community networking and presented these theories to people across America and Canada. As a co-founder of La Plaza, he brings extensive experience in assisting individuals, organizations, and committees in understanding the challenge and potential of technology and how it relates to human dynamics, performance, and group interaction.

Before starting VisionArt, Mr. Finn was Managing Director of Human and Organizational Development for La Plaza and Project Director for the HRISM, W.K. Kellogg Virtual Library Project. In this three year project he addressed the social, technological, and practical issues around planning and implementing community networks. Mr. Finn has a extensive experience in World Wide Web architecture, design, and implementation.

While taking on his duties for La Plaza, Mr. Finn concurrently chaired the Computer Department at University of New Mexico, Taos. In this capacity he managed hardware and software installation, curriculum and certificate development, hired faculty, and conducted faculty and student evaluations.

Previously, he handled operations for the Rod Goebel Gallery in Taos, NM, including public relations, marketing, personnel and gallery finances, and the development of exhibitions.

In the realm of art, Mr. Finn was designer for the national Christmas Tree in Washington, D.C. and produced the photographic documentary, "Taos Up Close". As an accomplished artist and photographer, Mr. Finn's work is over 30 public and private collections including the Museum of Fine Art, Albuquerque, New Mexico and the Smithsonian Institute, Washington D.C.

His civic-responsibility includes President of the Taos Human Rights Alliance and Michelangelo, Inc. The latter involving him in research and development of AIDS awareness educational programs, and for the former he was a lobbyist. Other experiences includes positions as artistic director for theater groups in Taos, Santa Fe and Albuquerque as well as Educational Director of Taos Treasures, Art Educational Series, Taos, NM, and Patrocino Barela Exhibition NM WPA Project for the Office of the Secretary of State of New Mexico.

RECENT ACTIVITIES AND CLIENTS

Over the past five years Mr. Finn has consulted and advised numerous groups and clients on the integration of technology and human dynamics.

Senators Pete V. Domenici
Senator Jeff Bingaman
Former Congressman Bill Richardson
U.S. House of Representatives Information Systems
U.S. Office of Technology Assessment
Department of Commerce
W. K. Kellogg Foundation
Morino Institute
Center for Library Resources
New Mexico Economic Development Department
The National Association For Community Networking
The University of Michigan, School of Information
Los Alamos National Laboratory
The Center for Interpersonal Excellence

RECENT PUBLICATIONS

Currently Mr. Finn is Publisher and Editor of "New Mexico r.a.i.n." an online newsletter about telecommunications in New Mexico.

Strickland, C. and Finn, P. (In press) "Community networking '96: Bringing people together - A conference report: Compelling futures for communities and community networking.", Library Hi-Technology News.

Finn, P. and Strickland, C. (1995) "Bringing communities together: La plaza telecommunity foundation." In the Proceedings of the 1995 Ties That Bind: Converging Communities Conference, Cupertino, CA. Available Gopher/Apple/Apple Library/Ties 1995 Conference. Republished as "Building la plaza: A local telecommunity." City Managers Magazine. January, 1996.

Finn, P. and Strickland, C. (1995) "Community networking: Bringing communities online." In the Proceedings of the 1995 Telecommunities Canada Conference. Victoria, B.C. August 16-20. Republished in the Proceedings of the 1995 Society and the Future of Computing Conference. June 11-14. Durango, Colorado.

AFFILIATIONS AND AWARDS

Chair, Teleliteracy Committee, Senator Domenici's Rural Payday Initative
Connect New Mexico, Governor's Task Force for NM State Information Infrastructure
Interim President, The National Association of Community Networking
Judge 1996 National Information Infrastructure Awards
1996 Who's Who in American Business
Finalist 1995 National Information Infrastructure Awards
Colonel, Aide de Camp, State of New Mexico