

PROJECT PURPOSE

The applicant will provide information to individuals and communities in order to allow them to be proactive in their tribal government and in further developing their communities and themselves. The following project goal and objectives will be used to accomplish this initiative.

Project Goal:

To provide an interactive information system which allows tribal members to access governmental information and services within the confines of their individual rural communities.

Project Objectives:

- ✓ To provide computer and Internet access for constituent use at conveniently located points of access throughout the fourteen county tribal jurisdictional area. This access is the initial step to providing access within tribal member homes.
- ✓ To provide a means for tribal member feedback to tribal government officials, including Council Members and Administrative staff.
- ✓ To provide a database of tribal governmental documents available through the Freedom of Information Act for access by tribal members.
- ✓ To provide communities a medium in which to interact with each other, sharing information and concerns.
- ✓ To provide information on available services, eligibility criteria, needed documents, and application instructions to tribal members located in remote rural areas.
- ✓ To provide a database of cultural information in an interactive format for tribal member access.
- ✓ To provide communities with the tools they need in order to become proactive in developing community programs and initiatives.

The Cherokee Nation is a self-governance compact Indian Tribe, located in Northeastern Oklahoma. (Attachment A) Bordered by Kansas on the North and Arkansas on the East, the Tribe's jurisdictional service area (TJSA) covers fourteen counties containing approximately 9,000 square miles. The Cherokee Nation has exclusive jurisdiction on tribal lands, with no state or local involvement. Services provided by the Cherokee Nation such as housing, elderly assistance, health care, educational assistance, and burial programs, to name a few, are almost exclusively federally funded.

Although the tribe has approximately 100 million dollars in social, education, and health programs from the federal government, the funds are inadequate in relation to need and steadily shrinking. The Cherokee Nation is always reviewing and pursuing new sources of funding for programs that promote growth and individual self-sufficiency. The tribe aggressively pursues economic development to support programs, but locale and the supporting infrastructure are detrimental to most initiatives. Furthermore, the state of Oklahoma is not a class III gaming state; the tribe, therefore, does not have the gaming revenues to support program delivery.

Problem:

The impact of the rural, isolated geography of the target area is particularly apparent in terms of employment and income. Indian poverty is further compounded by the nature of employment. Low wages, seasonal jobs with no benefits, and those in subsistence farming and ranching, result in lower unemployment figures, but higher numbers of persons living in poverty. Many adults are working -- at least

periodically. However, the jobs at which they work are seasonal and low paying resulting in incomes well below the federal poverty guidelines.

The statistics on educational attainment mirror those for economic status. A high drop out rate in high school is precipitated not only by academic difficulties, but by the change to a socially and culturally alien environment as well. The average American Indian youth in Oklahoma attends a small rural school for the first eight grades. In the transition to larger area high schools, many are lost. Of those who complete the transfer, many more drop out as they find themselves in an alien environment and shunned socially. Uneducated youth become uneducated adults, who in turn become uneducated parents, perpetuating the cycle of poverty and unemployment.

The following table contains selected characteristics of the resident Indian population:

SELECTED CHARACTERISTICS OF RESIDENT INDIANS	Cherokee Nation
Total Tribal Population	200,628 ¹
Resident Tribal Population	143,620 ¹
Unemployment Rate	35% ¹
Percent Working, but Below Poverty Level	27% ¹
< 12th Grade Education	31.8% ²

¹BIA Labor Force Survey 1999
²1990 Census

It is imperative that the Cherokee Nation provides the most efficient delivery of services and information to empower tribal members. Finding that vehicle is difficult in many locations. Most Cherokees live in remote, rural areas that are not serviced by cable television and receive poor reception of local broadcasts due to rugged terrain. Many individuals do not have transportation of their own, nor access to public transportation systems. Due to the remoteness of many tribal communities, individuals are geographically isolated from conventional public information sources. Additionally, telecommunications and network resources are simply unavailable within many of these rural communities.

Furthermore, advanced telecommunication services that do exist are difficult and costly to obtain for access to the Internet and other data related services. Moreover, most Cherokee members cannot afford to purchase and maintain a personal computer in the household, much less finance monthly Internet services. Finally cultural, language, and race barriers further impede the receipt of information and access to the most appropriate services.

Many social service and community development offices, tribal health clinics, community centers, and food distribution sites are located throughout the fourteen counties and are "islands" of information and services. Currently most tribal members are forced to commute long distances to apply for assistance. Often, tribal members will visit several office locations to apply for various services. Rather than having the ability to access information in centralized locations, members can spend an entire day driving and applying for these services. At the end of a long day of travel and confusion, the client may not qualify for that particular service or they will have to return on another date to provide necessary documentation that the client was unaware of.

If, however, a tribal member is fortunate enough to obtain and maintain Internet services, the Cherokee Nation cannot accept online applications for any of the programs or services. Moreover, the website currently contains only a partial listing of the assistance programs offered through the Cherokee Nation, as

well as limited cultural and historical information. There are no offerings of language instruction or simple explanations of the structure or sounds.

Residents of the Cherokee Nation exhibit many of the characteristics associated with the digital divide as identified in the National Telecommunications and Information Administration's report *Falling Through the Net*. Additionally, the state of Oklahoma falls into the low tier of states concerning penetration and connectivity. Isolation from information, ignorance of services/benefits and social and cultural barriers are all impediments to improvement of living conditions for these tribal members.

Tribal members rightfully demand accountability from their tribal government. To this end, they must have ready access to information concerning their government and a means to communicate with their elected officials. The logistics involved in providing this access to such a large population over such a large and remote area are difficult. Many individuals are left out. It is necessary to increase the participation of these individuals.

Solution:

Cherokee Nation operates a series of "field offices" throughout the jurisdictional area to allow convenient access to services for tribal members. Additionally, tribal clinics, housing complexes, and community centers are located throughout the jurisdictional area. These natural gathering places will be equipped with computer systems for tribal member use in accessing Internet services, including Cherokee Nation specific information.

First, it is the applicant's goal to link remote offices, providing "Cherokee FIRST" centers (Attachment B) in areas where tribal members can easily access information. Second, the applicant wishes to enhance the Cherokee Nation website by including online service and tribal government information, interactive language instruction, and historical and cultural preservation. Combined, these will encourage and promote individual participation and growth in the Cherokee Nation government, language, history, and culture. Individual participation will strengthen the government and continue the legacy of a persevering nation.

This solution compliments a recent initiative of the Cherokee Nation entitled "Cherokee FIRST". "Cherokee FIRST" is a plan to more actively involve tribal members in tribal government, Cherokee teachings, and services afforded to tribal members. The "Cherokee FIRST" (Friendly Information Referral Service Team) initiative seeks to centralize information regarding Cherokee Nation, its services, preservation of language, history and culture thereby providing a more efficient service to tribal members, clients and vendors. The plan dictates all materials will be developed in both Cherokee and English, and all documentation will be made easily accessible to the public. The underlying theme of "information (knowledge) is power" is afforded to all Cherokees, in an effort to promote self-determination and sufficiency.

The solution also compliments the tribe's desire to assist individual communities develop self-help and self-determination initiatives. The tribe currently provides two-day Community Empowerment Conferences twice yearly, designed to provide community organizations and individuals with the tools necessary to be proactive in solving community problems. These conferences include workshops on such subjects as organizing, basic grant writing, holding meetings, becoming a non-profit, and finding data and information on the Internet. The proposed project will provide individuals and communities access to this information and to tribal employees who can assist them with their projects right there in their communities.

The solution further compliments the time and money previously invested on telecommunications and online materials. The Cherokee Nation has been diligently building information/data services to local offices and some remote areas to provide the aforementioned services (Attachment B). Currently, most of the local W.W. Keeler Complex offices are linked to a Wide Area Network (WAN) that provide offices with inter-connectivity, Internet access, email, and other data services. Moreover, most of the Health Divisions'

facilities are also connected to the Cherokee Nation Complex, as well as the Indian Health Services' Network to coordinate all health services in seven full-service tribal clinics and two IHS hospitals.

The Cherokee Nation has also established an active presence on the World Wide Web with a continually developing, nationally recognized site. The website currently outlines several of the programs offered, as well as current news and events around the country. The site has approximately 65,000 hits per month, a 4,800-member weekly newsletter subscription, and daily updates. The website promotes an unbiased delivery of news and information for all Cherokee members and interested individuals.

Outcomes:

Anticipated outcomes of the proposed project will be both short and long-term, and both qualitative and quantitative. These include:

- Tribal members who are knowledgeable and involved in their tribal government
 - ✓ immediate access to tribal documents via the Freedom of Information Act
 - ✓ increased voter participation in tribal elections
 - ✓ ability to provide feedback and ask questions of elected officials via e-mail transmission
- More efficient and effective service provision to tribal members
 - ✓ access to information concerning available services, eligibility criteria, necessary documents, deadlines, and other needed information
 - ✓ ability to make application for programs on-line
 - ✓ decreased waiting lists
 - ✓ increased customer/client satisfaction
- Resurgence of, and appreciation for, the Cherokee language, history, and culture
 - ✓ increase in native language speakers
 - ✓ increase in the number of individuals with skills in the traditional arts and crafts
 - ✓ increased awareness of tribal history
 - ✓ increase in the quantity and quality of archived materials
 - ✓ increased access to archived materials
- Strong, vibrant, self-reliant, prosperous communities
 - ✓ community projects designed and conducted by community members
 - ✓ happy, healthy, self-sufficient individuals
 - ✓ increased community pride and exposure

INNOVATION

The concept of online services such as client intake, program delivery and government information are not new; however, this concept is an innovation for Native American tribes who have had limited access to technology. The Cherokee Nation proposes to incorporate interactive tools and multimedia presentations to preserve and promote the Cherokee culture, history and language as well as provide member services. The use of a comprehensive approach affecting most aspects of life as a tribal member is innovative in that the interaction and access is self-contained; provided and maintained through one source: the tribe.

As an example of one of the proposed uses of the system, the Cherokee Nation will provide Cherokee language instruction via the World Wide Web. In 1821, a single man by the name of George Guess, commonly known as Sequoyah, completed a writing system for the Cherokee language. Within a year, 90% of the Cherokee people could both read and write in their own language. Type was cast for the Sequoyan characters (a syllabary rather than an alphabet) and the Cherokee Nation began to publish a newspaper. Since this time, the Cherokee language and culture is slowly losing ground with each generation. In an

attempt to preserve this rich heritage, the interactive tools will be used to reestablish the ability to read, write and speak the Cherokee language as well as the knowledge of the culture and history for all generations and the generations yet to come.

DIFFUSION POTENTIAL

The Cherokee Nation is one of several hundred federally recognized Indian tribes, and the second largest in the United States. It is safe to say that most tribal governments face the problem of providing their tribal members with the information they need to make informed decisions concerning the operation of their government, the availability of services, or the potential for self-help for their communities.

The Cherokee Nation provides many of the same social services to tribal members that states currently administer. This project and the Cherokee Nation would serve as excellent example of providing online services for clients, and expediting the application process. This ideology could be used as a model in urban and rural areas, to provide training and services to clients that might otherwise be unavailable. This project would work well for many other Native American tribes, especially those in New Mexico and Arizona, which are separated by miles of uninhabited, remote areas.

The tribe will disseminate results of the project in the several different ways. First, the project purposes and results will be placed on Cherokee Nation's award winning WEB Board (listed by Yahoo as one of the best) to get the most information to the most people. Second, the tribe will disseminate project results through presentations at various state, regional, and national organizations, such as National Indian Education Association, the National Indian and Native American Employment and Training Coalition, the National Low-Income Housing Coalition, and other conferences and meetings in which Cherokee Nation staff are active. Third, the tribe will provide an attractive, bound report that comprehensively documents the project methodology, lessons learned, and evaluation. The hard copy report will be available not only to the U.S. Department of Commerce, but also to individual providers who so request.

PROJECT FEASIBILITY

The applicant will utilize advanced telecommunication technology to accomplish the goal and objectives of the proposed project.

Technical Approach:

As stated previously, the Cherokee Nation has worked diligently over the past several years to develop and expand a comprehensive Wide Area Network for the local offices, but is missing input and access to outlying areas. To alleviate this lack of technological information and telecommunications, the applicant proposes to install seven T1 leased lines (1.5mbps) in various communities. These leased lines will connect several of the remote office locations to a central switching trunk at the telephone company (Southwestern Bell). From there, the Cherokee Nation has a significant investment in Cisco networking equipment and telecommunication services, including an 7200 Series Router, an Access Server AS5200 and a PIX Firewall. The 7200 Series Router is capable of maintaining 12 serial leased line connections, and is the fastest and most secure form of remote data communication afforded the Cherokee Nation. Second, the Access Server can accommodate up to 48 dialup connections utilizing two T1 connection ports; this would allow dialup connections to offices that do not merit the speed and cost of leased lines. Finally, the PIX firewall is used to protect data from outside attacks, and protect existing internal servers and equipment.

To overcome some of the technological literacy barriers, it is the applicant's desire to present information in an easy to use graphical user interface. The ultimate goal is to present all generations of Cherokees with data services that are easy to use. Many elder Cherokees do not use computers, and are intimidated by

them. To reduce the intimidation the applicant plans to purchase several large-display "touch" screens to minimize the use of the keyboard and mouse.

Further, the applicant intends to modify existing information and pages to incorporate the graphic theme. This includes the development of a graphical user interface that efficiently downloads for various modem speeds. The applicant plans to incorporate several pieces of software including Macromedia's AuthorWare and Flash extensions (plug-ins). The applicant also plans to further develop the existing Active Server Pages (ASP) and style sheets which provides the ability for database information retrieval using Microsoft Access and SQL as the back-end application while using a browser front-end. (Attachments C – G).

Applicant Qualifications:

The Cherokee Nation maintains an Information Systems Department that employs sixteen (16) individuals for the purpose of developing and maintaining tribal computer systems and networks. The qualifications of these individuals are documented within their individual resumes, which are attached.

The overall project management will be administered through the Information Systems department of the Cherokee Nation (Attachment H). The Information Systems department currently consists of 16 full-time employees that maintain the software and hardware communications for the Cherokee Nation. An organizational chart of the department and listing of qualifications can be found in Attachment I. The key members of the Information Systems' staff are: (1) Todd Enlow – Director, (2) Jerry Birkes - Lead Systems Administrator, (3) Jon James – Network Administrator, (4) Steve Staten - Programmer/Analyst I, (5) Tonia Williams, Website Coordinator, and (6) Matt Drewes – Computer Hardware Technician II. Resume of key project members can be found in Attachment J – O.

Through the course of the project the applicant will add a number of staff to assist with the data development. Positions include a Web Application Developer, Graphic Artist, and Website Technician (Attachment P – R) to assist with the update and maintenance of the Cherokee Nation Website and application process. These positions will be responsible for assisting the current Website Coordinator with the implementation of the online management system, as well as the construction of the language, history and culture online archival system. Proposed staff salaries are listed in the budget breakdown.

Implementation Schedule:

The applicant requests a three-year project to accomplish the aforementioned tasks. A timeline of project activities/tasks is attached. (Attachment S) The tasks are quite detailed and involve the process change for internal/remote offices as well as tribal members. The applicant would like to continue the services and connectivity well into the future, and does not desire to eliminate key positions after a year of development. It is the applicant's goal to incorporate and transition the new positions into the annual Information Systems budget at the end of the project. Finally, the volume of information developed for services and hundreds of years of historical documents demand an enormous amount of time to catalog, archive and develop into an easy to use format. Without the three-year time frame to complete these tasks, the project would suffer due to a lack of knowledge and use. Furthermore, as the project grows and users (tribal members) continue to experiment, there will be changes and corrections to the information and program. The more time is invested and dedicated to this project, the better the services and learning become for the end user, the Cherokee Nation tribal member.

Sustainability

As mentioned previously, it is the applicant's desire to continue the development of the project well into the future. The applicant has requested a three-year project to incorporate, into the existing budget, all of the additional personnel costs and telecommunication services. Without this focused project it is difficult to obtain funds to add the necessary resources to complete the project. Shifting the existing funds would only

eliminate resources dedicated to the service of the tribal members. But with noticeable milestones and increased customer satisfaction through the course of the project, it becomes easier to justify the need for the additional staff and resources.

Additionally, both tribal administration and tribal members are dedicated to accomplishment of the concepts contained herein. The proposed project is directly in line with identified tribal goals. The tribe is aggressively pursuing additional resources to conduct stated goals and objectives and will continue to build upon the accomplishments of the proposed project.

The applicant is also very aware and sensitive to changing and emerging technologies in the communities. In example, the Tahlequah community should receive Digital Subscriber Loop (DSL) services during 2001. However, many of the rural communities will not receive the service well into the future. This example describes many of the frustrations experienced in trying to obtain advanced telecommunication services. The applicant will obtain DSL service, when available, to increase access speeds and reduce costs. Of course this will provide better services to tribal members and reduce the burden on the tribal government, prolonging the services provided in the project.

COMMUNITY INVOLVEMENT

The Cherokee Nation has conducted a comprehensive strategic planning process that included high involvement of the community. Various community meetings have been held, surveys have been conducted, and the community voice has been heard. The results of this process include use of telecommunications and computer technology to access, exhibit, and share information. The community, for the most part, recognizes the potential for distribution of information through utilization of computer technology. Furthermore, the community demands localized access to the services, information, and government of the Cherokee Nation.

Key issues were identified in various ways. The key problems were collected from tribal council community meetings, client complaints and suggestions as well as direct input from tribal members via survey instrument. It was determined that members were upset with service delivery. They discussed the inability to travel long distances, duplication of information in multiple applications, and confusion about eligibility requirements. Furthermore, clients expressed concern for lack of information regarding services provided and application deadlines, as well as basic information on their tribal government.

Support for End Users

The end users, as defined by this project, are the 200,000+ tribal members residing both within and without the tribal jurisdictional area. As defined earlier, approximately 50% of the tribal population lives within the fourteen counties. End users include tribal members, service-oriented agencies, as well as potential members and non-members searching for basic knowledge of the Cherokee Nation. This will also provide a knowledge base for the 50% of the tribal population that reside outside of the jurisdictional area, in other states as well as other countries or military installations overseas, whom wish to maintain contact with their tribal government, culture, history and people.

An example, an elder Cherokee man enters a Food Distribution Center (linked to the complex) in Jay, Oklahoma to receive assistance. While he is on location, he can use the designated computer to inquire and apply for housing services for his home in Grove, Oklahoma. This task would currently require him to drive from his house to Jay, then to Tahlequah and back to his home in Grove. A round trip of approximately 150 miles, all of which may be wasted if he does not qualify for the housing service. Program staff, located within the office or center, will be available to assist individuals in accessing the information needed. These individuals will be thoroughly trained in utilizing the equipment and will provide one-on-one instruction to end users, as needed.

Meanwhile his son, who lives in California, desires to move to Colorado and attend college at the University of Colorado at Boulder. While researching online, he discovers that the Cherokee Nation offers educational assistance for tuition and books. He is able to apply online and receives notification in a few days that he is awarded \$1,500 to offset the cost of his higher education.

Privacy

It is the intentions of the applicant to maintain the privacy of its clients and employees. By initializing encryption technology such as SSL (Secure Sockets Layer), this ensures that not just user authentication but all client/server traffic, including data transfer, is strongly encrypted (128 bit). Basic authentication can be combined with SSL encryption to provide a secure authentication scheme in heterogeneous environments.

EVALUATION AND DOCUMENTATION

The proposed project is designed to include both a continual, internal evaluation of activities and outcomes as well as a comprehensive annual, external evaluation. The purpose of the continual, internal evaluation is to allow changes to occur as problems arise, or as constituent feedback may indicate. The comprehensive annual, external evaluation will allow for an unbiased report of project accomplishments and impact. Both evaluations will include qualitative and quantitative information.

Many expected outcomes are long-range in nature and difficult to quantify. These include a resurgence of the Cherokee language, an increased awareness and fortification of the culture and history, an increase in governmental involvement, and an increase in community development and self-sufficiency. However, the impact of these outcomes should be seen in an increase of native language speakers, better living conditions within tribal communities, and higher voter turnout at tribal elections.

Each site will maintain visitor logs to document site usage. The visitor log will identify whether the visit is a repeat visit; the type of information accessed; and the individual's need for assistance in accessing the information. Additionally, the website will provide an automatic count of "hits" it receives, which can be analyzed to determine percent of increase in use.

Visitors will also be asked to complete a survey to determine their satisfaction with both the ease of use of the system and the informational content. A sample of survey questions is included as Attachment T. Tribal Community Meetings (which are held at regular intervals throughout the year) will be utilized to solicit constituent feedback and to determine awareness of the project. Constituent comments received at these meetings will be documented and forwarded to the Project staff for evaluation.

Tribal Programs currently provide administration with monthly reports concerning program activity. These reports will now include information relating to program activity through the use of the CHEROKEE FIRST sites. This information is expected to reveal a decrease in waiting lists for services, a decrease in program administrative costs, an increase in program inquiries, and a decrease in applicant complaints.

The comprehensive annual, external evaluation will look at both the technical and social aspects of the project. Two individuals from Northeastern State University have agreed to provide their services to conduct this evaluation. Both resumes are included as Attachment U & V. Letters of Commitment from these individuals are included as Attachment W & X. A list of questions to be answered through the external evaluation is included as Attachment Y.