The Coeur d'Alene Tribe is located in rural Northern Idaho, a place where carrier investments in state-of-the-art technology and infrastructure lags far behind major metropolitan areas. As an Indian community, we have been bypassed by governments and corporations for generations. This grant gives us the opportunity to leapfrog ahead of those who left us behind and to become a national leader in fiber-optic broadband technology. There are 3,770 unserved and underserved households in our project service area. There is not enough unlicensed spectrum to support current and future expected growth in the proposed service area using our existing wireless infrastructure due to saturated frequencies in the unlicensed bands. Our proposed fiber optic network will pass 3,496 homes and twenty-one community anchor institutions, public safety entities, and critical community organizations. The Coeur d'Alene Tribe’s proposed fiber-optic project is critical in eliminating the disparities that exist between reservation and urban communities in the areas of education, public safety, health care, workforce training, commerce, and economic activity. While telecommunications systems nation-wide are undergoing rapid evolution, the availability of advanced carrier services beyond an aging old telephone service is largely non-existent on the Coeur d'Alene Indian Reservation. The overall lack of carrier investment in telecommunications infrastructure on the reservation serves to condemn reservation residents to a bleak future. The Coeur d'Alene Indian Reservation is located in Benewah and Kootenai counties. The reservation is 345,000 acres and includes five towns: Plummer, Worley, Tensed, DeSmet, and part of St. Maries. There are roughly 7,000 people living within the reservation borders, including 1,300 tribal members. The unemployment rate in Benewah County is 11.2 percent and in Kootenai County the unemployment rate is 9.3 percent, which are above the state average of 8.8 percent. Benewah County has been hit extremely hard because many of the residents formerly worked in the farming and timber industries. Today, the Tribe is the top employer in Benewah County and second highest employer in Kootenai County. It owns and operates the Coeur d’Alene Casino Resort Hotel and Circling Raven Golf Course, Berg Integrated Systems, a manufacturing company, Red Spectrum Communications, a wireless Internet provider, and a land development corporation. By deploying a fiber to the home broadband system, new economic development opportunities will also be available for the Tribe. The tribe estimates that we will be able to provide up to 10 new jobs in the ISP business and approximately 20 construction related jobs in the first few years of the project. Providing these job opportunities will help contribute to a greater per-capita income growth for the community. In addition, revenues generated on the reservation will remain here. The average family income is under $35,000 annually. The types of jobs that will be created in the ISP sector will be in the advanced technology, high-end business and accounting and marketing job categories. These jobs will be resistant to market
swings, such as drops in lumber prices. We anticipate a new wave of entrepreneurial and economic opportunities will be opened up on the reservation with the approval of this grant. As the global marketplace becomes more accessible, new types of ventures, such as software development, content development, and document archiving become possible as new ways of bringing enterprise to the reservation. With the cultural strengths inherent in a tribal community, the emphasis on good environmental management and a sound knowledgebase, the tribe can develop a whole new set of enterprise opportunities unique to tribal communities. The Tribe has experience in the telecommunications field. Red-Spectrum was born out of necessity. Prior to becoming the ISP for the reservation, the Incumbent Local Exchange Carrier dictated the capacity and the level of service offered. Over the many years they have operated on the reservation, they have not made any significant capital investments in infrastructure upgrades to deliver substantial advanced telecommunications services to most of the reservation residents. Red-Spectrum was formed in 2004 thanks to a $2.8 million broadband pilot program grant and a $1 million investment from the Tribe. The operation has the ability to implement and operate a broadband infrastructure as a sustainable broadband services provider. Through Red-Spectrum, the Coeur d’Alene Tribe is in the unique position to control the capacity and speed of upgrades and align its own priorities to maximize public benefit. Red-Spectrum is able to prioritize reservation needs, including offering services to senior citizens and students who would not otherwise be served. Red-Spectrum currently provides services to customers in the communities of Plummer, Worley, Tensed, DeSmet, as well as isolated farms and rural home sites. We offer four packages to our customers with speeds ranging from 256 kbps to 1.5 Mbps. There are a total of 550 customers ranging from 1 mile to 15 miles from four main access points. A single 1.5 Mbps up/down customer can and often does fully saturate the available bandwidth for other customers, resulting in dead or really slow Internet connections for everybody else. There are 1,108 unserved and 2,662 underserved households in our project service area at this time. There is not enough unlicensed spectrum to support current and future expected growth/demands in the proposed service area due to saturated frequencies in the unlicensed bands. The problems limiting total throughput to other customers include the following: • Limited 2.4 GHz unlicensed spectrum forces the use of overlapping channels being used by Red-Spectrum. All access-points (APs) and customers talking to the APs bleed over and interfere with traffic on other channels. • Because some customers are close (1 mile) and other customers are distant (5 to 18 miles), there are issues with round-trip packet-time (ACK). Many distant customers can only achieve a total download throughput of 100k or less. • As our customer base grows, the total unlicensed noise floor (interference) increases accordingly. Our customers are creating interference problems due to the growing popular use of home wireless networks, wireless-keyboards, wireless-mice, wireless-outdoor-temperature-thermometers, blue-tooth-devices, cordless-phones, wireless-video-cameras, wireless-headphones, wireless-speakers, and any other device using unlicensed frequencies. This causes Red-Spectrum customer CPEs and APs to be in error-recovery most of the time. To remedy the problems associated with running a wireless ISP, Red-Spectrum is proposing to deploy a fiber to the home Gigabit Passive Optical Network (GPON) to offer improved services to more homes on the reservation. By deploying a fiber to the home network, Red-Spectrum will immediately be able to offer advanced services to our customers that will include voice, video and data. Residential broadband packages will range from 1.5 Mbps to 20 Mbps to 3,496 homes directly connected to our fiber optic network. By moving most of our existing customers to a fiber network, the noise interference
will decrease thus allowing higher bandwidth delivery for the remaining 274 wireless customers. Our service offerings for wireless customers will range from 1.5 to 3 Mbps. Prices will range from $24.95 per month to $99.95 per month for our residential customers. Our business offerings will include dedicated point-to-point services with speeds ranging from 20 Mbps to 100 Mbps through our fiber optic network at prices ranging from $1,500 per month to $7,500 per month. With Federal Grant Assistance, we will be able to build upon the successes over the past five years of the previous award from the USDA-RUS Community Connect Broadband Grant Pilot Program. The cost of investing in and building a fiber optic network requires a substantial investment. The costs include preliminary engineering assessments, contractor costs, consultant costs, and hiring staff to oversee the building of additional office facilities, setting up billing and accounting systems, purchasing network equipment, and building the fiber optic infrastructure. Red-Spectrum operates on razor thin margins and doesn't have the financing necessary to build fiber optic networks to make a connection to the Internet or distribute fiber optic networks between our Network Operation Center, AP, and homes in rural communities. The capital investment necessary to build the infrastructure is $12 million. Without Federal Grant Assistance this project could not be implemented. Red-Spectrum currently connects our customers to the public Internet through our network provider, Noel Communications. As a policy, Red-Spectrum does not favor any lawful Internet applications or content over others. Additional non-discrimination and interconnection obligations will be addressed by establishing policies that adhere to the principles contained in the FCC broadband policy statement. These policies will be displayed in a prominent location on the Red-Spectrum website, as well as providing notices to customers in their monthly billing statements if any changes occur in these policies. In addition, Red-Spectrum will establish policies to offer interconnection, where technically feasible, on reasonable rates and terms to be negotiated with requesting parties. This includes both the ability to connect to the public Internet and physical interconnection for the exchange of traffic, subject to the needs of law enforcement and reasonable network management practices.