Applicant Name: PUBLIC SAFETY AND EDUCATION NETWORK

Project Title: WiMax - Emergency Management and Education Networks

Project Type: Comprehensive Community Infrastructure

The network we propose is an effort to promote public safety, economic development, job creation, better education, among others, for the island of Puerto Rico using a high-speed wireless network as a tool. It would be achieved through a partnership between the Government of Puerto Rico and the private enterprise. Participating in this alliance is Public Safety and Education Network, Inc. (PSEN), a private company, and the Government of Puerto Rico through his key agencies: the Department of Education, the Police Department, the Fire Department, and the State Emergency Agency, and the Labor and Housing departments. All of them seeking to incorporate Broadband to meet the challenges that the 21st century presents. We propose the development of a middle mile high-speed wireless network that provides connectivity services of at least 5Mbps and up to 75Mbps in an area of 355 square miles with 1,156,00 million residents as per the 2000 Census. In this area are located 20,590 business and industrial centers and approximately 444,000 households. Different studies have indicated the lack of affordable Broadband as a major inhibitor to increase economic development, productivity, social inclusion, education, regionalization, healthcare, and others. Puerto Rico's demographic data for Internet users lags behind the U.S. as a whole. According to the World Economic Forum in its report of technology 2009-2010, Puerto Rico took the position 44 between all countries of the world in Internet use. Independent studies commissioned by the Sales and Marketing Executive Association and the Internet Society in Puerto Rico estimate the Internet penetration rate in 38%, 23% under BTOP broadband definition. One of the reasons for this low number is that the price of Broadband are over the national average, even when Puerto Rico's per capita income is much lower than the national average. According to Census 2000, in the six municipalities served the average income is $22,826, well below the $36,764 in the United States. Similarly, while the U.S. unemployment is 9.7%, in municipalities impacted by this project the average is 16.0%. Increasing the accessibility to Broadband at lower prices will benefit the area in many ways. For example, the general community will benefit from improvements in the quality of the region's healthcare infrastructure, particularly through the ability to use Broadband connectivity for diagnostic, remote specialized care, for nearly 100 hospitals and health clinics in the area. A valuable amenity for the community will be provided through public access in each of the municipal city centers. That access will be provided as part of the partnerships with the municipalities. Besides, the Department of Education of Puerto Rico, the government agency in charge of public education, who serves about 100,000 students from low-income families in 298 public schools in this area, with this infrastructure, can support distance learning, video distribution and other educational enhancements that will help resolve the serious problem of school dropout in the Island. Currently almost 50% of students entering first grade never finish high school. In addition, over 67.3% of schools in
this area do not meet the targets set in the "No Child Left Behind" law. This project also would provide connectivity with high-speed Broadband to over 103 public housing projects with 131,000 residents, administrated by the Department of Housing where a very low rate for the residents will be provided using this network. The proposed service area community anchor institutions, will include K-12 schools (298 Public schools and 389 private), Universities and Community Colleges Campus (40), hospitals and health clinics (90), several municipal and State facilities, Police Stations (26), Public Housing complex (103) and Libraries for a total of over 850 state and local facilities that include educational institutions, public safety and other anchor and community service providers. One of the main reasons for the development of this WIMAX high speed network is to provide communication infrastructure to the State Agency for Civil Defense, responsible for providing emergency services to the entire island, with headquarters, command center, its main technological infrastructure, and many respond team brigades located within the proposed service area. Also will serve the five local municipality's emergency and disaster management agencies. Another beneficiary of this network will be the law enforcement agencies of the area, mainly the Puerto Rico Police Department who have the main facilities in the area. And the Fire Department who is located in the Metropolitan Area of San Juan. Currently, these agencies do not have a system of interoperability that will let them to communicate with each other during an emergency. This is extremely important because the area is subject not only to emergencies caused by tsunamis, but by hurricanes. The entire island is located in one of the most seismically active areas of Puerto Rico. Recently, an earthquake with a magnitude of 7.0 caused hundreds of deaths only 400 miles from this place, in Haiti. This network considers the use of several elements for use in an extremely dense area with a great need for services of high-speed connection. It uses WIMAX technology, which can achieve a wireless connection up to 31 miles from the point of transmission. Allowing affordable Broadband accessibility and the possibility of implementing new ways to save lives using technology, such as the use of automatic short messaging, electronic mail and others. This location provides an advantage few wireless projects can afford. The source antenna will be located at an area at 1,105 feet above sea level which offer a full line of sight access to the proposed service area. The proposed network will be free of legal restrictions on content or platforms. Public Safety and Educational Network, Inc.(PSEN) is fully committed to the principles supporting network neutrality set forth in the FCC's Internet Policy Statement. Is also committed to the Nondiscrimination and Interconnection Obligation set forth in the Department of Agriculture's Broadband Initiatives Program (BIP) and the Department of Commerce's Broadband Technology Opportunities Program (BTOP) guidelines. One of the strengths of this project is its management structure. The network design was led by a group of experienced engineers in Puerto Rico and the United States. The chief engineer is an expert in communications and informatics. Among the group are also several technological systems administrators with decades of experience in public and private administration. In terms of administration, the group has highly skilled managers who have managed large projects, both public and private, with hundreds of millions of dollars in budget. Among the group is a Certified Public Accountant with over 25 years of experience, not only in the administration of funds, but in the implementation of projects. This project will provide an opportunity for graduates of the area of engineering, computer sciences, health and others. Also it would be a good training laboratory for students in the area of communication, particularly those using WIMAX or similar protocols. It would be a great opportunity for the Government of Puerto Rico to promote and export this technical expertise to the Caribbean and South America, exploiting the fact that
citizens of Puerto Rico not only mastered the English language but speak fluent Spanish. Thousands of jobs could be created on the island that way. The network cost is $8,157,633. The federal government would provide only 67% for the project, other sources, including private investors, would invest the remaining 33%. Taking into consideration that the area has 1.1 million people, we can conclude that the network would connect this whole population with an average cost of $4.96. Total expected subscriber accounts for direct customers are middle mile roughly over 200 institutions, 25% of the whole universe in the service area. This estimate does not include private sector entities or businesses. The estimated number of jobs to be created or saved as result of this project is 89 full time jobs for the network operation. We estimate over 56 indirect jobs will be created. But more important, this project would be key to the development of other projects and in particular the development of jobs in the area of technology in the island. One of the problems facing Puerto Rico is the lack of job opportunities for hundreds of engineers and technicians who graduate from local universities. As has happened in many of the people of the United States, the island is changing its system of economic development based on manufacturing to a system based on information and knowledge. This is a good first step.