Broadband USA Applications Database

Applicant Name: VIRGIN ISLANDS PUBLIC FINANCE AUTHORITY

Project Title: viNGN Comprehensive Community Infrastructure Program

Project Type: Comprehensive Community Infrastructure

_______________________Executive Summary_______________________

Please refer to 'The Importance of Strategic Thinking' in Supplemental Information. The viNGN comprehensive community infrastructure will provide USVI anchor tenants with gigabit broadband access that is 1,000 times faster than what is now popularly defined as "Premium Service." It will be on a par with speeds available in Singapore and Japan. The new infrastructure is being coordinated with electric power smart grid plans so both projects can leverage construction efficiencies by deploying the fiber bundle just once. The new infrastructure core will be underground and undersea to better withstand destruction caused by hurricanes and tropical storms. THE OPPORTUNITY Per capita income for the Territory was $20,381 in 2008, barely one-half the U.S. average of $39,751 (51% of the U.S. average) and substantially less (31% less) than the poorest state ($29,569 for Mississippi), according to the U.S. Bureau of Economic Analysis and USVI Bureau of Economic Research (BER). The preponderance of unemployment and low-paying service jobs results in 23.7% of the population living below the poverty line, according to the latest numbers from the USVI BER. Although the general economic condition in the Territory is well below all states, broadband costs are 156% higher than average mainland prices, generally due to lack of competition and high costs of connecting to the mainland. Broadband expansion is needed for economic, educational, and social development, plus provision of services in the Territory. We address all these problems with our solution. THE SOLUTION Our middle mile system will be an entirely fiber optic infrastructure. viNGN will provide wholesale middle mile services for retail service providers. Service is provided at a layer 2 Carrier Ethernet transport level plus dark fiber so retail service providers can provide any higher level service such as direct Internet access, VoIP, IPTV, teleconferencing, smart grid, mobile backhaul, security applications, and other services they may now offer or want to offer in the future. We will offer up to 1 gigabit service to each anchor tenant location, and up to 10 gigabit service to retail service providers at our 36 community hubs spread conveniently around the islands. The aggregate capacity of each initial core network will be 160 gigabits. 325 community anchor institution locations will directly attach to the middle mile network. Anchor tenants have formed the USVI Broadband Coalition to better organize their diverse needs and requirements. We are responsive to needs of all sectors, as indicated by the included letters of endorsement. We will offer two services: InternetCONNECT which is commodity Internet transport, and PrivateCONNECT with quality of service-oriented private line service. The vast majority of services sold will be Internet transport; however, latency tolerances for the smart grid and mobile synchronous clocking require the added capability that will be provided. Our service includes transport for retail service providers from our gateway locations to our aggregation point at the NAP of the Americas in Miami. Our policies and technologies for open access provide the prescribed equal access and neutrality...
for all retail service providers who use our InternetCONNECT services to reach the Internet. BENEFITS This project fully addresses all BTOP statutory purposes: 1. We will provide broadband service to anchor tenants and service providers in the unserved portion of the Territory (east central St. John). 2. 100% of the USVI is underserved by the NOFA definition. We support all areas. 3. In conjunction with the related viNGN SBA and viNGN PCC proposals, we will help provide broadband to anchor tenants including schools, libraries, medical and healthcare providers, University of Virgin Island (UVI) campuses, and community centers, and research centers. These community extensions provide outreach, broadband access, equipment, online courses, job training, and support services to facilitate greater use of broadband services by vulnerable populations. 4. We will improve access to, and use of, broadband service for public safety agencies including the U.S. Military Southern Command, USVI National Guard, Virgin Islands Territory Emergency Management Agency (VITEMA), police and fire departments, and the E-911 Public Safety Answering Points. 5. We will stimulate demand for broadband, economic growth, and job creation through lower prices, extended reach, and the related SBA and PCC programs. The CCI middle mile will result in lower-cost, more desirable services for a wider population. Reducing the cost of broadband access nearer to mainland prices will cause a rapid expansion of penetration. Our telework approach will create enough job expansion to make this the single greatest private sector job source in the Territory. In addition, our project will enhance health care delivery by supporting the new electronic health records exchange program, the telemedicine program, and high-speed medical center connectivity at all locations. It will also enable Virgin Island government economies and increases in efficiency by making centralized electronic record keeping possible. In addition to providing fiber connections with gigabit speeds to all schools, the new library programs we support specifically target introduction of broadband access for children. Due primarily to the viNGN SBA telework program, we expect to generate approximately 1,016 new job years as a result of the new middle mile network. PROPOSED FUNDED SERVICE AREA The proposed funded service area encompasses the main islands of the Territory. The population clusters in Charlotte Amalie on St. Thomas, Christiansted and Frederiksted on St. Croix, and Cruz Bay on St. John. In 2008 there were 115,431 people in 42,943 households (USVI BER). There are 2,583 commercial businesses based on U.S. Census estimates dated 9/1/2009. viNGN will also help solve problems involved in serving over two million tourists per year. Although not included in the population count, waves of tourists currently clog USVI wired, wireless, and cellular networks when cruise ships are in town. Through increasing availability and reliability and reducing cost, viNGN expects total broadband subscribers (residential, business, and anchor tenants) to grow significantly, from 20,292 in 2012 to 30,711 in 2018 (7.3% annually over the period). Subscribers for services using viNGN’s wholesale middle mile network are expected to grow from 2,459 in 2012 to 29,497 in 2018 (157% annually), eventually encompassing almost all broadband subscribers. APPLICANT QUALIFICATIONS The applicant and partners are well experienced in broadband matters such as those planned. For example: ' One viNGN board member heads the electric power utility and has experience with broadband/power programs in Atlanta. ' The operations director operates both the communications network and SCADA system for the power utility. Formerly, he held an important role for the incumbent telephone company. ' The deployment project manager, formerly the Vice President of Network Engineering for Verizon, has been engaged in viNGN planning since July 2009. He brings key team members with him to supervise deployment. ' Our ISP interconnect partner, AMPATH, is already the provider of Internet and Internet2 connection for the UVI. ' Our local support teams for anchor
tenant deployment, integration, technical support, and consulting are the largest, most effective such groups in the Territory. OVERALL INFRASTRUCTURE COST The overall infrastructure cost is $90,586,984 of which $59,839,033 is federal funding. SUMMARY The USVI economy, relative isolation, periodically disastrous climate, and difficult geology have resulted in the poorest and highest-cost communications infrastructure in the continental U.S. High poverty levels, severe capital limitations, and limited educational choices all sap the economy and cause many youth to seek opportunities elsewhere. viNGN will help solve these problems. Reliable, accessible, and affordable broadband will enable institutions and businesses to cost-effectively serve their constituents and markets. Students and business people will be able to take advantage of opportunities for distance learning, online job training, telework, and global consumer or financial markets, resulting in new well-paid jobs, new businesses, and the economic growth we desperately need. viNGN takes a realistic, modular approach to implementing a middle mile network. It is widely and enthusiastically supported by the USVI government, service providers, businesses, and the community. It results in break-even operation within the study period and long term sustainability. The BTOP investment can make this program a reality.