Executive Summary

OPPORTUNITY STATEMENT: The lack of interoperable broadband communications to public safety agencies and continuity of local government services. The occurrence of disasters such as 9/11 or Hurricane Katrina are atypical, however disasters and crisis situations do occur at the local level more frequently. Disasters such as hurricanes, tornados, ice storms and flooding often cripple local communications preventing timely response and coordinated recovery efforts. Funding and deployment of communications systems for emergency communication products and services often come too late. Public safety entities require significant survivable communication capabilities which would go underutilized unless there is a crisis. Conversely, schools, libraries, colleges, and community centers all need communications capabilities everyday but would not needed when public facilities are closed to a crisis. Ironically, these schools, libraries, community centers, and National Guard armories are often visited by the general public and are essential shelters, points of distribution, and staging areas during disaster response. A sustainable broadband internet access service which could support both training/educational and the essential disaster response efforts of the public safety community would be a valuable asset. The dilemma is that both these groups represent an urgent need, however do not individually control a large enough funding source to support a sustainable commercial business. Private companies focus capital investment on low risk high demand markets to limit exposure and maximize profits. Consumer oriented satellite service providers such as Hughes Net do not support the high speed applications required for public safety, lack network security and information assurance, nor do they provide priority service to public safety agencies. A public company would require a significant capital investment to construct satellite network and customer premise equipment before it could reach a client base to support a sustainable business. PROPOSED SOLUTION: Provide a State-based satellite communications infrastructure operated and maintained by a commercial company. Knight Sky will install a satellite teleport which is directly connected to State fiber network thus extending internet and intranet service to underserved regions within the State, school and library facilities as well as public safety agencies and the State National Guard. These services will be provided in three methods 1) roof mounted 2) vehicle mounted 3) man portable terminals. A fixed 1.8 Meter satellite antenna mounted on the roof of public facilities will provided for daily Internet access at download speeds up to 20 Mbps. Many of these facilities will be provisioned with Computer Center and Wireless Hot Spot for public use. A Computer Center Administrator will manage these services on either a free to the public or on a fee for service basis. Public Safety agencies such as the Department of Emergency Management and National Guard can received these services though mobile vehicles or portable suitcase size satellite
receivers. These services support COTM (Communications on the Move) at speeds currently not available anywhere in the country. The SKYMAX bandwidth resources can be shifted instantly to any site or terminal engaged in an emergency situation. The unique quality of satellite services is that it can reach anywhere in the country making no location out of reach. 

PROPOSE FUNDING AREAS: We are requesting Grant funding to build out the SKYMAX infrastructure which will require a teleport, network equipment, satellite bandwidth, a network operations and regional depot field facilities. Build of the SKYMAX network will take approximately 12 months to complete and installation of customer premise equipment should be completed by the end of 24 months. We propose to install customer premise equipment at the states designated anchor facilities which will consist of have been completed we will provide free 400 roof mount antennas, 12 Mobile Communications Vehicle kits, and 25 Portable Mobile Satellite Suitcases. Once in operation there are several service tiers we will offer based on typical monthly bandwidth consumption and funding constraints. During emergencies when bandwidth needs increase agencies will pay only for the bandwidth they use. This initial base of customer premise equipment will provide an anchor customer base to sustain operational costs while Knight Sky markets the service to new customers. 

PROPOSE ANCHOR INSTITUTIONS: The State of Missouri has been selected as our first anchor state. Missouri is vulnerable to a range of natural disasters, including the catastrophic effects associated with recurring tornados, floods, ice storms, and the New Madrid earthquake scenario. Satellite and wireless communications capabilities will be installed in each of the 114 counties statewide in Missouri, at a total of approximately 200 locations statewide. We have already received support for the Missouri SKYMAX Project from the 1) Missouri National Guard Bureau MONG, 2) The Missouri Scholl Board Association (MSBA), 3) Lincoln University and many others. Missouri SKYMAX will provide robust connectivity for, education and public safety to underserved populations. Public Computer Centers will be installed in each county to extend access to underserved populations. The SKYMAX service in Missouri will create an integrated broadband capability that supports approximately 200,000 residents to providing educational and public safety uses. Deployment of the network will place voice, data and video capabilities in every State county which can be installed at local law enforcement offices, National Guard Armories, and many other public locations within the State. During disasters, such as tornados or ice storms, deployable communications capabilities can be moved into the disaster area to support consequence management, shelters, and other essential requirements. Acts of terror, use of weapons of mass destructions, and other non-traditional disasters will benefit from deployable communications in support of first responders, situational awareness at state/federal emergency response locations, and synchronization of efforts with border localities and states. Similarly the State of Virginia has already recognized the need of broadband satellite communications and has awarded an exclusive contract to Knight Sky for Broadband Satellite Communications. In order to get the initiative started and to accelerate adoption the grant funding would provide for customer premise equipment at 200 locations as selected by the Virginia Information Technology Agency (VITA).

COMMUNITY OF INTEREST: This two-year project will deliver interoperable communications capabilities in support of homeland defense, natural disaster, educational, and daily administration activities. Extension of the broadband network would consist of a minimum of one terminal per county, providing connectivity to local networks which can be extended via wireless technologies. When not needed for emergencies, the available network capacity will support existing requirements in many functional areas: ' Counties/Municipalities 'deliver voice, data and video
capability into every county in Missouri. Provide mechanism to move information from locality to appropriate agencies of State Government. ' School Systems ' Provides infrastructure for threat/violence awareness and response in local schools districts. Could also be used to deliver course content, provide emergency notification, and deliver educational training mandated for school staff. ' First Responder Training/Disaster Response Exercises ' by delivering course content right into the community where the first responder lives, using internet, email or video conferencing. ' Local Law Enforcement training and operations. ' Provide tele-medicine connectivity for local medical facilities. The SKYMAX Service: The SKYMAX service takes advantages of several technology advances in the areas of satellite communications and information technologies, which have been a direct result of recent military initiatives for secure and resilient satellite communications in austere environments. These advances have enabled Knight Sky to develop a superior satellite network service for Intra and Internet access at download speeds of 20 Mbps and up to 4 Mbps upload speeds. The SKYMAX Broadband Satellite service targets the NTIA's primary grant objectives to provide public safety communications, support growth of local economy, and job growth in underserved region. SKYMAX Services creates a national infrastructure which interconnections regional and state and federal emergency services. Knight SKY has already secured State level partnership from the State of Maryland, Virginia and Missouri.