

Broadband USA Applications Database

Applicant Name: LIGHTYEAR NETWORK SOLUTIONS, LLC

Project Title: Central and East Kentucky Middle Mile

Project Type: Comprehensive Community Infrastructure

Executive Summary

a) Central and eastern Kentucky are currently underserved areas of our nation. Many areas are completely without access to Broadband service. The existing broadband infrastructure is provided by two separate Incumbent Local Exchange Carriers (ILECs). These ILECs have not invested the resources to provide the needed broadband services to these communities. The current broadband infrastructure is non-competitive, much higher priced than similar services in more populated areas and leaves large areas of these counties without affordable broadband service. Several areas adjacent to our Proposed Funded Service Area (PFSA) are served by small rural ILECS that have committed the resources and served the majority of the communities in their serving areas. These communities have the good fortune to be served by these forward thinking and resourceful companies and today enjoy access to broadband service. b) Lightyear Network Solutions (LNS) proposes to construct a high-capacity middle mile backbone network through 26 central and eastern Kentucky counties. This network will provide backhaul services for community anchor institutions, businesses and third party last mile providers. This Comprehensive Community Infrastructure (CCI) middle-mile proposal consists of a 907 mile fiber-optic backbone network between 37 communities throughout 26 counties in central and eastern Kentucky. The network will provide much needed middle mile services and affordable high capacity broadband access to Community Anchor Institutions (CAIs), businesses, and third-party last-mile service providers. This Proposed Funded Service Area (PFSA) is one of the most economically distressed areas of our nation. This is a vulnerable population. This region of Appalachia suffers from an 11% unemployment rate, a per capita income that is 30% below the national average, and a poverty rate nearly double the national average. The network is not economically feasible and would not be constructed without federal assistance. c) The proposed network passes 15,319 businesses and 280,283 households. We welcome third-party last-mile service providers to utilize our proposed network to provide much needed and long-awaited broadband access to these households. While portions of this PFSA are served much of this area is unserved. The ILECs have served the denser populated areas close to the county seats; the outlying areas of the county are not so fortunate. We have received many support letters for this project expressing the frustration caused by this lack of access. d) Our proposal will directly serve 228 CAIs including 17 community colleges and 76 public safety entities. We have received over 55 letters of support from these CAIs, community leaders, and government officials in the Proposed Funded Service Area (PFSA). Many of these letters stated their lack of broadband capacity and the frustration they experience in accomplishing the tasks needed to perform their services to these communities. One hospital shared with us how their employees are moving out of the area to gain access to broadband as it is a required component of their employment. e) The proposed network will provide high-capacity

broadband pipes to these communities. This Ethernet-based network is a Broadband enabler, allowing competitive, affordable access ranging from a 1.5 Mbps commercial gateway to a 1 GbE Virtual Private LAN Service (VPLS). While a middle mile project does not enable residential customers like it does the anchors, it does have the ability to service residential broadband needs via our key partner and other last mile providers. Our last mile providers will have the backhaul they need at a competitive rate to provide the affordable residential broadband service currently lacking in this area. One of our last mile providers offers wireless broadband which will allow affordable service to even the most remote areas.

f) The network constructed through BTOP funding requested by Lightyear Network Solutions ('LNS') will adhere to the guidelines set forth by Congress and the FCC. LNS will promote openness and interconnection of the public Internet, encourage broadband deployment and provide consumers with access to the lawful Internet content of their choice without unfair or discriminatory bandwidth restrictions. The proposed network equipment is based on standard IP and Ethernet technology. Interconnection with the public Internet and alternative service providers will be through IP/Ethernet ports on the proposed network. Each service provider will be assigned its own unique Ethernet VLAN for controlling and managing its traffic through the network. The network equipment provides a standards-based mechanism for controlling priority and Quality of Service for traffic in the network. All VLANs from all service providers, including the applicant, carrying the same type of service traffic (for example: best effort Internet access) will receive identical, non-discriminating priority and handling through the network.

g) This middle-mile network will be carrier-grade 10 Gb Ethernet. The proposed equipment will be certified by the Metro-Ethernet Forum. The links between communities will be fiber-optic cable installed on existing pole lines. Redundancy and reliability are built into each area of the network from redundant, diverse route fiber rings to standby-power at the community sites. The network equipment will have common control redundancy. Connections to the Internet will be via redundant 1Gb links to two carriers.

h) Founded in 1993, LNS has over 60,000 customers ranging from small, single phone businesses or households to multi-location, national companies that demand multiple products that are provisioned and managed amongst numerous sub carriers. While LNS is recognized by its customers and selling channels for many strengths, a key attribute that it will bring to this project is LNS's Portal Plus billing and client care system which provides LNS the ability to quickly and easily provision, bill and support new products and customers of all sizes. LNS has extensive experience in selling, provisioning, billing and providing excellent customer care for high speed bandwidth services. Today, LNS provides service ranging from residential customers with DSL access all the way to large enterprises with point to point IP circuits or large optical bandwidth in the OC3 to OC12 range. LNS has the engineering resources to assess customer applications needs, the provisioning staff to install the service, the billing staff to ensure invoices are accurate and last, a network maintenance team to service customers in case of outage or service issues.

i) This proposed network is estimated to cost \$37, 875,707.

j) Subscriber projections for this middle-mile network are 171 CAIs and 362 businesses by year 5 of the project. The market potential for third party last mile residential service encompasses 280,283 households in the PFSA as well as 15,319 businesses.

k) This project is expected to produce 89 direct job years, 176 indirect job years, and 148 induced job years, a total of 412 job years. The effect of this construction on the employment outlook for these counties will be enormous. The 36 month timeframe for construction and turn up will create direct jobs in engineering, construction, and the hospitality sectors. The proposed service area is economically distressed at the best of times. In our current economy these areas are in

dire need of assistance. The infusion of currency into these economies during the three year construction period may well mean the difference between a business surviving and having to close. Our project plan divides the area into 9 sections of several counties each to achieve the construction. The influx of these construction and engineering personnel will provide much needed business to the area. In addition to improving infrastructure for this PFSA we expect this project to create direct and indirect jobs, sorely needed in this high unemployment area. Engineering jobs will be created or retained in Lexington and Louisville, KY. Beyond the construction period jobs will be created in Louisville to assist LNS's existing personnel to manage and operate this network.