

Broadband USA Applications Database

Applicant Name: DeKalb County Government

Project Title: DeKalb Advancement of Technology Authority Broadband

Project Type: Middle Mile

Executive Summary

Overview/Address of Proposed System DeKalb County is pleased to submit this proposal to the U.S Department of Commerce, National Telecommunications and Information Administration for the Recovery Act Broadband Opportunities Program (BTOP). Over the past 18 months, in partnership with Northern Illinois University (NIU), we have gathered outstanding institutions within Northern Illinois to become participants in the consortium called The DeKalb Advancement of Technology Authority (DATA). This is an organization of technologists that have been coordinating a broadband plan for the region to promote low cost, high speed broadband solutions for not-for-profits while creating an environment that will allow for-profits to take advantage of low cost broadband services and fiber. The consortium was created as a result of the lack of infrastructure to support high speed, low cost broadband solutions in the DeKalb region. Several of the supporting institutions are limited to speeds of less than 2Mbps or to T-1 speeds, hindering the development of education, healthcare and business models that require broadband in much greater and flexible capacities. While we continue to seek new entities that may be interested in joining the DATA consortia, we currently have a sustainable membership of not-for-profit entities. Number of Institutions, Businesses and Households Targeted for Grant Proposal The DATA organization seeks to connect (42) K-12 schools, 12 Municipalities, 20 County sites (including E-9-1-1 services), 2 hospitals and 5 clinics, 68 library locations, several farmers, Northern Illinois University and Kishwaukee Community College. The DATA plan potentially allows over 3600 businesses in the area to obtain fiber or low cost services with nearly 100 businesses actively expressing interest in higher speeds and lower cost broadband on the basis of the DATA plan. By supporting local Internet Service Providers, increased services for the general public will allow expansion of services for potentially 92,364 residents in the designed path location. A map of the DATA network is presented in Appendix A. Goals and Objectives/Proposed Services and Applications The ultimate goal of DATA is to create a fiber optic system throughout the region that can be used for state-of-the-art high speed broadband connectivity. The authority will work with public and private organizations in a cooperative to share the costs of a fiber optic system to:

- Increase broadband technology within the Northern Illinois Region.
 - o Dark Fiber Services.
 - o Lambda Services.
 - o Broadband Services from 10mb to 10Gigabit.
 - o Wireless Services.
- Reduce the cost of broadband connectivity for public and private organizations.
 - o Shared costs of maintenance for the network.
 - o Sustainable solution to expand the network beyond the stimulus funding.
- Stimulate new economic opportunities for technology in the region.
 - o Reduce broadband costs for business with increased broadband services.

We are committed to bringing connectivity to rural areas throughout the DeKalb County region and to assisting communities, schools, libraries, healthcare and the private sector with technology which will transform these areas with affordable

broadband high speed connectivity now and for the future. The objectives of the DATA consortium include the following applications:

- To execute a public/private relationship with local businesses and providers of broadband services to deliver complete broadband service or dark fiber optic connectivity in a non-discriminating business model. Execution of the DATA model will allow small business Internet Service Providers to develop residential solutions at a low cost.
- To utilize existing not-for-profit networks and technologies and leverage what is already created. These networks include:
 - o Northern Illinois University Regional Network (NIUNet) (Public Only)
 - o Northern Illinois Technology Triangle (NITT) (Public/Private)
 - o Illinois Municipal Broadband Communications Association (IMBCA) (Public/Private)
 - o TriRivers Health Organization network (TriLightNet) (Public/Private)
 - o Northwest Municipal Broadband Authority (NMBA) (Public Only)
 - o Illinois Century Network (ICN) (Public Only)
 - o Illinois Rural HealthNet (IRHN) (Public/Private Medical)
 - o Internet 2 (Public Only)These networks will allow public and private entities to connect to state-of-the-art terabit networks for wholesale transport services or bulk internet services from bulk rate service providers.
- To connect school districts locally with a dark fiber solution allowing the schools to upgrade speeds locally, when required, without renegotiation of costly contractual services agreements. The DATA model will allow school districts to interconnect at gigabit and greater speeds. The model allows sharing of data resources and services between schools over a backbone network that will be created over a dark fiber regional backbone. The schools will connect into Northern Illinois University where they can obtain services from the ICN, NIUNet or Internet 2 as required by the needs of the districts.
- To create a cooperative of farmers that will allow the sharing of resources and reduced costs of broadband to the farming community. Farmers will be allowed to interconnect so they can monitor and obtain services required between facilities. Through a cooperative sharing of services with the local farm bureau, farmers will be allowed to transfer data from the farm to suppliers for analytical processing in obtaining proper quantities of supplies for maximum yield of agricultural products. The expanded plan includes the distribution of wireless services from strategically placed fiber optic locations to reach out to rural residential consumers where dialup services are the only available options.
- To interconnect municipalities and provide a backbone infrastructure for emergency services and disaster recovery. The connectivity will allow municipalities to integrate with county services and provide the required transport speeds to deliver GIS imaging and data backup services.

Sustainability and Qualifications The DATA organization is comprised of public and private entities with experienced technologists within the consortia. NIU has developed several successful state-of-the-art networks in the Northern Illinois region. NIU will participate in this organization and provide infrastructure design, network design and sustainability for the DATA network. For the private business model, DeKalb Fiber Optic LLC will maintain the fiber cable and provide services over the fiber infrastructure for the DATA organization under an agreement with the DeKalb County Government.

Infrastructure Costs The proposed network will cost about \$14.8M to build over the next two years. The projected costs include fiber infrastructure of over 118 miles of fiber, communications equipment that will provide the services for all of the listed entities and wireless infrastructure to further reach outside of the populous area.

Number of Jobs Created and Saved The construction of the fiber optic cable will result in the creation of 20-30 jobs over the next 2 to 3 years. These construction jobs will pay in the range of \$55,000 to \$75,000.00, in base wages, for the year. After the completion of the stimulus funding, it is anticipated that many of these jobs will be retained for the continued expansion of the fiber optic network. As the network expands, it is anticipated that the DeKalb area will add as many as

30 technical jobs to the region to support the connectivity for public and private businesses. It is anticipated that the cost savings for business will allow greater job retention in over 90 businesses in the DeKalb area. Some area businesses are currently paying over \$6,000/month for data connectivity which is not meeting their broadband requirement. Under the DATA model, this cost will be more than reduced by half with the increase to broadband speeds allowing business to retain employees for high cost connectivity options and develop more options for broadband communications.