



5752 Neville Hall
Orono, ME 04469-5752
www.networkmaine.net
207-561-3501

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FROM: Jeffrey Letourneau – Executive Director
Networkmaine

TO: The Honorable Marlene Dortch – Secretary
Federal Communications Commission

SUBJECT: Expression of Interest – Rural Broadband Experiment
WC Docket #10-90

Background

Networkmaine is unit within the University of Maine System created in 2009 to provide the public entities served with greater involvement in shaping the future of Maine’s research and education network, MaineREN.

Created by a memorandum of understanding, Networkmaine operates through a coordinating council that is comprised of the University of Maine System, the Maine State Department of Education, the Maine State Library, and the Maine State Government Office of Information Technology. The primary focus of Networkmaine is the design and operation of MaineREN along with delivering services developed to support education, research, public service, government, and economic development.

In addition to servicing higher-education and research, Networkmaine provides over 900 public libraries and K12 schools in Maine with Internet access, local loop circuits and other network related services at little or no direct cost through the Maine School and Library Network (MSLN) project. The MSLN project started in 1996 when a rate case against NYNEX funded Internet access to all schools and libraries in Maine. The University of Maine System has operated the MSLN since its inception. Today Services provided through the MSLN project are paid for using a combination of funding from the Federal E-Rate program and the Maine Telecommunications Education Access Fund (MTEAF).

Nature of the Project and its Objective

Approximately 30% of Maine’s public libraries and K12 schools are currently connected to the Internet through MaineREN at 100 Mbps or better. (Less than 7% are currently connected at 1.0 Gbps.) Of the remaining 70% the vast majority, a full 48%, only have 10 Mbps connections. The object of this project will be to provide a symmetric **1.0 Gbps to 99% of Maine’s libraries and K12 schools before the end of 2015**. This time frame will put Maine’s libraries and schools on an accelerated schedule to meet the connectivity goal described in President Obama’s ConnectEd Initiative.

Networkmaine is aware of a number of entities within Maine that are interested in the rural broadband experiments. The ConnectME Authority and members of Senator King’s staff have facilitated a number of phone calls and e-mails among these interested entities. While the amount of time allowed for filing these expressions of interest did not allow for fleshing out details for collaboration, Networkmaine will be looking to collaborate with entities to avoid duplication of efforts and to maximize the value derived from the rural broadband experiments.

The Proposed Service Area

This project will leverage the over 1,100 miles of open access dark fiber installed by Maine Fiber Company as part of their BTOP project for middle mile connectivity and, in many cases, shorten the amount of build out needed to reach libraries and schools. There are 144 libraries and 257 schools in qualifying census tracts that would be connected through this project. All but 16 of the qualifying census tracts in Maine have libraries and schools located within their boundaries.

However, Networkmaine questions the use of residential broadband availability levels of 3M/768K to designate Community Anchor Institutions as unserved. **Networkmaine believes that public libraries and K12 schools are unserved when they lack the connectivity they require to meet their mission of serving their students and patrons.** Networkmaine asks that the FCC reexamine its decision to qualify libraries and schools based on the availability of residential broadband.

If the threshold for community anchor institutions is raised, an additional number of libraries and schools will qualify for rural broadband experiments and Networkmaine will connect the additional 130 libraries and 294 K12 schools that exist in currently ineligible census tracts. A total of 274 libraries and 551 schools will have gigabit connectivity.

Nature of the Broadband Service to Be Deployed

Networkmaine will build out dark fiber to all qualifying libraries and schools following the common carriage principles of open access and non-discrimination. Over the past 5 years Networkmaine has lit dark fiber that it has either built or leased from others to over 50 libraries and schools. Through this experience and experience gained from decades of servicing Maine's higher education and research institutions Networkmaine has found that 1.0 Gbps connections are currently the most cost effective to deliver. There is no capital cost savings in delivering slower speeds. The ongoing cost per megabit/second of self-provisioning dark fiber is also much lower than leasing retail broadband services from commercial providers. In fact, our experience has shown that symmetric 1.0Gbps service can be provided over leased dark fiber at lower costs than what Networkmaine currently pays for retail 10 Mbps carrier-Ethernet service. With access to dark fiber Networkmaine will be able to deliver even higher speeds in the future, for example 10 Gbps, with minimal if any incremental increase in operating expenses.

Contemplated Service Offerings

When Networkmaine provides broadband connectivity to its members over dark fiber, whether leased or owned, it provisions a full 1.0 Gbps line rate. Part of Networkmaine's public service mission is to help its members accomplish their goals through delivering the best, most cost-effective connectivity possible. As a unit of a non-profit University, Networkmaine has the luxury of not feeling the pressure to maximize shareholder value that a for-profit entity might feel. As such there is no reason to light fiber at a gigabit and then provision artificially lower tiers of service.

This project is focused primarily on delivering next generation broadband to Maine's libraries and K12 schools. Networkmaine does expect to be able to offer Voice over IP (VoIP) services through either collaboration with a VoIP provider or via a network-wide contract negotiated through an E-Rate compliant competitive bidding process. Also, if allowed within program rules, Networkmaine would look to deliver next generation broadband not only to the doorstep of the libraries but also throughout the libraries by installing gigabit Wi-Fi.

Funding

Networkmaine will be asking for one-time funds to cover the capital costs of deploying the fiber optic infrastructure and network elements to provide the symmetric 1.0 Gbps service. Networkmaine will look to leverage the E-Rate program and Maine Telecommunication Education Access Fund (MTEAF) to

support ongoing costs. It is expected that the deployment of this new infrastructure will greatly reduce the burden transport costs currently put on both of these funding programs.

High-Level Estimates

Unserviced Libraries and K12 Schools within qualifying census tracts

144 Libraries, 257 K12 schools - \$27 Million – 6 - 18 months to deploy

Libraries and schools will be turned up on a rolling basis. The MaineREN backbone passes within 1 mile of 156 libraries and schools. These libraries and schools will have dark fiber built to them and lit at 1.0 Gbps within the first 6 months after receiving funding. The remaining libraries and schools will be turned up within the remaining 12 months.

Unserviced K12 Schools and Libraries regardless of census tract

274 Libraries, 551 K12 schools - \$54 Million – 6 - 24 months to deploy

Libraries and schools and would be turned up on a rolling basis. The MaineREN backbone passes within 1 mile of 262 libraries and schools. These libraries and schools will have dark fiber built to them and lit at 1.0 Gbps within the first 6 months after receiving funding. The remaining libraries and schools will be turned up within the remaining 18 months.

Respectfully,



Jeffrey Letourneau
Executive Director, Networkmaine
University of Maine System