**Annual Report on the Activities of the
ConnectME Authority**

**Report to the Maine State Legislature
Joint Standing Committee on Utilities and Energy**

January 15, 2009

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EXECUTIVE SUMMARY

In recognition of the critical importance of technology for education, health and business success in Maine, the ConnectME Authority (Authority) was created in 2006. The goals of the Authority are to expand broadband access and "take rates" throughout the State.[1]

When the Authority was first established, only 86% of the State had access to high-speed Internet service with a "take rate" of approximately 39%. Increasing the access and take rates is critical to Maine's education and economic prosperity given projections that for every one percentage point increase in broadband penetration in a state, employment is projected to increase by 0.2 to 0.3 percent per year.[2]

The Authority was charged with identifying areas of the State that did not have broadband access; to select projects for broadband expansion; administer the projects; and to provide funding, resources, and incentives for the projects. In the two years since the Authority was established, broadband access or availability has risen to nearly 91% and the take rate has increased to 49% percent. The goal of the Authority should be to ensure universal availability of broadband service and to increase the take rate to equal or greater than the national average by 2010. Much more work needs to be done meet these goals. As important, continued work needs to be done to bring all levels of government and agencies together to work collaboratively to get the best results for Maine's future.

This report summarizes the Authority's activities for 2008; describes other state and federal initiatives; and outlines the Authority's plans for 2009. Highlights from the report include:

In 2008, the Authority awarded five grants for $1.44 million (representing a total project value of over $5.5 million). Four of the grants will provide high speed internet service to over forty-five communities representing nearly 9,000 households and businesses, adding another 1.7% in potential household broadband availability. The fifth grant provides a match requirement for a project to build a fiber optic cable network that will connect and provide high speed telehealth services for three partnering medical centers and seven health care facilities in six towns across Franklin, Oxford, and Androscoggin counties.

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[1] PL 2005, c. 665, and PL 2008, c. 698.

[2] "The Effects of Broadband Deployment on Output and Employment: A Cross-sectional Analysis of U.S. Data," July 2007, The Brookings Institution.

The following table summarizes the grant activities:

Grant Year	# of Grants	Grant Range	Total Grants	Total Project Amount	New Households	Increased Availability
2007	6	$38K - $370K	$738,724	$1.53 million	13,800	2.7%
2008	5	$45K - $533K	$1.44 mil	$5.5 million	9,000	1.7%

The Authority's Executive Director also participated in two additional projects. One was a legislatively established group[3] that was formed to study the potential use of broadband capacity freed up when the University of Maine System converts its instructional television network from analog to digital.[4]

The second project was a legislative mandate to facilitate a stakeholder process to develop a model cable franchise agreement for municipalities and cable companies that choose to use it.[5]

In 2009, the Authority will:

- Redefine the Authority's goals, minimum performance criteria for broadband service, and areas eligible for Authority support, with guidance from the Legislature;

- Serve as a conduit for Maine's broadband initiatives at all levels of government and across agencies;

- Conduct a comprehensive broadband mapping and inventory project to define served and unserved areas of the State;

- Monitor and assist the five (2008) second round grantees to ensure that they have the resources necessary and meet requirements; and

- Conduct a (2009) third grant round by spring and a fourth round later in the year.

In addition, the Executive Director will:

- Continue to work collaboratively with other Maine agencies to submit "stimulus package" proposals as requested by the President-Elect's transition

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[3] The group resulted from a request by the Joint Standing Committee on Utilities and Energy regarding LD 2292, Resolve, To Establish a Stakeholder Group to Study the Sale or Lease of the State's Excess Broadband Capacity.

[4] A separate report on this activity will be submitted to the Joint Standing Committee on Utilities and Energy on January 15, 2009.

[5] PL 2007, c. 548. A separate report and the model franchise agreement or template will be submitted to the Joint Standing Committee on Utilities and Energy by March 1, 2009

team and Congressional officials that enhance Maine's broadband infrastructure and technology including education and rural health initiatives;

- Help efforts by the Maine School and Library Network to connect every K-12 public school and public library to the internet with high-speed fiber-based access;

- Work with the rural health care pilot program to enhance telehealth broadband connections; and

- Assist the Maine Office of Information Technology (OIT) and the Maine Department of Transportation (MDOT) in developing policies and procedures for use of state facilities such as radio towers, buildings, and rights-of-way by private service providers for expanding broadband and cellular service.

INTRODUCTION

The ConnectME Authority 2008 annual report is divided into five sections: I. Background; II. Summary of Authority and Broadband Activities in 2008; III. State and Federal Broadband Activities and Initiatives; IV. Authority Activities for 2009; and V. Conclusion and seven attachments.

I. BACKGROUND

A.   The Importance of Broadband

A number of national organizations, governmental agencies, and public-interest groups have provided studies documenting the importance of broadband or high-speed internet access for rural states (Such as the FCC, Brookings Institution, Pew Internet & American Life Project, The Benton Foundation, and Connected Nation). The overwhelming consensus is that access to broadband services is a significant economic development tool for small businesses and home-based businesses, and enables telecommuting, rural education, and telemedicine.

Speed defines what is possible. It determines the amount of information that can be transmitted in a given time, the quality of the transmission, and the timeliness of the transmission. Speed determines the type of transmission possible: two-way, voice, data, audio, and video.

Benefits from truly high speed Internet networks include:

- Economic Growth & Quality Jobs. New, high speed Internet applications create jobs and opportunities for innovation, growth, and e-commerce. Technology allows businesses based in rural and remote communities to compete in the global economy.

- Telemedicine and Independent Living. High speed Internet allows instantaneous, interactive contact between health professionals and

patients permitting remote monitoring, efficient chronic disease management, and more effective responses to emergencies. High speed Internet can help senior citizens and people with disabilities live independently, improve their quality of life and reduce costs of care.

- ▪ <u>Education & Integrated Learning</u>. Two-way high speed communication and videoconferencing allows students and teachers to minimize the obstacles of distance and maximize the potential of simultaneous voice, data, and video sharing.

- ▪ <u>E-Government, Civic Participation and Public Safety</u>. Advanced high speed networks will allow citizens to increase participation in civic life, beyond simply downloading forms or researching programs. Government meetings could be opened to many more citizens using two-way video technology. High speed networks enable police, fire, and emergency personnel to coordinate and respond more quickly to crises.[6]

A study by the Brookings Institution strongly emphasizes the benefits of broadband services.[7] The report states:

> (n)onfarm private employment and employment in several industries is positively associated with broadband use. … For every one percentage point increase in broadband penetration in a state, employment is projected to increase by 0.2 to 0.3 percent per year. The finding of the strong link between broadband use and state-level employment has important policy implications, both on the demand-side and the supply-side. In particular, these results suggest that all levels of government should follow policies that encourage broadband competition, which will lead to lower prices and hence greater use.[8]

The necessity of high speed internet service has also been the focus of several recent Maine studies. A report from the Northern Forest Sustainable Economy Initiative Steering Committee (members from Maine, New Hampshire, Vermont, and New York) documents their recommendations "for building a resilient economy and creating good jobs in the region."[9] The report states: "In practical terms, we want cell phones and internet service to work as well in the Northern Forest as they do in Boston or New York City."[10] Their first recommendation, which may be an indication of priority, is:

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[6] "Speed Matters: High Speed Internet for All," October 16, 2006, http://www.speedmatters.org/

[7] "The Effects of Broadband Deployment on Output and Employment: A Cross-sectional Analysis of U.S. Data," July 2007, The Brookings Institution.

[8] Ibid, page 2.

[9] "A Strategy for Regional Economic Resurgence," Recommendations of the Northern Forest Sustainable Economy Initiative, June 2008.

[10] Ibid.

"Telecommunications – Deliver reliable, affordable and cutting-edge high-speed telecommunications to all Northern Forest communities through increased public-private investment."[11]

Another report, "Measures of Growth in Focus," finds: "The internet and telecommunication technology in general facilitates economic activity by allowing people to access information easily and communicate with others. Investments in all forms of connectivity infrastructure are critical as Maine seeks to integrate and compete in the global economy."[12]

B.   The Connect ME Initiative

As early as 1995, the Maine Legislature recognized the value of broadband when it stated:

> The Legislature further declares and finds that computer-based information services and information networks are important economic and educational resources that should be available to all Maine citizens at affordable rates. It is the policy of the State that affordable access to those information services that require a computer and rely on the use of the telecommunications network should be made available in all communities of the State without regard to geographic location.[13]

In his 2005 State of the State address, Governor John E. Baldacci stated, "Tonight I am announcing 'Connect Maine' a broad and aggressive telecommunications strategy for this State. Connect Maine will give nearly every Mainer the opportunity to plug into the global economy from their community. It will ensure that 90% of Maine communities have broadband access by 2010… ."

In 2006, the Legislature created the ConnectME Authority to identify unserved areas of the State; develop proposals for broadband expansion projects, demonstration projects and other initiatives; administer the process for selecting specific broadband projects; and provide funding, resources, and incentives.[14] The Authority consists of a board of five members, an Executive Director, Staff from the Public Utilities Commission

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[11] Ibid.

[12] Thirteenth Report of the Maine Economic Growth Council, (2007).

[13] Title 35-A M.R.S.A. §7101(4). Also, Former Governor King stated in his 1999 State of the State address, "In the age of e-commerce, bandwidth is the essential commodity – just as the roads and railroads defined economic opportunity a century ago, these wires – or the lack of them – will spell the economic difference between businesses, towns, and states in the new century."

[14] PL 2005, c. 665.

and the Governor's Office, and an Advisory Council.[15] (See attachment A for the Authority and Advisory Council members)

II.   SUMMARY OF AUTHORITY AND BROADBAND ACTIVITIES IN 2008

The ConnectME Authority statute requires the Authority to report on four components: A) Budget; B) Activities; C) Investments; and D) Market Conditions. This Section covers A, B, and C. Market Conditions are reported on in Section IV(D) and (E).

A.   Budget

The funding mechanism for the Authority is a 0.25% (one quarter of one percent) surcharge on all communications, video, and internet service bills for retail in-state service.[16] It is expected to generate between $1,000,000 and $1.4 million per year. The fund initially received $500,000 in "seed money" from the Maine Universal Service Fund,[17] which was repaid in September 2008. Verizon-Maine, as a condition of the stipulation that was approved by the Public Utilities Commission in approving Verizon's merger with Fairpoint, contributed $2.5 million to the ConnectME Fund.[18] It was received on May 8, 2008.

The ConnectME statute previously allowed reimbursement up to $500,000 annually of Maine sales and use taxes to purchase machinery and equipment primarily used to develop advanced communications infrastructure.[19] The reimbursement program was allowed to sunset effective January 31, 2009.[20]

The grants awarded in 2007 and 2008, total over $2.2 million. The ConnectME fund balance on December 31, 2008, is $3,295,280. (See Attachment B for fund report)

B.   Investments

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[15] The Maine Public Utilities Commission provided a Utilities Analyst from its telecommunications section as staff to the Authority.

[16] Also included are retail revenues received or collected from mobile communications services (i.e. cellular telephone) that voluntarily agree to be assessed by the Authority.

[17] PL 2005, c 665, Section 6, "Temporary transfer of funds authorized."

[18] On December 21, 2007, in MPUC Docket No. 2007-67, known as the Verizon-Fairpoint merger case, an amended stipulation was filed and accepted that contained a provision stating (on page 10): "…within 30 days of closing Verizon will make a one-time cash contribution in the amount of $2.5 million to the ConnectME Authority in furtherance of the Authority's statutory objectives." Approved by MPUC ORDER, Docket No. 2007-67, issued February 1, 2008.

[19] 36 M.R.S.A., §2018.

[20] PL 2008, c. 698.

The ConnectME Fund is administered by an independent fiscal agent who manages the assessment process, invests the unused funds, and makes payments as directed by the Authority. The fund administrator operates under contract at the direction of the Executive Director.[21] Interest generated by the fund is added to the fund balance. (See Attachment B for fund report)

C.   Grant Activities

1. Awarding Process and Grants Awarded

The Maine Legislature established the Authority "to stimulate investment in advanced communications technology infrastructure in *unserved* or underserved areas."[22] The Authority believes that the goal to expand broadband access in the most rural, *unserved* areas that have little prospect of broadband service from a traditional or existing provider is a priority. The Authority accomplishes that goal primarily by awarding broadband expansion grants for projects that serve unserved areas.

Grant applications are reviewed by three non-industry members of the ConnectME Authority Advisory Council, the Executive Director, and one ConnectME staff member. The applications are scored on the four criteria specified in the statute and rule: cost-benefit; community support; project scope; and project value. The public-private partnership concept is considered in the review, yet "getting the most for the money" is also a high priority because of the limited funds available.

 For the first grant round (2007) the Authority awarded six grants totaling over $738,000 for total project amounts of over $1.53 million.[23] The grants ranged from $38,000 to nearly $370,000. The grants serve over fifty communities, with the potential of providing broadband service to nearly 14,000 households and businesses. At this time, four grant projects have been completed and two were granted extensions due to circumstances beyond the grantee's control. When the grants are completed, the grants will represent a potential increase in broadband availability of approximately 2.7%.[24] (Final reports from the four completed projects are in Attachment C. Maps of the projects are shown in Attachment D)

For the second round (2008) the Authority awarded five grants for $1.44 million for total project amounts of over $5.5 million. Four of the projects will expand access to

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[21] The quarterly assessments are paid to an independent fund administrator the month after the end of each quarter. Rolka Loube Saltzer Associates (RLSA) is the fund administrator for the ConnectME Fund as well as the Maine Universal Service Fund and the Maine Telecommunications Education Access Fund.

[22] 35-A, M.R.S.A. §9203(1).

[23] The small grant to fund a project serving the Town of Edgecomb was cancelled.

[24] 2000 Census (Maine State Planning Office), total occupied housing units = 518,200, population = 1.275 million, 2.39 = average household size.

high speed internet service to over forty-five communities representing nearly 9,000 households and businesses and add another 1.7% in potential household broadband availability. (See Attachment C for a list of the grantees and Attachment D for maps of the projects.) [25]

The fifth grant was significantly different from the others. The Authority decided to award a grant to Franklin Community Health Network (FCHN) to help fund a fiber optic cable network that will connect three partnering medical centers and seven health care facilities in six towns across Franklin, Oxford, and Androscoggin counties, providing high speed telehealth services.[26] The ConnectME funds will provide part of the match requirement for a $3.6 million Federal Communications Commission (FCC) Rural Health Care Pilot Project grant.[27] This project is a long term investment. Initially, medical facilities will be connected to the FCHN network and all potential patients will benefit. In the longer term, the fiber rings will be available to businesses and Internet Service Providers for high bandwidth connections and backhaul (the connection to the network backbone and the internet).

2. Oversight

The progress of the projects supported by the Authority is tracked through a monitoring and reporting process. The grant recipients document the expenditure of Authority funds which ensures that the funds are used only for appropriate purposes. Three reporting forms were developed with the assistance of the Authority Advisory Council:

- Notice of Commencement – which requires a schedule of project milestones and the expected completion date. Each vendor for the funded project is identified on the form along with appropriate reports and documentation such as invoices and purchase orders.

- Progress Repot – which provides a project update to demonstrate to the Authority that the funded project is on track. The Executive Director monitors each project's progress and use of funds.

- Completion Report – which is a final report that documents the completion of the project with attached financial spreadsheets and a listing of the

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[25] One initially awarded grant was cancelled due to overlap with an existing provider and another grant is still in the challenge review process.

[26] Franklin Community Health Network, http://www.fchn.org/.

[27] The grant has two conditions from the Authority: 1) The selected service provider would be an Authority eligible provider; and 2) The selected provider must agree to install additional commercially available fiber facilities at its own expense. These conditions will ensure that the provider is an "eligible applicant" as defined in the Authority's rule and that additional fiber capacity will be available to provide high speed service for other economic development projects.

communities newly served with broadband service as a result of the project.

Attachment C includes summaries and results for those projects that have been completed.

D. Highlights of Broadband Activities in Maine

1. Fairpoint - Verizon Merger

As noted above, as part of the stipulation in the Fairpoint-Verizon merger case, Verizon contributed $2.5 million to the ConnectME Fund that was used to provide additional grant funding. The stipulation requires Fairpoint to increase broadband availability in its service areas to 83% within two years and 90% within five years. Fairpoint is also required to spend $57,550,000 during this time to accomplish this expansion and to install a new Multi Protocol Label Switching (MPLS) network throughout its service territory.

2. University of Maine System Research and Education Network

Maine's Research and Education Network (MaineREN) was established by an agreement between the University System and the Jackson Laboratory to create an advanced, high-speed, fiber-optic network that will serve Maine's research and education institutions. The first section of the MaineREN network, Bar Harbor to Portland, is now fully operational and interconnects many of Maine's institutions of higher education, both public and private, and not-for-profit research entities. The MaineREN network is also being leveraged to provide the core infrastructure for the Maine School and Library Network (MSLN).

The University has an agreement with Oxford Networks to expand the MaineREN network south to Cambridge, MA where it will interconnect with the North East Research and Education Network (NEREN) and the national research and education network, Internet2. The University has partnered with the Jackson Laboratory and the University of New Hampshire to fund this expansion to Cambridge.

The University is jointly building, with MidMaine Communications, a new fiber optic route to expand the network up the coast from Portland to Brunswick. The University's portion of the funding for this expansion was provided, in part, by a grant from the National Institute of Health. It is expected that both of these new routes will be operational by the end of the third quarter of 2009.

The University is also actively seeking federal funding from the National Science Foundation as part of a five state (ME, NH, VT, RI, DE) collaborative proposal for Research Infrastructure Improvement. The proposal requests funds to enable regional cyber-enabled research by establishing: 1) an advanced fiber-optic network that will link ME, NH, and VT with each other and the Internet2 backbone in a redundant and geographically diverse manner; and 2) hiring cyber-knowledgeable faculty and staff to allow current cyber-enabled research to grow and make additional projects possible.

The University is requesting funds to expand MaineREN's footprint along the coast between Brunswick and Ellsworth as well as into northern Maine with a route from Orono to Presque Isle. It is the University's expectation to establish a connection to Canada's national research and education network, CANARIE, through New Brunswick.

> 3. Maine School and Library Network.

The Maine School and Library Network (MSLN) began in 1996. Today, MSLN provides internet access to approximately 950 schools and libraries statewide. MSLN is funded from the Federal E-Rate program (approximately 60% of the cost) and the Maine Telecommunications Education Access Fund (MTEAF)[28] (approximately 40% of the cost). Funds are generated through an assessment on interstate phone bills for the Federal E-Rate portion and on intrastate bills for the MTEAF portion (0.6%).

The future goals of the MSLN are to obtain higher bandwidth connections for the individual sites, especially larger schools that are hubs for surrounding schools. The Authority will work with the Maine Department of Education to develop long range solutions.

> 4. Rural Health Care Pilot Program

As mentioned above, one of the 2008 grants helps rural health connections. Two applicants for funding from the FCC's Rural Health Care Pilot Program received over $30 million in grants to provide broadband healthcare networks in Maine. One is the Franklin Community Health Network (FCHN) that will serve the rural Franklin County area and the other is the New England Telehealth Consortium (NETC) that will connect 550 rural health care facilities in Maine, New Hampshire, and Vermont.

III.   STATE AND FEDERAL BROADBAND ACTIVITIES AND INITIATIVES

A. Other States' Programs

Other states have experienced the benefits of increasing the awareness and use of broadband services.

Vermont: Created in 2007, Vermont's Telecommunications Authority (VTA) is charged with bringing affordable high speed broadband service to every Vermont household by 2010. The VTA has the authority to issue up to $40 million in state-backed bonds under which the infrastructure will be owned by the state and leased to service providers. The VTA has the authority

> to lead the management of marketing of state properties to encourage and expedite collocation of infrastructure … (and) establishing charges or payments for use by wireless telecommunications and broadband service providers of state property, easements, and rights-of-way…and establish

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[28] The Legislature authorized the creation of the MTEAF in 1999 (35-A, M.R.S.A. §7104-B).

the criteria for waiver of such charges or payments when providers offer to furnish comparable value to the state to meet the public good.[29]

The VTA framework has the advantage of stimulating broadband expansion and allowing for the repayment of bonds through contributions made by the companies that benefit. Additionally, allowing one state agency to "manage" or oversee access to other state agency facilities streamlines the process for private companies. In the end, the citizens reap benefits as well.

Massachusetts: The Massachusetts Broadband Initiative (MBI) was established in August 2008 to meet the broadband access needs of unserved citizens. The MBI manages a statewide fund with $40 million raised through bond financing. The goal is to invest in the construction of fiber, wireless towers, and other critical infrastructure to attract and complement private sector investment, making it more cost effective for private providers in regions without broadband coverage. The most unserved area is in Western Massachusetts, where a 2007 study found that of 101 municipalities, 31 did not have broadband and another 35 had limited broadband coverage. This initiative illustrates another state that has used bonding as a means of providing incentives for broadband expansion.

Kentucky: ConnectKentucky is a public-private partnership that supports statewide technology expansion, planning, public policy, networking, and recruitment. Kentucky has contributed about $7.5 million to the ConnectKentucky effort, providing funding for mapping, community outreach, and research. The Connected Nation organization (mentioned later in the report) evolved from the successes began as ConnectKentucky, providing the same type of service on a national scale.

North Carolina: The e-NC Authority's mission is to provide high-speed internet access at competitive prices to all North Carolinians and is another model of a state broadband development agency. The authority also operates business and technology telecenters; provides e-community planning grants; implements e-government initiatives; and hosts regional technology symposia.

B. Federal Initiatives

1. Federal Communications Commission

The Federal-State Joint Board on Universal Service proposed significant changes to the FCC to the method the Federal Universal Service Fund uses to operate under and to how the funds are used. [30] The most important changes are to fund a Broadband Fund to provide broadband internet services to unserved areas and a Mobility Fund to expand cellular services. The proposal recognizes that the states are

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[29] http://www.telecomvt.org/

[30] The Universal Service Fund is a national effort that is maintained through contributions made by telecommunications providers (shown on end-user bills) across the country and is disbursed to fund four primary support programs: High Cost; Rural Health Care; Low Income; and Schools and Libraries.

better suited to know what is needed locally and recommends that a state agency be designated to administer the Federal Broadband Fund for grants and matching funds. The Authority plans to closely watch and participate in these proposals. In previous FCC proceedings the Authority has joined with other state agencies in filing joint comments and recommendations (with the Maine PUC, Vermont PSB, Vermont DPS, Wyoming PUC, and the Vermont Telecommunications Authority)

On a similar note, a group of eighteen telecommunications companies and organizations wrote to the FCC in support of using existing Lifeline and Link Up universal service programs to make broadband access more affordable for low income households.[31]

Recent FCC changes address the use of the spectrum by fixed and mobile broadband service from the freed-up "white spaces" that resulted from the change from analog to digital television service.

2. Federal Legislation

The recently signed "Broadband Data Improvement Act" (BDIA) directs the Secretary of Commerce to address the lack of accurate information about broadband service across the country.[32] Most significant for Maine, the BDIA also provides for grants to develop and implement statewide initiatives to identify and track the availability and take rates of broadband services within each state. While it remains to be determined if funding will be available for this program, the Authority has suggested that "stimulus package" funding be used to provide funding.

The BDIA requires the FCC to: 1) revise the definitions of advanced telecommunications capability meaning broadband; 2) identify tiers of broadband service where most connections can reliably transmit full-motion, high definition video; 3) revise certain provider reporting requirements to enable the FCC to identify actual numbers of broadband connections by customer type and geographic area; 4) determine certain demographic data for geographical areas that are not served by any provider of advanced telecommunications capability; 5) expand the American Community Survey to determine if persons subscribe to internet service and, if so, by dial-up or broadband; and 6) provide eligible entities including state agencies electronic access to aggregate data collected by the FCC from broadband service providers. The importance of this to Maine is explained below.

IV.   AUTHORITY ACTIVITIES FOR 2009

There are many opportunities and responsibilities for the ConnectME Authority in 2009, including expanded participation in federal and state initiatives; additional grant

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[31] Letter to FCC in CC Docket No. 96-45, et al, Lifeline/Link-Up Support for Broadband Internet Access, dated December 10, 2008. The Lifeline/Link-Up funds are used to provide low-income households with a reduced fee for connecting their telephone services and a reduction in their monthly bills.

[32] S. 1492, Signed by President Bush, Oct 10, 2008: Became Public Law No: 110-385.

rounds; mapping served and unserved areas; and working with local governmental organizations.

A. Coordinate Broadband Initiatives

Looking at the mid and long-term, perhaps the most important role for the ConnectME Authority will be to continue to serve as a conduit for Maine's broadband initiatives at all of the levels of government and across the agencies. The Executive Director participates and contributes to efforts to identify and broker solutions to regulatory, policy, and structural challenges to expanding the availability of advanced communications infrastructure in Maine. The Director has provided assistance to Maine's Congressional delegation on legislation such as the Broadband Data Improvement Act and comments in Federal Communication Commission dockets regarding broadband issues. These national efforts will undoubtedly increase in 2009.

We also have the opportunity to showcase Maine at the regional and national level. Congress is considering including in the federal government's economic stimulus package investment in broadband internet infrastructure. Recent reports indicate:

Congress could opt to provide hefty tax credits to the phone and cable companies who have been responsible for the rollout of broadband internet access. Or lawmakers could opt to expand existing subsidies to the companies to offset the costs of providing high-speed internet service in rural, under-populated parts of the country. A third option would be to increase aid to states, which are likely to have a better idea where internet service isn't currently available, (and) 100,000 jobs could be created by immediately investing in more high- speed internet networks across the country. …(and) the demand for services created by broadband internet access could create another two million jobs … ."[33]

We believe that working in collaboration with other agencies and at all levels of government is a means of enjoying economies of scale and holds potential for securing additional funding for Maine's broadband efforts.

The "stimulus package" development also calls for states to submit proposals that are "shovel ready." The Authority is working collaboratively with other Maine agencies to submit proposals that enhance Maine's broadband infrastructure and technology, including education and rural health initiatives.

B.   Implementing the 2008 Second Round Grants

The Authority will monitor and assist the five 2008 second round grant awardees to ensure that they have the resources necessary to complete their projects as required by law.

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[33] "Stimulus Plan to Include Access Funds," The Wall Street Journal, December 12, 2008.

The Authority notes that four of the six initial 2008 grant awards were challenged by a number of existing or incumbent broadband service providers (as allowed by the Authority statute and rule). Each of the challenged awards had from one to three challenges. The Authority held two meetings to discuss and resolve the challenges, allowing the grantees and challengers to make presentations. The Authority strongly encouraged the parties to work together in crafting solutions that would provide the best expansion project while minimizing the impact on existing service providers.

The Authority was able to make final decisions on all but one of the challenges. One initially awarded grant was cancelled because of demonstrated overlap with an existing and growing wireless service provider, leaving five grants. Another grant is still in the challenge review process.

The grant challenge process was extremely cumbersome and time consuming, mainly because it was difficult to determine whether the areas in question are "unserved." As a result, the application, review, and approval process will be significantly revised for succeeding grant rounds. Though the details have yet to be developed, it is anticipated that the most important change will be to contact and involve the incumbent providers at the beginning of the grant application stage to collaborate with potential grant applicants to avoid overlapping projects. Better, more detailed data from the applicants will be required to delineate the proposed project areas. These changes should greatly decrease the need for challenges and make the funds available more quickly.

C. 2009 Grant Rounds

The Authority will conduct a third round of grant applications by spring 2009, and a fourth round later in the year. Each grant will be limited to a smaller amount than previously awarded, to encourage more focused projects, and the grant amount will be limited to no more than 50% of the total project costs to leverage more types of funding. These changes should encourage more targeted solutions, make the projects more manageable, and ease oversight.

D. Increase Access

The Authority's activities confirm that not only are communications services, especially broadband services, in Maine not "reasonably comparable" with services provided regionally and nationally, but are not reasonably comparable within the State. A primary goal of the ConnectME Authority is to expand broadband access in the most rural, unserved areas of the state. It would be very difficult for unsupported projects to be financially viable in these areas. The support from the ConnectME grants alters the financial equations enough to allow the services to be offered. To meet this goal, the Authority must determine with the highest degree of certainty it can, where broadband is and is not.

The Authority is required to collect, aggregate, coordinate, and disseminate information and data concerning communications services and advance

communications technology infrastructure in the State.[34] For many years, the FCC has provided broadband reports that allow a reasonable comparison picture across the states. However, they tend to seriously overstate the availability of broadband services because if one subscriber is found under an entire zip code, the FCC considers the entire zip code to have broadband. This overstatement is particularly true in a state like Maine.

In July 2008, the ConnectME Authority filed joint comments with the Maine PUC at the FCC urging them to require broadband providers to submit detailed, address-by-address information regarding the availability of the broadband service in their territories. We also requested that the FCC reconsider its decision not to share individual provider's broadband availability data. In late 2008, the Broadband Data Improvement Act (BDIA) was enacted which may provide much better and more granular data regarding broadband services.

In 2009, the Authority plans to conduct a comprehensive mapping and inventory project to obtain more granular, Maine-specific information regarding broadband availability. One option we are exploring is to work with the Office of Information Technology, and possibly the Maine Office of GIS, to develop a framework for a mapping project that will use a combination of provider and public data to refine our understanding of unserved areas of Maine.

During 2008, Connected Nation made a presentation to the Authority on the services it offers, highlighting the mapping products of its client states. While the Connected Nation services may be unaffordable for Maine at this time, we intend to use some of the same techniques and resources for our project, including creating a GIS compatible database that will allow detailed mapping of broadband availability in Maine.

E. Increase Take Rates

The second goal of the Authority is to increase the demand for broadband services.[35] Increasing the "take rate" makes broadband infrastructure in rural areas more feasible, because providers will be able to generate more revenue in the same small area. The Authority continues to encourage applications like telehealth, aggregating demand with communities, and online commerce to increase the demand.

A major factor to increase take rates is access to a computer. The Authority has contacted the "PCs for Maine Computer Access and Literacy Project" which was created to help people with low incomes overcome the normally high cost of a personal computer and to provide technical support and training. This program provides more than inexpensive computers primarily using donated computers; it also provides training resources and support. The Authority will help this initiative through education efforts to

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[34] 35-A, M.R.S.A. §9204(3)(A).

[35] As stated under Additional Duties in 35-A, M.R.S.A, §9204(3)(F), "Create and facilitate public awareness and educational programs to encourage the use of broadband services."

increase technical skills, and thus improve hireability and personal income. (See Attachment E) [36]

V. CONCLUSION

The short history of the ConnectME Authority has shown that supporting small public-private initiatives to expand broadband has been and will continue to be a successful strategy. Much has been accomplished in the past two years to better position Maine as a state that embraces what technology can offer. We have increased the access rate from 86% to over 90% and the take rate by 10% (from 39% to 49%)

We are on our way to meet universal broadband availability goals. Yet much work remains for Maine to become a leader and to gain from the benefits of broadband including employment opportunities, education, healthcare, and public safety. We also need to coordinate State and Federal activities to ensure that we take advantage of all opportunities for funding and collaboration. The ConnectME Authority commits to working with all levels of government and public and private stakeholders to bring broadband advantages to fruition in Maine.

Attachments:

Attachment A – ConnectME Authority and Advisory Council Members
Attachment B – ConnectME Fund Reports
Attachment C – ConnectME Grant Awards: 2007 and 2008
Attachment D – Maps of Grant Awards: 2007 and 2008
Attachment E – PCs for Maine Computer Access and Literacy Project
Attachment F – What Is Broadband? [37]
Attachment G – Glossary

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[36] www.pcsformaine.org/

[37] Final Report of the California Broadband Task Force – January 2008, page 12.

ConnectME Authority and Advisory Council

Authority Members:

1. Jean Wilson, Vice President of Information Services at LL Bean, Chair
2. Mitch Davis, Chief Information Officer for Bowdoin College
3. Dick Thompson, Chief Information Officer for Maine State Government
4. Sharon Reishus, Chairman of the Maine Public Utilities Commission
5. Vacant

Advisory Council:

1. Fletcher Kittredge, GWI, Chair
2. Reggie Palmer, TDS Telecom and President of TAM, Deputy Chair
3. Keith Burkley, President of Time Warner Cable
4. Gary Nichols, Maine State Librarian
5. Ralph Caruso, CIO University of Maine at Orono
6. Jeff Wheeler, HermonNet
7. Scott Thibeau, Project Manager MSLN (MTEAF)
8. Greg Schueman, Maine Technology Institute
9. John Burns, Small Enterprise Growth Fund
10. Pat Scully, Bernstein, Shur
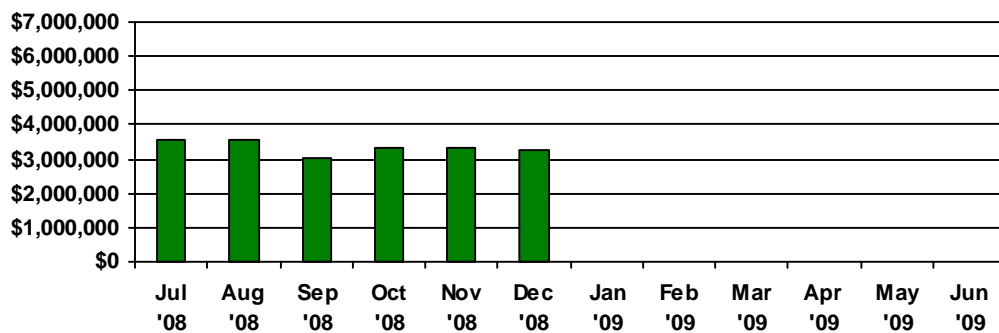11. Wayne Jortner, Office of the Public Advocate

Staff Support

1. Phil Lindley, Executive Director, ConnectME Authority
2. Amy Spelke, Utilities Analyst, Maine Public Utilities Commission
3. Kelly Arata, Legislative & Policy Coordinator, Governor's Office

ConnectME Authority

ConnectME Fund		2007-2008		2008-2009 est.	
Assessments/Revenues					
Assessments		$1,000,000		$1,400,000	
Transfer from MUSF		$500,000		$0	
Transfer to MUSF		$0		($500,000)	
Other Income		$0		$0	
Interest Income		$21,363		$40,000	
Verizon Contribution (one-time)		$2,500,000		$0	
Deficit/Surplus from previous year		$0		$3,167,949	
Total		$4,021,363		$4,107,949	
Disbursements					
Expenses					
Secretary of State (Rulemaking Ads)		$964		$0	
Salary/Expenses (OIT fully burdened rate)		$57,434		$120,000	
Travel		$0		$1,000	
Fund Administration		$55,452		$36,000	
MEGIS Availability Map Hosting		$640		$3,840	
Misc Expenses		$200		$500	
Grant Awards		$738,724	1st	$1,439,228	2nd
				$1,000,000	3rd
Other Projects		$0		$0	
Total		$853,414		$2,600,568	
Balance		$3,167,949		$1,507,381	
Notes:					
Fund Balance as of 12/31/2008 = $3,295,280					
One first round grant cancelled.					
One second round grant cancelled.					

Maine ConnectME Fund

Monthly Fund Performance Report for December 2008

	December 2008	Fiscal Year to Date
Opening Balance	$3,313,346.94	$3,382,082.85
Cash Receipts		
Assessments (Current Year)	$15,112.76	$380,565.43
Assessments (Prior Years)	$37.03	$369,577.33
Miscellaneous		
Interest	$4,100.55	$25,277.86
Receipts Not Yet Allocated (to one of the above categories)	($11,458.74)	$762.02
Total Receipts	$7,791.60	$776,182.64
Expenses		
Grant Disbursements	$22,539.00	$283,886.41
OIT Payroll and Personnel Srvs		$57,585.51
Map Hosting	$320.00	$1,957.25
Administrative Fees	$3,000.00	$18,000.00
Audit Fees		
Miscellaneous		$501,400.00
Refunds		$156.78
Total Expenses	$25,859.00	$862,985.95
Operating Surplus/(Deficit)	($18,067.40)	($86,803.31)
Closing Balance	$3,295,279.54	$3,295,279.54

	A	B	C	D	E	F	G	H	I	J	K	L
1	Applicant	Community Partner or Eligible Partner	Communities Served	Number of Households	Unserved Area	Technology	Percent Area To Be Served	Total Project Cost	Grant Request	Percent Grant	Estimated Project Complete Date	Notes
2	Axiom Technologies	Washington County: One Community	Addison, Beals, Centerville, Cherryfield, Columbia, Columbia Falls, East Machias, Jonesboro, Jonesport, Machias, Machiasport, Marshfield, Roque Bluffs, Whitneyfille, Calais, Eastport, Milbridge, Pleasant Point Res.	7,614	Yes	Wireless	70%	$284,369	$79,947	28%	12 months.	Mitton Mountain Zone Project.
3	Chebeague.net, Inc.	Chebeague Is.	Chebeague Is.	499	60%	Wireless	100%	$175,392	$75,000	43%	8 weeks	Mainely Wired
4	Cornerstone Communications, LLC	Piscataquis County Economic Development Council	Abbot, Atkinson, Barnard Twp, Blanchard Twp, Bowerbank, Bradford, Brownville, Charleston, Corinth, Dexter, Dover-Foxcroft, Elliotsville Twp, Guilford, Hudson, LaGrange, Lakeview Plantation, Milo, Monson, Orneville Twp, Parkman, Sangerville, Sebec, T5 R9 NWP, Williamsburg Twp, Willimantic	4,000	Yes	DSL & wireless	90%	$518,875	$368,377	71%	270 days	$20,780 deducted for 1/3 overlap with Monson project.
5	Monson, Town of	Cornerstone Comm.	Monson, Blanchard	634	Yes	DSL & wireless		$83,200	$62,400	75%	76-110 days of award.	
6	Redzone Wireless	Mount Desert and Cranberry Isles	Cranberry Isles, Seal Harbor, Somesville, Pretty Marsh, Great Cranberry, Islesford, Sutton, Baker Is.	810	Yes	Wireless	80%	$325,000	$115,000	35%	1/1/2008	
7	Somerville, Town of	Midcoast Internet Solutions	Somerville	279	Yes	Wireless	95%	$143,500	$38,000	26%	90 days of award.	
8												
9	Totals			13,836				$1,530,336	$738,724	48%		

	A	B	C	D	E	F	G	H	I	J	K	L
1	Applicant	Community Partner or Eligible Partner	Communities Served	Number of Households	Unserved Area	Technology	Percent Area To Be Served	Total Project Cost	Grant Request	Percent Grant	Estimated Project Complete Date	Notes
2	Axiom Technologies	Town of Steuben	Town of Steuben	453	Yes	DSL/Wireless	90%	$150,428	$45,078	30%	3-6 months	
3	Axiom Technologies	Washington County: One Community, Sunrise County Economic Council, Washington County Emergency Management Agency	Alexander, Baileyville, Baring, Charlotte, Codyville, Cooper, Crawford, Cutler, Danforth, Dennysville, Edmunds, Grand Lake Stream, Harrington, Indian Township, Lubec, Marion, Meddybemps, Northfield, Pembroke, Perry, Princeton, Robbinston, Talmadge, Topsfield, Trescott, Vanceboro, Waite, Wesley, Whiting	5,785	Yes	DSL/Wireless	90%	$1,868,091	$532,640	29%	12 months.	Washington County Broadband Project
4	Franklin Community Health Network	To be determined by RFP under FCC guidelines.	Rural areas of Franklin, Oxford, and Androscoggin Counties.	NA	Unserved and underserved areas of 26 towns in four counties.	Fiber network linking 7 healthcare facilities in 6 towns and 7 addresses in year one.	NA	$2,385,600	$357,840	15%	two years	Grant request is for 15% match requirement for first year of a two year Federal grant = $3 6M over two years.
5	Mainely Wired LLC	Town of Penobscot	Penobscot, *parts of Blue Hill, Brooklin, Castine, Orland*	900	Yes	Wireless	95%	$327,400	$157,300	48%	12 months.	
6	Redzone Wireless	Support from many of the listed communities.	All or parts of the following: Bar Harbor, Tremont, Frenchboro Is., Swans Is., Winter Harbor, So Gouldsboro, Trenton, *other (So Surry, Lamoine, Hancock, Sullivan, Sorrento, Stonington, Deere Isle, Brooklin, Isle Au Haut)*	1,716	Yes	Wireless	varies	$862,335	$346,370	40%	9-12 months	
7												
8	Totals			8,854				$5,593,854	$1,439,228	26%		

The chebeague.net, Inc. experience

chebeague.net, Inc. was founded in July of 2006 by Beverly Johnson and David Hill along with ten other local investors with the goal of offering affordable broadband Internet service to every home and business on Chebeague Island. Despite ten-mile proximity to Maine's largest city, the only available source of broadband Internet service was via satellite, a system which had been found to be unreliable in bad weather and priced beyond the means of most residents of this small fishing community. With cable modem and DSL options unavailable, the only source of Internet service was painfully slow dial-up services.

The fledgling organization joined forces with Mainely Wired, Inc. of Swanville, Maine. The concept was that Mainely Wired would provide the engineering design, equipment and bandwidth to chebeague.net, along with training in system installation and maintenance. The strategic alliance worked and continues to work very well. Within a few months we had a T1 line installed at the Chebeague Inn on the Island's East End and about twenty-five very satisfied customers.

Early on, we decided that we would support the Island's non-profit organizations by providing free equipment, installation and Internet service. When Chebeague Island became its own town, we extended this benefit to include municipal services including fire, rescue, police and the Town Hall.

As we moved into 2007, the major impediment to growth was the availability of capital. We brought in a few more investors and built the system out as best we could, given limited resources. The company's managers (Johnson and Hill) and installers deferred payment for their services to help fund the growth. But we knew it would be a long time before we could achieve our goal of serving the entire Island. Also, people were anxious to get on line.

During the summer of 2007 we applied for and were awarded a ConnectME Fund grant in the amount of $75,000. The positive impact of this award cannot be adequately communicated. In December, we submitted the following progress notes:

Since the beginning of the award period (middle of November), we have been busy moving the project forward. We have done the following:
- *Finished installation of the second T1 base station at the Recreation Center (underway at the time of the award)*
- *Installed two backhauls, one from the T1 base station at the Chebeague Inn, one from the Rec Center*
- *Installed the third T1 base station at the Chebeague Island Boatyard*
- *Purchased equipment necessary for base station and backhaul installations, as well as end user equipment*
- *Filed our Notice of Commencement on December 17, 2007 along with our Request for Reimbursement in the amount of $37, 811.91, which we received December 28th (check dated December 21st)*

- *Hired another installer/technician*
- *Completed approximately 30 customer installations*

Since that time, we have received another payment from the ConnectME Authority in the amount of $18,984.41, completed the installations of the backhauls, completed approximately 40 more customer installations, and have purchased the equipment needed to fulfill the demands that will soon be upon us from our summer population.

We believe that the infusion of $75,000 in capital made this project possible and it would not have happened otherwise. We *might* have been able to build the system out in two or three years *assuming* that the company principals could continue to work without compensation. Without the ConnectME assistance we probably would have been forced to halt the project well short of its Island-wide goal or defer that goal to a later date. With the ConnectME assistance we are now able to offer broadband Internet service to anyone on Chebeague Island who wants it. We still have technical challenges to overcome, but we believe we've met our goal of availability.

We did encounter three obstacles that people undertaking such projects should be aware:
1. We did not anticipate that it would be as difficult as it was to send a 900 MHz signal around the Island. We found it more efficient to bring in a second and third T1 line to distribute the signal. Also, we used more backhauls than we expected to reach difficult areas. Although Chebeague Island appears to be relatively flat, it isn't! This had a direct impact upon our cost structure.
2. We did not take into account that in order to provide outstanding customer service it would be necessary to do interior network installations and provide customers with training and troubleshooting far beyond the simple provision of an Internet signal. Again, this impacted our cost structure.
3. The installations take longer than expected, both for the reason just cited and the challenge of receiving adequate signals in difficult areas and dealing with the heavy forestation of the Island.

But despite these challenges, we've served our Island well. We currently provide Internet and e-mail services to 61% of year-round households, with our goal being 75%. We are reaching 13% of the seasonal households, with a goal of 50%. We believe that we will reach these goals during 2008. Initially, we had hoped to fund the installation of 125 new households with the ConnectME funds. Although we are currently at 68 new installations since the beginning of the funding period, we are well on our way to achieving our initial objective and hope to do so without requesting further funding from ConnectME.

We have instituted a policy to provide service at a greatly reduced cost to low-income households, as defined by free or reduced school lunch program or home heating oil assistance programs.

To sum up, at this point in early June, 2008, we have made a total of 145 installations, including as many as ten businesses, plus many more who occasionally work from home.

We are providing service at no cost to the Historical Society, the Island Commons (assisted living facility), the Transportation Company, the Recreation Center, the Methodist Church, Chebeague Fire/Rescue/Police, and to the Chebeague Town Office.

As for impact on the Island, we receive payment checks from people with "Thank You!" written on them – not many businesses can say that! One retiree on a fixed income can now listen to her son's radio broadcasts online from the Netherlands. Lawyers and accountants are now working at least one day a week from home, a huge impact in these days of rapidly escalating gasoline prices. Families with children and grandchildren in the military are thankful that our Internet service enables them to communicate regularly with their service men and women. A local jewelry maker is expanding her business online and is now taking Internet orders.

It is very gratifying for people to stop us on the boat or at the store to thank us for giving them this service. We are always quick to point out that it wouldn't have happened without the assistance of the ConnectME Authority.

Overall, the project is progressing well and we are indebted to the ConnectME Authority for giving us the opportunity to provide modern communications to Chebeague Islanders.

chebeague.net, Inc. system and installations as of April 16, 2008:

Schedule 4 Report

Please include a report in addition to Schedule 4 detailing the number of individuals, businesses, and community agencies that are expected to and have already benefited from the Project and how they benefited.

Please include a report in addition to Schedule 4 detailing the number of individuals, businesses, and community agencies that are expected to, and have already benefited from the Project and how they benefited. A description of the "necessity" of the grant award to your project would be helpful, was it: critical (couldn't have done it without); essential (would have had to scale back project without); or good to have (expanded project, added features, etc.)?

Describe the benefits to the community like economic development impacts. Also, looking at your application, what are the differences between what you estimated and what is expected to be the actual "numbers".

At the onset of the **Mitton Zone Project**, Axiom had 18 Access Points throughout the 18 town geographical region. At the completion of this project, Axiom has installed 40 Access Points. The ConnectME funding was crucial in Axiom's mission to bring high-speed broadband to unserved areas in Washington County. The addition of "Mini-PoP's" into neighborhoods serving smaller numbers of homes and businesses has been a key component in the success of the project and would not have been possible without the ConnectME grant.

We presently have over 700 subscribers, with many more scheduled for installation. Additionally, we continue to market homes and businesses, making them aware of our service. We anticipate doubling our subscriber base over the next year. The existing subscriber base was affected when Verizon deployed DSL in several of the Mitton Zone towns, offering broadband service at $12.95/month with no installation fees. Axiom lost approximately 140 subscribers to Verizon's DSL service. Additionally, Time Warner Cable is now offering cable modem service in some of the 18 town geographical areas. The majority of Axiom subscribers are homes and businesses that do not have access to DSL or cable modem. These are subscribers "off the grid", residing in super-rural areas. In our opinion, the ConnectME funding directly impacts the development of service for these residents of Washington County.

Axiom had a target with the ConnectME Mitton Zone Project of making broadband available to 70% of households, and through our commitment to the mission and demand for service; we can now reach **90%** of the homes and businesses in this geographical region. It is also Axiom's commitment to continue to find creative ways to reach any home or business that is not able to attain broadband via Axiom's network or

through any of our competitors.

The success of Axiom's wireless infrastructure is evident in the work we have done in the past year with the seafood and blueberry industry in Downeast Maine. In particular, we have worked with Cherryfield Foods and Jaspar Wyman Company, two large blueberry processing plants, and AC, Inc., a seafood distribution company. Each of these companies brings in millions of dollars of revenue to Washington County.

The introduction of Axiom's wireless network has brought innovative uses of broadband in the field. For the blueberry companies, wireless service is available through the vast blueberry barrens, allowing personnel to access pump sites, irrigation systems and communicate with headquarters and each other with the use of laptops in vehicles, in the office or from remote locations. Vandalism was also a primary concern for these companies, as there is expensive equipment miles and miles away from personnel. Axiom has installed a wireless client radio and IP surveillance cameras at pump sites, recording data images. Staff can monitor the camera sites from any computer around the world. This has decreased the vandalism at the specific sites. Plans are underway to expand the wireless networks for both blueberry companies, which will increase the use of these tools.

Axiom introduced creative technology to AC, Inc. Wireless radios are mounted at lobster pounds, where hundreds of thousands of pounds of lobsters are housed before going to market. Again, monitoring of the IP surveillance cameras can be done from any computer location. The addition of the cameras has decreased the theft of merchandise and vandalism. Plans are underway to add additional cameras at other key locations owned by AC, Inc. throughout Washington County. A new project for 2009 will be to install an underwater IP surveillance camera, at significant depth in the water at a pound, to observe the behavior of the lobsters. During the hurricane, unusual amounts of fresh water affected the acidity of the water in the pounds, causing thousands of sea worms to die, which caused a decrease in the oxygen levels. The lobster's sustainability was threatened from the decrease in oxygen. The idea of testing underwater IP surveillance cameras to monitor the behavior of lobsters, giving early warning signs that lobster survivability is threatened, is an innovative approach of blending traditional industry with technology.

Axiom has installed wireless client radios at several businesses. We have assisted in network design and configuration, registering domain names with email, training employees on site in the use of specific technology and software, and have become the "technological partner" for many businesses in the Mitton Zone. It is not enough to just "connect" a business. It is as important to train and educate our businesses for technological advancement.

2

In addition to our year-round residential use of broadband, Axiom has many seasonal customers on our network. Seasonal residents are now able to stay for longer periods of time, contributing to local economy because of the availability of high-speed Internet to communicate with their home base. Residents are utilizing high-speed for online courses, ecommerce, and communicating with family and friends around the world.

Without the assistance of the ConnectME grant, this work would not have been possible. Axiom is a self-financed company, and has accomplished much on its own; however, without the assistance of state monies, we would be limited in expansion of services. ConnectME funding allowed us to continue to bring high-speed Internet service to homes and businesses that were unserved.

Axiom is deeply rooted in the community, participating on many committees, boards, focus groups. We are committed to economic development and will continue to strive for technological advancement and education for the people of Washington County. We work closely with the following organizations: Sunrise County Economic Council, University of Maine, Machias, Washington County Community College, Washington County Council of Governments, Washington County Emergency Management Agency, Washington County:One Community, Machias Bay Area Chamber of Commerce, Maine Community Foundation, Caring Community Collaborative, Career Center, Maine Lighthouse Recovery Support Network, Vital Economy, Washington County Leadership Institute, Help America Vote Act program, HUD, Cobscook Community Learning Center, Women, Work and Community, Machias Rotary, Mighty Women and local schools, health facilities, municipalities and our political delegation.

We feel that the introduction of Axiom Technologies to Washington County in the last three years has made a positive impact on the economy, expanding services and revenue for the business community. Through growth and development, Axiom will continue to offer job opportunities and job training for technical employment and customer service support, and to assist the businesses within our community to grow and develop as well.

It is our firm belief that through the use of technology, Axiom can and does play a key role in working to change the economic status of the poorest county in the State of Maine.

3

Somerville Broadband Infrastructure Committee
Final Report of the Somerville Broadband Infrastructure Project
a ConnectME Fund Grant project

Communications Design as Completed

Two towers were constructed, one existing tower improved, and two other existing towers were utilized in the final implementation. There are two backhaul links tying Somerville to the existing Midcoast Internet Solutions network; a 5.8GHz wireless backhaul link between their Barret Hill tower in Union and an existing tower at Brooks Turner Hill in Jefferson, and a 5.8GHz point-multipoint backhaul link between their Hatchet Mountain tower in Hope and an existing tower at Lenfest Mountain in Washington.

At Jefferson, there is a battery backup system and another 5.8GHz wireless backhaul link to a new Route 17/TLC Way tower location in the south part of Somerville.

At Washington, there is a battery backup system, another 2.4GHz wireless backhaul link to the new Crummett Mountain Road tower, and an Alvarion VL900 900MHz AU for subscriber connections in north Somerville with a Horizontal polarity sector antenna to improve reach.

A small 80-foot tower was constructed at the Route 17/TLC Way location. This site serves Somerville customers along Route 17 and nearby roads via a 900MHz Trango broadband system. This location also has a 2.4GHz wireless backhaul link to the Crummett Mountain Road tower in north Somerville, just south of Route 105.

A small 110-foot tower was constructed at the Route 105/Crummett Mountain Road location. If you have been paying attention, you will note that this tower has equipment provisioned for redundant backhaul links, to TLC Way and Lenfest Mountain. The Lenfest Mountain backhaul will be brought online soon. The Crummet Mountain Road tower also has a 2.4GHz AP for line-of-sight customers, and a 900MHZ Alvarion VL900 AU with a horizontally polarized omni antenna to serve non-line-of-sight customers. This tower is powered by 3 solar panels connected via a charge controller to 2 deep-discharge batteries.

An existing CB tower on Frye Road at Long Pond was improved, replacing guy wires and hardware, making the tower secure and safe for installation work, and having some tree work done to improve line-of-sight views. It receives service via wireless backhaul from Crummet Mountain Road tower at 900MHZ (to be swapped to 2.4GHz as soon as removal of one large pine next to the tower is completed), but it could also link to Lenfest Mountain, and potentially Jefferson at a later date. It also has a 2.4ghz AP for line-of-sight customers, and a 900MHZ Alvarion VL900 AU with a vertically polarized omni antenna to serve non-line-of-sight customers. This tower serves all of Long Pond, and areas north of the pond as well.

The Alvarion VL900 Access Units are more expensive than their Trango counterparts, but they are faster, higher capacity, and more sensitive than the Trango for improved

coverage. MIS also saved some money by using optional radio cards in the Mikrotik routers at Crummet/105, TLC, Lenfest, and Long Pond sites for backhaul between sites or supplementary access points. Prior to the start of the second half of the project, the Mikrotik routers that these cards would be used with were not FCC approved, (and MIS is never willing to use radio equipment that is not FCC approved). Since then, newer Mikrotik routers are FCC approved and perform quite well for these particular tasks.

How Many Current and Potential Subscribers

Broadband service has been installed for 13 customers so far, out of 37 that have requested service. And installs are ongoing. Only 4 of those requests are expected to not be fulfilled due to dead spots. The number of requests is expected to grow and double over the winter as word gets out that service is available among year-round and summer residents.

Potential customers should be very close to the estimated 95% of estimated 292 households and businesses. In the grant proposal 13 households were expected to not be able to receive service. That appears to be a reasonable number still, based on the following service coverage information.

In south Somerville there are five known dead-spots that currently cannot receive service:

- A span of 2 houses approximately 1.3 miles up Crummett Mountain Road from Route 17. Unfortunately a significant prominence east of the road directly blocks their signal from TLC way tower, and Crummett Mountain itself blocks the Crummet Mountain Road tower.

- There is a short segment of the Jones Road in a low-lying area that is blocked by the higher ground and large number of trees on the up-slope between there and TLC Way. This spot should be able to receive service if a repeater is added at the Hopkins residence.

- One house next to the Jefferson border on the Jones Road also has an uphill tree covered slope, and distance working against it. This sight might be able to receive service with the TLC Way upgrade to Alvarion VL900 Access unit, but should definitely be able to receive service from the Haskell Hill site in Jefferson once constructed.

- Right by the Church on Rt. 17 – (can be fixed by a $200 repeater at the Myers residence)

- The southern part of the Valley Road along the southeastern border of town has marginal signal from TLC Way.

In north Somerville it is too early to tell because many potential subscribers have not been tested yet. But signal surveys were conducted along the roads, and the results were good. There are no known areas on northern roads that cannot receive service.

How Subscribers Benefit From Broadband

One person benefits from broadband enabled communication with the deaf community.

One person is applying at her workplace to participate in a work-from-home opportunity.

Another person is planning to take college courses on-line.

I finally have the bandwidth to utilize GUI system administration applications in the IT work I do for my employer when working from home, tie in to the office phone system via VOIP protocols, and have the speed and bandwidth to improve my efficiency downloading, uploading, and updating software systems.

Here are some comments I have gotten from people subscribing to this broadband service:

"It's wonderful. Instant gratification. I stayed up late using the Internet."

"I can actually watch video links on news and other sites now. With dial-up I missed out."

"Wow that is fast!!!!!!!!!!!!!!!!!!!!!"

Plans to Further Improve Coverage

There is an ongoing relationship between customers in Somerville and MIS, and we have started discussions about further improvements after this project, such as:

Swap TLC Way to Alvarion VL900 access units in the future.

MIS is currently in talks with the Town of Jefferson to construct a tower on the old Fire Tower site on Haskell Hill.

Add repeaters located on residences overlooking dead spots – one at the Myers residence, and one at the Hopkins residence on the Jones Rd.

Attachment C

redZone WIRELESS

Affordable high-speed Internet. Get connected.

RECEIVED JUL 17 2008

ConnectME 2007
Mount Desert & Cranberry Isles
Final completion report

Tuesday, July 14th 2008

ConnectME Authority
Phillip Lindley, Acting Executive Director
Statehouse Station 18
Augusta, ME 04333-0018
Phone: (207) 287-1598
FAX: (207)287-1039
Email: phil.lindley@maine.gov

Exhibits:	(A)	Testimonial letters from area residents
	(B)	CMA2007 Final Complete
	(C)	CMA Final Complete Schedules 2007
	(D)	Affidavit

Exceeded our Goals and Objectives

RedZone completed the ConnectME funded wireless broadband network build in Mount Desert & Cranberry Isles as of June 1st, 2008. The project met RedZone's objective with respect to service area coverage, and exceeded RedZone's expectations in terms of total subscribers. As of this date, July 14th, 2008 RedZone is providing service to over **1,000** active users, and over **300** year round residents and business customers in Mount Desert & Cranberry Isles.

ConnectME funding was critical

As a results of the ConnectME funding, RedZone was able to provide expanded service area coverage, and connect hundreds of previously unserved residents and businesses throughout Mount Desert & Cranberry Isles. Many of the annual residents in RedZone's service area will be able to live and work in Maine solely because of their access to broadband Internet. Others have increased productivity as a result of their broadband service, and every resident will benefit from the wealth of information, and resource that the Internet provides. Area businesses have new means to communicate with vendors, buyers, and business associates. Last, and possibly most important (from an economic standpoint) are the summer population in RedZone's Mount Desert & Cranberry Isles service area. RedZone provides a means by which these summer residents can connect to their corporate offices, and manage business from their summer homes. This is especially important in Mount Desert & Cranberry Isles since many of the worlds most affluent and successful business persons, including 33 of Forbes™ billionaires "summer" each year in MDI. Most of these summer residents will stay in Maine for longer periods each year as a direct result of their broadband connection. Their extended stay in Maine has a significant impact on the local economy, as they will frequent local restaurants, and buy both goods and others services from local vendors.

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www.redzonewireless.com
15 of 32

redZone WIRELESS

Affordable high-speed Internet. Get connected.

Who's connected?

A short list of previously unserved residents, businesses, and other subscribers that have benefitted from RedZone high speed Internet include:

1. Maine's leading US Senator
2. Chief Financial Officer, Jackson Laboratories
3. President, Maine Association of Realtors
4. Pulitzer prize winning author & a host of media executives
5. College presidents & leading university professors
6. Leading executives from some of the worlds largest companies (JP Morgan, ING, Exxon Mobil)
7. Leading Wall Street investors
8. Leading national and international real estate developers
9. Forbes 500 wealthiest (several)
10. Acadia National Park (multiple locations)
11. Municipal Government (multiple locations)
12. Tourist & visitors - Camping areas (several)
13. Tourist & visitors - Boaters in NE Harbor, SW Harbor, Somes Sound
14. Tourists & visitors - Area Hotels, and summer rental cottages

Testimonials & Feedback

RedZone has received numerous **testimonials**, emails, and letters of support from subscribers in Mount Desert & Cranberry Isles. A few of these letters area attached to this document as Exhibit A. Also in January '08 the article entitled "Internet access spurs employment" (http:// tinyurl.com/6zx5xl) was printed in the MDI Islander, a local newspaper. The article is based on an interview, and tells the story of Alain Falasse, a RedZone customer in Hall Quarry. Alain and partner Larry Schulman had listed their house with a local realtor, and had plans to move out of state before RedZone connected them to the Internet. As a result of their RedZone connection they continue to live and work in MDI.

What's next

RedZone intends to further expand coverage in MDI and surrounding communities in '08, including offshore islands, in order to connect as many unserved residents as possible to high speed Internet. RedZone has already identified many of these unserved locations, and we are working to obtain the support of local communities, investors and other capital sources in order to get the expansion underway.

413 Main Street, Suite 205
P.O. Box 435
Rockland, ME 04841

Ph: 207.596.5700
Fax: 207.596.5701

info@redzonewireless.com
www.redzonewireless.com

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NotLimited

communications design
web development
information architecture

1 (800) 497-1747
www.notlimitednyc.com
info@notlimitednyc.com

CLIENT TESTIMONIAL

Thursday 03 April 2008

Regarding: Jim McKenna, President
RedZone Wireless, 413 Main Street, Rockland, ME 04801
Tel: (207) 569-5700, eM: jim@redzonewireless.com

Client: Leigh Baker Ronco, CEO/Creative Director
NotLimited NYC, LLC, 92 Hall Quarry Rd., Mt. Desert, ME 04660
Tel: (207) 244-9088, eM: leigh@notlimitednyc.com

BACKSTORY

After 4 years living and working here, the utter frustration at the limited ISP choices and atrocious DirecWay (satellite) and Verizon (dial-up) service available in Mt. Desert led to me actually shouting at the unfortunate Town office manager (and Red Zone technician who happened to answer the phone that day) about expediting the implementation of wireless service to Hall Quarry Road. A few weeks later, the tower was up and my RedZone Wireless service began— and, "service" is the word. Not as an excuse, but for context: The Internet is how I make a living, run a company, communicate with world-wide clients, and keep up with my stepchildren's grades and school events— In short, it is essential to my business's and my family's survival.

REDZONE CUSTOMER SERVICE

Being an early adopter of the new network services and an all-Mac house, there were initial problems, of course, and every time I made a call, the problems were resolved— either immediately (remotely) or by a smart technician or two (and even the President of the company) who visited my home/office within 12 hours of the call. Not only were the technicians knowledgeable, fast and friendly, they understood and handled gracefully my initial skepticism and my family's rudeness after years of dealing with the incompetence and disregard of our previous ISP's. Did I mention that the President of the company returns calls, responds to email and even climbs towers?

REDZONE WIRELESS SERVICE

For comparison to other locally available ISP options, there is none— RedZone is by far the most responsive, reliable, sensibly priced and technologically proficient in the State (to which I can attest due to extensive ongoing travel for work entailing access to various types of networks in Portland, Augusta, Bangor and more). In fact, all of the computers on my RedZone network experience faster connections, speedier load times (even on secure client sites) and a much higher percentage of up-time than any of the networks I've yet to experience in 15+ years of designing for and using the Web around the globe.

IT'S ALWAYS PERSONAL

In this increasingly connected digital era, the kind of unsurpassed service and true customer care offered by RedZone is essential to the survival and evolution of Maine's communities, villages, towns and cities— not just my own business and family. Though, I am grateful that RedZone's made it possible for me to work efficiently at home (even on large, connection-intensive client projects), shaving weeks of travel from my schedule this year, already, not to mention the hours of frustration on the phone to previous ISP's "help" (and I use the term loosely) desks that would have been squandered. Maine deserves RedZone.

Sincerely,

Leigh Baker Ronco
CEO, NotLimited NYC, LLC

Jim McKenna
CEO, RedZone Wireless

Dear Mr. McKenna:

I am writing you to thank you for bringing Red Zone Wireless to Mt. Desert and providing something that was previously unavailable to Somesville residents: reliable, high speed Internet service. We have found the transmission speeds, up time and the customer service of your organization to be far superior to what we experienced with Wild Blue's satellite Internet Service. We have found Red Zone to be significantly more economical as well.

As the CFO of The Jackson Lab it is important that I be able to access our system at work in the evenings and weekends. With satellite Internet I was frequently unable to access key systems due to the latency of the system and its overall slow response. In 7 months of using Red Zone, I haven't had that problem once.

We had Red Zone installed last September, shortly after it became available in our area. The installer arrived exactly when he said he would and the installation was complete and operational within a couple of hours. We've been up and running ever since and have been particularly impressed with how the service appears to be totally unaffected by weather conditions. I'll admit that I have always been partial to cable, having used it in several locations on and off the island. After having used Red Zone, I would say it compares very favorably to the cable response times I've experienced.

I understand that because of technical and logistical issues, not all residents of Mt. Desert are able to receive Red Zone service. At the same time, there is no denying that Red Zone has provided many Mt. Desert residents with a level of Internet service much better befitting a community that is so committed to education, creativity and knowledge. Please keep up the good work!

Sincerely,

Linda A. Jensen   , CFO Jackson Labs
/

Mainely Wired LLC
480 North Searsport rd
Swanville ME 04915
P 207.338.6530
C 207.322.9330
support@mainelywired.com
    mainelywired.com

Broadband Wireless Access for the unserved Town of Penobscot 04476 Hancock County, Maine.

Final completion report

MW was approached by the Town officials and the Citizens of Penobscot to try to enable High Speed internet service at that location. A preliminary scope and investigation convinced MW that this location fit the definition for a grant as outlined in the statutes of the CMA. Since the need s of the Town for High Speed connection was very pressing MW decided to work a dual track of applying for a grant while doing the design and engineering for a network to cover the area. Even though the first grant application was denied for lack of funding, MW decided to go on with the project since the people of the Town were desperate for the service. Funding the project was made possible through private funding from MW partners, bank loans, CC lines and deferred payments for labor and services. MW was convinced that the merits of the project would be recognized by the CMA once more funding was available.

The first focus of installation was the public safety and the Town office. The fire department the fire dept. chief and the Town office were among the first installation from tower # 2. The fire dept.'s garage area was made a WIFI hot spot so law enforcement personnel on call in town could have internet access through their lap tops. The Town office was able to start up their new computer system they had received from the HAVA project and connect directly to the servers at the state that they were unable to communicate with previously due to latency issues.

Many residents that had been forced to rent office space in neighboring towns to assure Hi Speed internet access were able to work from home now that they were able to do large file transfers at Hi Speed. Several residents that had previously been seasonal decided to become year round residents once they had Hi Speed access.

The Penobscot Nursing Home had Satellite service that was totally unsatisfactory due to latency issues with large file transfers now is able to transfer medical files to hospitals and doctors around the country.

In it's initial estimate of the project costs MW underestimated severely the personnel and vehicle costs to service his area. It is almost a 1 hr drive from the Swanville office to the Penobscot area and many customers especially in inclement weather are difficult and time consuming to access. Also many customers due to their difficult locations required "special installations" in order to acquire a valid signal. To give this area the service level MW's customers are accustomed to we had to hire an installation foreman who doubles as operations

manager for all of MW's operations and an installer even though the cash flow from ongoing Penobscot operations cannot carry this load. Other MW operations have to support the Penobscot project at the moment.

MW is attempting to overcome these issues by opening a satellite office in Penobscot. Without the grant money MW will have a difficult time maintaining and expanding the Penobscot operation to a level of self sufficiency.

At the moment MW has a backlog of 111 successful site checks that cannot be serviced due to financial constraints. Mainely Wired has completed design and engineering work for tower #3 and several other access points but is not able to fund that work at this time.
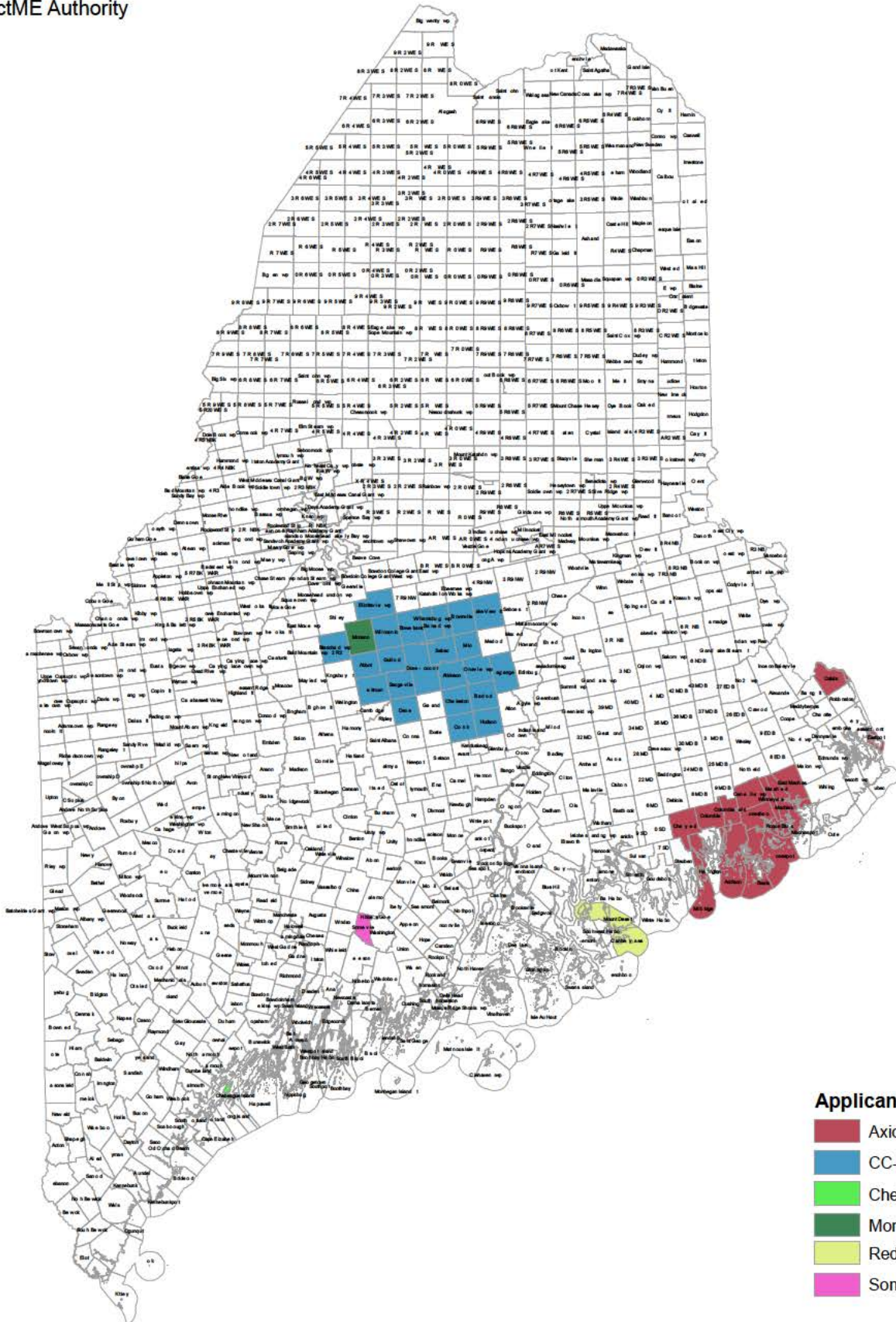
Sincerely

Peter Petersen CEO Mainely Wired LLC
480 North Searsport rd
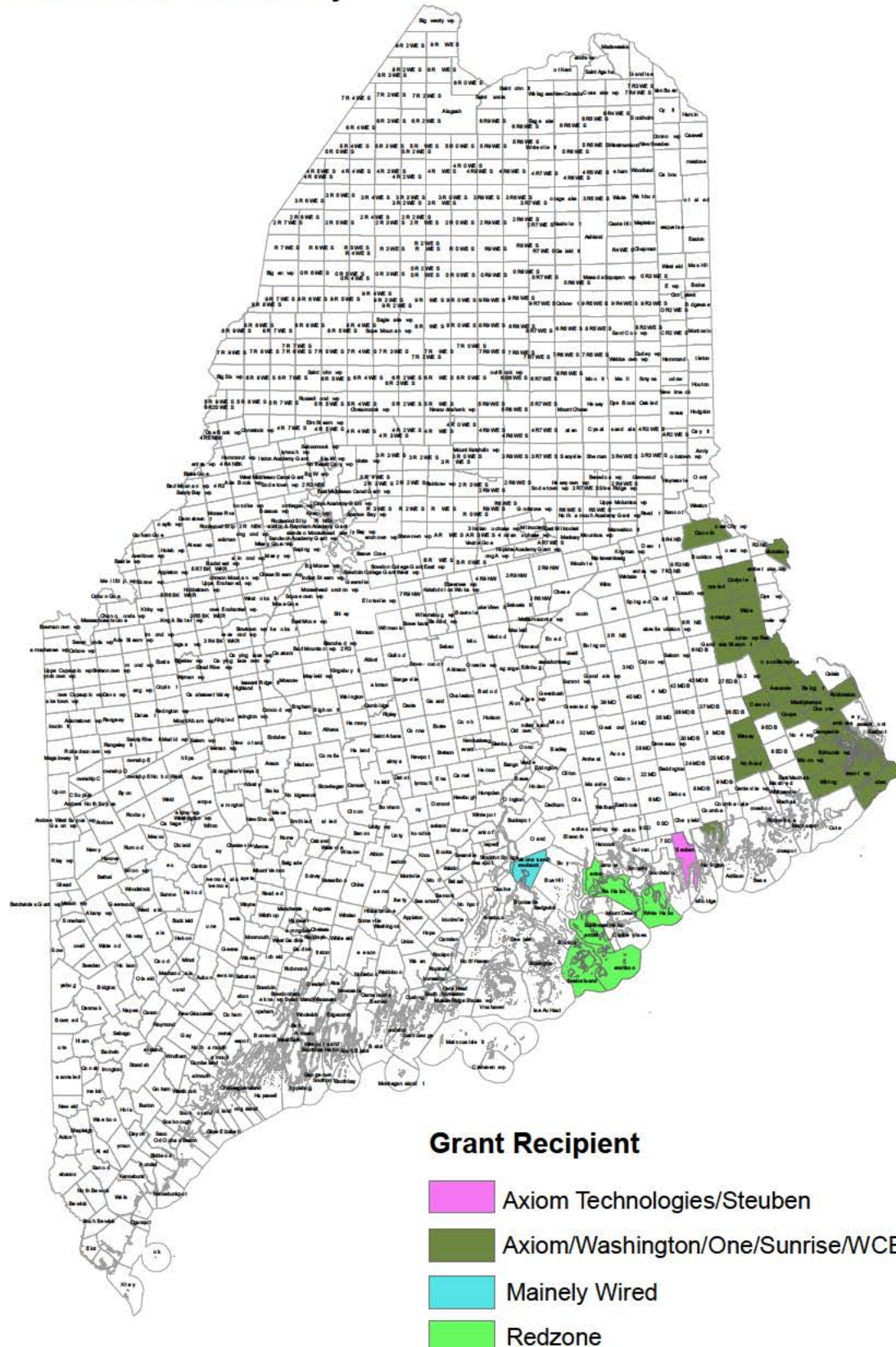Swanville ME 04915
C 207.930.9000
peter@mainelywired.com

Grants Awarded 10/31/07

ConnectME Authority

Applicant/Community

- Axiom-Mitton
- CC-Highlands
- Chebeague.net
- Monson/CC
- RedZone
- Somerville/MIS

ConnectME Grants 08/27/08

ConnectME Authority

Grant Recipient

- Axiom Technologies/Steuben
- Axiom/Washington/One/Sunrise/WCEMA
- Mainely Wired
- Redzone

DeLORME

TN

MN (16.5°W)

Scale 1 : 500,000

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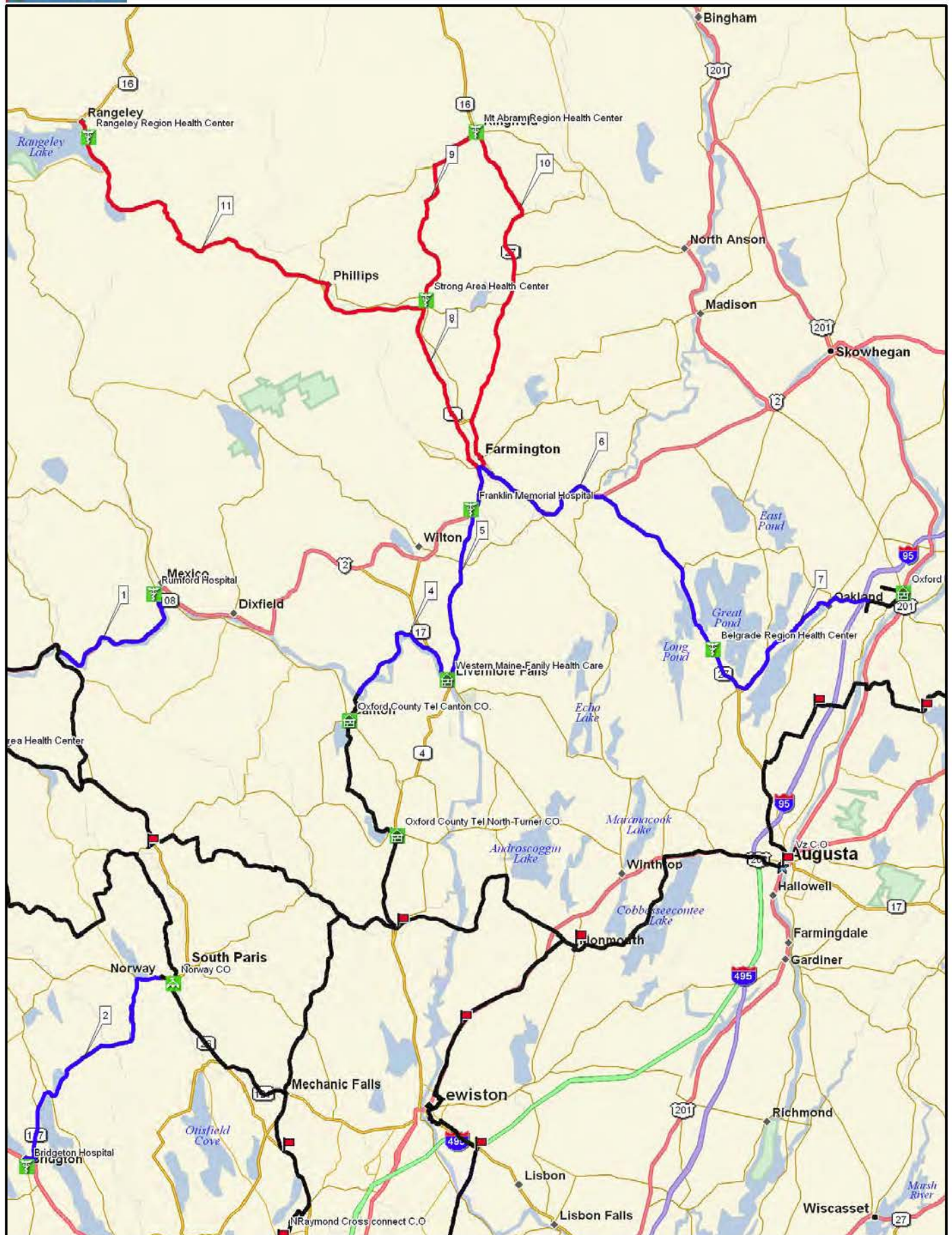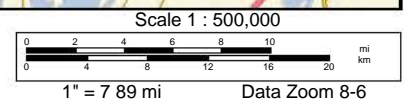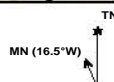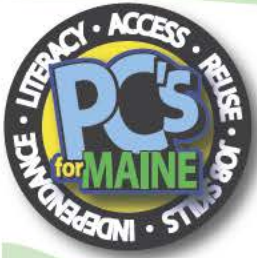
PCs for MAINE Project Individual & Family Application

This program is provided by the Information Technology Exchange, a 501(C)3 Non-Profit Organization. Since 2002, over 4000 people have received personal computer access from this program, and are developing life changing skills.

Welcome to the Exciting World of Technology!

Personal computers are fantastic tools that help us communicate, overcome geographical boundaries, take college classes without leaving home, and gain new job skills that make us more marketable to employers.

The PCs for MAINE project was built to help people overcome the cost of a personal computer, and to provide high quality technical support. Our objective is to keep technology from becoming a roadblock to your goals, and instead make it a fruitful resource for you.

We help folks overcome the normally high cost of computer ownership by encouraging businesses all over New England to donate business class (high quality) computers to the program. Our team of professionals and volunteers complete these donated computers with new parts and add donated software from Microsoft, among others to create a very high quality, low cost alternative computer supply and technical support system - right here in Maine!

The fees for participation in this program include the cost of new parts, recovery of donated equipment and the technical labor required to assemble, test and prepare these systems for use. These fees represent between 25% to 60% of the whole value of this service. We fundraise the difference to keep the cost as low as possible.

Should you meet our income requirements and need a personal computer and support to meet your educational or job skills objectives - this program was made for you!

There are many recommendations included in this application that will make your computing as productive as possible. There are also many support benefits offered to participants that are completely unique (page 4). Please read it thoroughly.

Here's to your exciting new endeavor -

Chris Martin
Founder of the Information Technology Exchange and the PCs for MAINE project.

If you have any questions call 1(866) PC-PLANB (1 866 727 5262) toll free in Maine from 9am to 5pm weekdays.

Participation Requirements and Program Fees

Do your goals and income meet our guidelines?
If so you are eligible for participation in the PCs for MAINE project!

What goal will a computer, support and training help you achieve? (Check ONE)
- ☐ Personal research, communications or writing; ☐ K-12 schoolwork; ☐ Adult Ed classes or GED; ☐ College;
- ☐ Career skills development; ☐ Volunteer work for a non-profit group/community service.

Circle your family size and total household income in the table.
(your income must fit within this chart to be eligible)

Family Size	Total Household Income	
1	Up to $12,762	$12,763 to $20,420
2	Up to $17,112	$17,113 to $27,382
3	Up to $21,462	$21,463 to $34,340
4	Up to $25,812	$25,813 to $41,300
5	Up to $30,162	$30,163 to $48,260
6	Up to $34,512	$34,513 to $55,220
7	Up to $38,862	$38,863 to $62,180
8	Up to $43,212	$43,213 to $69,140
Circle your Income!	Column "A"	Column "B"

Do you have a Sponsor ?
(A sponsor is someone who will pay your fee for you)

☐ **YES - I have a sponsor.**

Who is your sponsor?

☐ Voc Rehab ☐ CSSP ☐ Other: _____

Councilor name: _____ , Telephone #:_____

☐ **NO - I do not have a sponsor and will be paying my fee personally.**
- ☐ Based on my family size, my income is in "Column A". You may participate and qualify for a "scholarship discount"
- ☐ Based on my family size, my income is in "Column B" - You may participate in the program for the program fee.

Proof of Income: All we need is one copy of a recent benefit payment, *OR* a letter from any of the social services below that states your eligilibity for that service, *OR* a copy of your most recent income tax return totals page indicating your "total household income".

What type of "Proof of Income" are you providing?
- ☐ TANF ☐ Vocational Rehabilitation Services ☐ SSA/SSI ☐ Maine's Competitive Skills Scholarship Program (CSSP)
- ☐ Veteran's Assistance ☐ Unemployment Benefits ☐ Disability Benefits ☐ Income Tax Return

About you and how a computer will help

Your Name: _____

Mail Address:_____

Physical/Street Address (leave empty if same as mail)**:** _____

City:_____ **State:** _____ **Zip:**_____ **Phone #**_____

What is the most advanced task your computer will need to perform? This will help determine which system you need.
(A=simplest, E=most advanced - check one)
- ☐ (A) Internet research, email, communications and word processing; ☐ (B) Office work, light book keeping;
- ☐ (C) Advanced book keeping, accounting, digital photography or website design;
- ☐ (D) Commercial print or web design; ☐ (E) 3D graphics rendering, computer assisted design (CAD) or commercial audio or video editing;
- ☐ (F) Other:_____ .

Please estimate your computer experience level: (very experienced users can troubleshoot hardware issues, reload operating systems etc...)
- ☐ (1) No experience; ☐ (2) Little experience; ☐ (3) Fair amount; ☐ (4) Use Computers often; ☐ (5) Very experienced.

How did you find out about the PC's for MAINE project?
- ☐ (1) Vocational rehab or career center; ☐ (2)Flyer from school; ☐ (3) Flyer from a library; ☐ (4) Another PC's for MAINE client;
- ☐ (5) Public service ad on TV/radio; ☐ (6) Other: _____

If you have any questions call 1(866) PC-PLANB (1 866 727 5262) toll free in Maine from 9am to 5pm weekdays.

Choose a System that fits your Goals!!

Ubuntu Systems -

for task "A" ONLY!

This low cost alternative system might be for you if you have high speed Internet access and need to email, research online, write papers and perform other basic tasks. This system is not Windows compatible. Free Ubuntu compatible programs can be downloaded from the web.

Minimum Desktop Hardware Specs: Pentium 3, 900MHz CPU, 512 MB RAM (memory), 40GB Hard Drive, CD ROM Drive, Ports: 10/100 network, 2 USB, 1 parallel and 1 serial, Sound (Microphone, Line-In, Sound Out), 17" CRT Monitor, and power cables are included. This system **DOES NOT include a dial-up modem!**
Software Provided: Linux based Ubuntu open source operating system, Mozilla Firefox Browser, Links to PCs for MAINE support resources and Restore Disk also included.

☐ **Desktop:**   Program Fee = $208

Introductory Systems -

for tasks "A and B"

This low cost dependable system is great for dial-up and high speed Internet use, basic office functions and educational software. Built on Windows XP Professional.

Minimum Hardware Specs: Pentium 4, 1.7GHz CPU, 512MB RAM (memory), 40 GB Hard Drive, CDROM Drive, Ports: 10/100 network, 2 USB, 1 parallel, 1 serial, Sound (Microphone, Line-In, Sound Out), Stereo Speakers, 17" CRT Monitor, 56k Dial Up Modem, and power cables are included.
Software Provided: Internet Explorer 7, Outlook express (email), Media Player 11, Windows Firewall, Avast antivirus (free home edition), Spybot Spyware removal tools, Ccleaner, Sun Microsystems' Open Office Suite (Word processing, spreadsheets, presentation software and more). Links to PCs for MAINE support resources and Restore Disk also included.

☐ **Desktop:**   Program Fee = $232   **Options:**   ☐ Upgrade to 1GB of RAM - add $42   ☐ Upgrade to 80 GB Hard Drive - add $56

Exploratory Systems -

for tasks "A,B,and C" (and "D" with upgrades)

Capable of everything the Introductory can do and more. These systems are easily upgraded, and are suitable for most academic, home or work applications. Great with digital cameras, burning CD's, playing DVD's. Built on Windows XP Professional.

Desktop Minimum Hardware Specs: Pentium 4, 2 GHz CPU, 512MB RAM (memory), 80 GB Hard Drive, CD Burner DVD Reader. Ports: 10/100 network, 2 USB, 1 parallel, 1 serial, 1 AGP 4/8X, Sound (Microphone, Line-In, Sound Out), Stereo Speakers, 17" CRT Monitor, 56k Dial Up Modem, and power cables are included.
Laptop Minimum Hardware Specs: IBM Thinkpad T40 Pentium 4, 1.5 GHz Mobile CPU, 512MB RAM (memory), 80 GB Hard Drive, CD Burner DVD Reader, 56k Dial Up Modem, 14" Display. Ports: 10/100 network, USB, 1 parallel, 1 PCMCIA.
Software Provided: Internet Explorer 7, Outlook Express (email), Media Player 11, Power DVD, Nero CD Creator, Picassa digital photo organizer, The GIMP digital photo/image editing software, Windows Firewall, Avast antivirus (free home edition), Spybot Spyware removal tools, Ccleaner, Microsoft Office 2003 Standard Edition (Word, Excel, Powerpoint and Outlook). Links to PCs for MAINE support resources and Restore Disk also included.

☐ **Desktop:**   Program Fee = $315   **Options:**   ☐ 128MB Dual-Head Graphics Accelerator - add $56   ☐ Upgrade to 1 GB of RAM (memory) - add $42
                                                              ☐ Upgrade to 250 GB Hard Drive - add $56

☐ **Laptop:**   Program Fee = $505   **Options:**   ☐ Upgrade to 1 GB of RAM (memory) - add $52

Professional System -

for any task

High-end for professional computing. Built to tackle demanding programs for accounting, professional office software, graphic, web or print design*, CAD*, Dragon Naturally Speaking (speech to text) and much more. Built on Windows XP Professional.

Minimum Hardware Specs: Pentium 4, 3.2 GHz CPU, 1 GB RAM (Memory), 250GB Hard Drive, DVD/CD Burner, Ports: 10/100 network, 2 USB, 1 parallel, 1 serial, 1 PCI-E 16X, Sound (Microphone, Line-In, Sound Out), Stereo Speakers, 17" CRT Monitor, 56k Dial Up Modem, and power cables are included.
Software Provided: Internet Explorer 7, Outlook express (email), Media Player 11, Power DVD, Nero CD Creator, Picassa digital photo organizer, The GIMP digital photo/image editing software, Windows Firewall, Avast antivirus (free home edition), Spybot Spyware removal tools, Ccleaner, Microsoft Office 2003 Standard Edition (Word, Excel, Outlook and Powerpoint). Links to PCs for MAINE support resources and Restore Disk also included. *Choose video card option/upgrade for optimal performance if you plan to use these applications.

☐ **Desktop:**   Program Fee = $543   **Options:**   ☐ 256MB PCI-E Dual-Head Graphics Accelerator - add $82   ☐ Upgrade to 2GB of RAM - add $52

Pickup, Options and Fee Totals

☐ I will pickup my system in Belfast - 30 Minute Walkthrough included	FREE-RECOMMENDED	
☐ Please ship my system to my address	Add $43 to Shipping	
☐ 17" LCD Monitor (1 year manufacturers warranty. Maine state 5% sales tax included)	Add $176 to Options	
☐ 19" LCD Monitor (1 year manufacturers warranty. Maine state 5% sales tax included)	Add $218 to Options	
☐ 1 GB USB Flash Drive (Thumb Drive) recommended for all users (for backups etc...)	Add $13 to Options	
☐ EXTENDED SUPPORT SERVICE recommended for new users not in the Belfast area	Add $92 to Options	

TOTAL YOUR FEE

Program FEE: $_____.____
Scholarship Discount* = $_____.____
Options: $_____.____
Shipping: $_____.____
Total Fee Due $_____.____

* The Scholarship discount is $53.00. Scholarships are limited to "Income A" participants who do not have a sponsor.

Word to the Wise:

Special Software Discounts - Student/Teacher Evaluation Licenses - Several software companies (Adobe, AutoCAD, Microsoft) have special discount programs available for academic users. Check with a college bookstore, or a computer store to see if you are eligible before purchasing a retail copy - the savings is HUGE!

Office Software - We provide "Microsoft Office 2003 Standard" with the exploratory and professional systems. If your professor requires "Microsoft Office 2007", we recommend you look into an Academic License (above). Open Office (included with Ubuntu and Intro systems) is just as good, is free, and can open/save files in Microsoft Office format.

Office 2007 and Quickbooks Pro users - we recommend the exploratory or professional systems. For best performance, we also recommend 1GB of memory. If you can use Office 2003 instead of 2007 - you should. Office 2003 is more widely used, Microsoft donates it to the project (save $$$) and it performs better than 2007.

Dragon Naturally Speaking (accessibility tools), Adobe graphics products and CAD users - the professional systems are really what you need. These applications are very demanding. Graphics and CAD users should add optional video cards.

Our Free "Walkthrough" service - Take the time to visit us in Belfast - you'll be glad you did! We will show you how to set up your system, explain the included tools and more!

Windows VISTA, and other computers available through PCs for MAINE - We provide factory recertified and brand new Vista Desktop and Laptop computers (Primarily HP and IBM) as well, but prefer Windows XP systems for many reasons. If you have any questions about these options, just call our office.

We do not offer payment plans and strongly recommend against them. Program fees and scholarship availability subject to change without notice.

Information Technology Exchange (ITE) - PCs for MAINE project Participation Agreement

This program includes many special benefits - please read carefully!

1) GENERAL REQUIREMENTS -

These benefits are not transferable. The Information Technology Exchange, it's directors, employees, volunteers, donors and advocates are not responsible for any illegal or inappropriate use of this equipment by participants. Use of all software provided by this program is subject to the terms and conditions as set by the publishers/owners of the respective software titles.

Program fees do not represent a purchase price, only a portion of the total costs associated with this service. You may request a refund of paid program fees if the entire system is returned to ITE in it's original unaltered condition within 15 days of receipt. This refunds will reflect 75% of the program fee, and is payable to the original payor. Shipping costs and optional labor costs cannot be refunded.

PCs for MAINE systems' include a "recycling coupon" that may be used to recycle PCs for MAINE systems upon the end of their usefulness. These coupons are only good when redeemed at an ITE or partner facility and are not redeemable for cash or credit.

2) LIMITED HARDWARE WARRANTY -

ITE warranties desktop hardware for 6 months and laptop hardware for 30 days under these conditions:

Computer hardware refers to the tangible parts of a computer - we do not warranty software;

Improper use or repairs of equipment not performed by ITE staff voids this warranty;

The Warranty term begins on the date a system is ready for pickup or ships from ITE's technical center;

Participants are responsible for the return and pickup of faulty hardware to and from ITE's Belfast technical center;

ITE may at its discretion replace faulty systems or parts rather than repair them;

Laptop batteries are not guaranteed unless provided to you as "new" (manufacturer warranty would apply);

It is your responsibility to backup personal data and record your system settings before receiving service - ITE is not responsible for data loss or for the reconfiguring of personalized system settings;

ITE is not responsible for downloading or reorganizing backup information into your replacement or repaired system;

PCs for MAINE systems contain many new parts that are under manufacturer warranty - some of these warranties are 3 year!

3) TECHNICAL & SOFTWARE SUPPORT POLICY -

Telephone Support is available when you call (207) 338 0274 and is limited to initial set-up questions and confirmation of hardware failures - e.g. "my system won't boot" or "the restore disk did not fix my computer". If our technician cannot correct the problem over the phone, he/she will tell you what part(s) to return for repair.

If your system must be shipped for repair use the original packing materials and ensure that the equipment cannot move within the package. Send only the faulty part unless directed otherwise. Enclose your name and address with a $16.00 check or money order payable to ITE ($16 per box) for return shipping costs. You can also bring your system to our Belfast facility weekdays between 9am and 5pm, and if you call ahead, most repairs can be performed on a "while you wait" basis. Minor repairs only take 30 minutes to 2 hours. Major repairs average 1 to 3 weekdays.

ITE provides software support for one year. This support is limited to the programs provided with your PCs for MAINE system. This support is to ensure the usability of your "system restore" technology. In the event your operating system should become corrupt or otherwise inoperable, you can restore your system's software to it's original state using the "Restore CD" that was provided with your system.

Software and hardware questions via email to: support@infotechexchange.org are also encouraged. Many questions are quickly answered with a visit to our Q&A and Forums areas in our website: www.pcsformaine.org, or stop by ITE's Belfast facility to get answers in person - these services are also free for participants.

For repairs not covered by this policy or warranty, nominal parts, labor and return shipping fees will apply and be due at time of pickup or before return shipping.

3) EXTENDED SUPPORT OPTION -

This option provides for one year, a "Get out of Mail (charges) FREE card" which includes 2 way pre-paid shipping for one box containing equipment that needs hardware service, one 60 minute block of direct phone support (useable weekdays from 9am to 5pm, no refunds for unused portions), and free repair labor for hardware parts replacement (out of warranty parts costs not included) for failures due to normal wear and tear. This special option is void should someone other than ITE staff service the equipment.

4) SYSTEM DELIVERY-

Most system requests are ready within 2 business days from the date we process your application. Systems requiring upgrades or options are ready within 4 business days. If you chose the "Ship my system to my home" in the delivery options, we use UPS and Federal Express, and in-state deliveries usually take another 1 or 2 days.

5) PARTICIPATION IN ITE "OUTCOME STUDIES" -

This program has been developed by participants, educators, career skills developers, foundations and many other contributors. The quality of service provided by this exceptional program is largely due to our constant anaysis of how it helps people acheive their goals, and what improvements might be needed to make it even better. Our staff will contact you 30 days after you receive your system to ask a few short questions and to make sure that your system is working properly. About 180 days after you received your system, we will call and ask you how you are progressing toward your goals, etc... These calls only take 5-10 minutes.

I have read and agree to these terms, and have answered all questions truthfully.

_____ On _____

Applicant Signature   Date   .

Mail this form (completed and signed), the appropriate fee (check, money order or state voucher payable to ITE), and proof of income to ITE, PO Box 589, Searsport, Maine 04974. **Incomplete applications cannot be processed!**

What is Broadband?

To evaluate the status of and set metrics for broadband deployment in California, the CBTF developed a working definition of broadband.

- Broadband is defined by the ability to perform online applications at a reasonable performance level for the end user.
- Broadband is a range of speeds and will evolve over time as applications and needs change. It is a summation of the downstream data rate (transmission to the user) and upstream data rate (transmission from the user).
- The ratio of the downstream and upstream must be a minimum of 10:1 (the ratio of the downstream and upstream data rates can increase from 10:1 to a fully symmetrical 1:1).
- Broadband must have the capability to be always on, and have a sustainable steady state data rate.
- Burst-able speeds provide benefit to users, but should not be considered in the same manner as steady data rates.
- The minimum speed required to use the most basic of broadband-enabled applications is 512 kbps, and this minimum data rate is expected to increase over time.
- An increasing scale that continues to differentiate within speed tiers allows stakeholders to measure specific broadband availability over time.

Upstream and Downstream Speed Range	Applications
500 kbps - 1 Mbps	Voice over IP SMS Basic Email Web Browsing (simple sites) Streaming Music (caching) Low Quality Video (highly compressed)
1 Mbps - 5 Mbps	Web Browsing (complex sites) Email (larger size attachments) Remote Surveillance IPTV-SD (1-3 channels) File Sharing (small/medium) Telecommuting (ordinary) Digital broadcast video (1 channel) Streaming Music
5 Mbps - 10 Mbps	Telecommuting (converged services) File Sharing (large) IPTV-SD (multiple channels) Switched Digital Video Video on Demand SD Broadcast SD Video Video Streaming (2-3 channels) HD Video Downloading Low Definition Telepresence Gaming Medical File Sharing (basic) Remote Diagnosis (basic) Remote Education Building Control & Management
10 Mbps - 100 Mbps	Telemedicine Educational Services Broadcast Video SD and some HD IPTV-HD Gaming (complex) Telecommuting (high quality video) High Quality Telepresence HD Surveillance Smart/Intelligent Building Control
100 Mbps - 1 Gbps	HD Telemedicine Multiple Educational Services Broadcast Video full HD Full IPTV Channel Support Video on Demand HD Gaming (immersion) Remote Server Services for Telecommuting
1 Gbps - 10 Gbps	Research Applications Telepresence using uncompressed high definition video streams Live event digital cinema streaming Telemedicine remote control of scientific/medical instruments Interactive remote visualization and virtual reality Movement of terabyte datasets Remote supercomputing

"Final Report fo the California Broadband Task Force" - January 2008, page 12.

GLOSSARY

BPL (broadband over power lines), a technique for delivering high-speed Internet access over electrical power lines, with the ability to use house wiring to connect to computers.

Broadband, an elastic term describing high-bandwidth, two-way, always-on data connections. The wider the pipe, the more data can be moved at the same time and hence the higher the effective speed. The FCC now defines any connection greater than 200 kilobytes per second in the faster direction but less than 768 kbps as "first generation" data. The FCC now has seven broadband tiers with "basic broadband tier 1" referring to services equal to or greater than 768 kbps but less than 1.5 Mbps in the faster direction. A typical home user broadband connection today usually is 512 kbps upstream and 2-7 Mbps downstream. In a few years, those numbers are likely to be significantly higher. The term "broadband" is often used as shorthand for "high-speed Internet access."

business user, a user in a business setting constituting a broad "middle class" in terms of bandwidth, reliability, and security needs. See also *home user, enterprise user.*

cable internet, a means of delivering broadband via coaxial cables, almost always simultaneously with cable television service.

Central Office (CO), a switching station maintained by an ILEC where DSLAMs are generally deployed and from which the maximum range of DSL service (reckoned in "circuit feet," distances over twisted-pair copper lines, not "as the crow flies") can be determined.

CLEC, Competitive Local Exchange Carrier.

DS3, a fiber-based digital signal carrier with a rate of 44.736 Mbps.

DSL, digital subscriber line. There are many subtypes of DSL (VDSL, HDSL, etc.) of varying speed, range, and technical characteristics.

DSLAM, digital subscriber access multiplexer.

enterprise user, the most demanding, industrial strength broadband consumer that usually represents large, technology-intensive organizations.

fixed wireless, a non-mobile method of delivering broadband service.

FTTH/FTTP, fiber to the premises, home, et al. a method of connectivity using fiber optic cabling.

home user, the class of broadband consumer with the least demanding broadband needs but which also faces total unavailability of service in many areas.

ILEC, Incumbent Local Exchange Carrier.

ISP, internet service provider.

last mile, a term for the most remote and sparsely populated areas that are among the most challenging to provide with broadband, also known as the "local loop" for telecommunications services that makes the final connection to the premises.

municipal network, a broadband network owned and operated by a city or town, often by lease arrangement with an ILEC/CLEC. The right of Maine communities to establish these networks was reaffirmed by the State Legislature.

Narrowband, low-speed data connections (such as dialup Internet access, which tops out at 56kbps and is generally even lower in real-world applications).

OCx, Optical Carrier service provided over fiber optic cable

PON (passive optical networking), a family of networking standards using a point-to-multi-point architecture for delivering last-mile connectivity without any active (i.e., powered) components in the distribution network. PON may provide hope for a last-mile solution because it involves fewer upgrades to the current infrastructure than competing technologies.

Remote Terminal, a remote switching station, or "sub-station" maintained by an ILEC where DSLAMs are generally deployed and from which the maximum range of DSL service (reckoned in "circuit feet," distances over twisted-pair copper lines, not "as the crow flies") can be determined.

symmetrical/asymmetrical, describes whether a data connection operates at the same speed or bandwidth when traveling upstream as it does when traveling downstream. A symmetrical connection is the same speed up or down; an asymmetrical connection is usually slower on the upload than on the download.

synchronous/asynchronous, describes whether a communications stream is completely continuous (synchronous), or can occur at any time and at irregular intervals (asynchronous). Most connections between computers, including those connected via broadband, are asynchronous.

T-1, trunk level digital carrier, originally provided over copper facilities, with a signaling speed of 1.544 Mbps.

take rate or penetration rate or adoption rate, a measure of the ratio of potential subscribers to whom service is available to those who actually sign up for that service.

triple play, the application of broadband that delivers voice, data, and video service over the same transport pipe.

WiFi (wireless fidelity), a form of wireless networking in the IEEE 802.11x family of standards that is generally used for connectivity of wireless large-area networks (WLANs) inside buildings and small outdoor areas, but which has shown remarkable usefulness as a way of providing high-speed Internet over wider distances via towers, high-gain antennae, and mesh-network technologies that significant exceeds what WiFi was originally intended to do.

WiMAX (Wireless Interoperability for Microwave Access), an emerging form of fixed wireless broadband access in the IEEE 802.16x family of standards. The licensed version has a theoretical range and distance of up to 30 miles and 50Mbps or higher but is only available to the larger carriers. WiMAX is able to overcome some of the topographical issues faced by other forms of wireless broadband.

WISP, wireless internet service provider.