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# Transmittal Letter

November 1, 2010

Ms. Beverly Straneva, Connectivity Consortium Coordinator
Southwestern New Hampshire Educational Support Center
c/o Keene State College
229 Main Street
Keene, NH 03435

Re: ENA Services, LLC/Education Networks of America, Inc. ("ENA")
Proposal Response to **New Hampshire K-12 Schools Connectivity Consortium Request for Proposals for Internet Access and Additional Services**

Dear Ms. Straneva,

As a certified telecommunications provider and a leading provider of E-Rate eligible services since the inception of the program, ENA is excited about the opportunity to offer the New Hampshire K-12 Schools Connectivity Consortium (the "Consortium") a turn-key, innovative solution that will help you build your Consortium with strong participation from school districts statewide. We are confident, if selected as your service provider, that together we will represent significant value to the member participants and provide essential flexibility and scalability for their future growth.

ENA's experience and service to K-12 schools distinguishes the value of its offerings and Proposal Response from others that the Consortium will review. We have successfully implemented and supported the services requested in this RFP since 1998 under contracts with multiple state departments of education, statewide consortiums, and hundreds of school systems across the country. We trust that the enclosed Proposal Response demonstrates our superior capabilities along with our passion for customer excellence in everything we do. ENA is committed to providing outstanding service and technology solutions in support of each and every Consortium participant's needs. We believe no other vendor can match ENA's years of dedication, experience and proven, successful track record.

We have partnered with FairPoint as our principal backbone and last mile carrier in our Proposal Response. FairPoint has built an impressive network in the northeast (called *Vantage Point*) which allows for ubiquitous and cost-effective Ethernet service within their statewide service territory. In addition to FairPoint, ENA may engage a variety of backbone and last mile providers including Comcast, the University System of New Hampshire's Network New Hampshire Now project and others as necessary to ensure that we can deliver cost-effective, timely and high-speed broadband service for New Hampshire's school districts. It is important to note that while ENA will engage a variety of infrastructure service providers in our delivery, ENA is **always** your single point of contact and accountability for delivering reliable, robust service with the highest level of customer care and support. With ENA, participating Consortium school districts will receive improved service at every level.

ENA's solutions are truly ***turn-key***. Our managed service approach offers one of the most comprehensive bundled service offering available to K-12 customers today, and is designed to lower overall costs while maximizing funding opportunities. All qualifying as Priority 1 E-Rate eligible services, ENA's solutions are particularly attractive to districts in New Hampshire who typically are not eligible for many Priority 2 services (Internal Connections).

ENA understands the importance of keeping pace with the rapid change in technology today. ENA's managed service approach is ***technology-neutral*** – as new technologies become available and offer increased capacities or lower costs, the Consortium will have opportunities to take advantage of these enhancements throughout the life of the service contract as opposed to being locked into a single technology for the duration of any given contract.

Flexibility is also critical as service requirements change over time. ENA understands that school districts need the ability to increase service to accommodate growth without incurring large upfront expenditures as well as potentially decrease service without bearing the cost of an asset that no longer provides value to the district. ENA's managed service offers the most cost-effective and flexible way to meet the Consortium's long-term connectivity and communication requirements as they change over time.

Finally, ENA realizes how critically important it is to work closely with the many school districts that we serve to assist them in meeting their educational objectives. We understand that raising student achievement as well as progressing systemic technology integration are important priorities for the Consortium and its participating members. If selected as your chosen service provider, our managed solutions will allow district resources to focus more time on these important objectives. **When ENA is in place as the provider of the network platform, schools find they can focus on what they do best – preparing students to succeed in school, work, and life in the 21st century.**

The principal contact for ENA's Proposal Response is: Oliver Landow, National Customer Services Director; Phone: (866) 615-1101 x 9100; Fax: (615) 312-6099; E-mail: olandow@ena.com

We look forward to working with and serving the Consortium and its participating school districts in the State of New Hampshire to implement the solution and services we have proposed. Please do not hesitate to contact Oliver Landow or me if you have any questions concerning ENA's Proposal Response.

Sincerely,

Robert M. Collie, III
Senior Vice President and CTO

## Project Understanding

ENA understands that the Consortium is seeking bids for a managed network service provider capable of providing Internet service for all approved New Hampshire public and private K-12 schools for the primary purpose of maximizing E-Rate funding.

ENA is a national leader in providing comprehensive managed network services that are specifically designed to support K-12 schools systems while maximizing E-Rate. Our managed service approach is described in detail throughout our Proposal Response. In addition, our service delivery is designed to address the challenges faced by school districts – especially as districts are asked to "do more with less."

**With ENA, the Consortium participants will receive the following additional benefits:**

- Comprehensive, improved and equitable connectivity service statewide
- The ability to meet increased demands for high-speed connectivity services
- E-Rate Filing management saving all districts time and money
- Multi-year contract and purchasing agreement eliminating the arduous task of individual districts conducting a procurement process further saving time and personnel resources
- Flexible funding and local control for districts to decide their level of service
- Scalability to ensure services provided are future-proof
- Improved safety and security ENA's statewide network backbone delivered in partnership with our subcontractor FairPoint using their Vantage Point network

The approach the Consortium is taking will allow all of its participants to take advantage of a single procurement, contract and filing process that will deliver all of the service delivery requirements and expected benefits.

ENA also understands New Hampshire's schools are located across diverse rural and urban geographies and we recognize the challenge this presents in providing equitable opportunities for all of New Hampshire's students. One of the fundamental elements of ENA's service delivery model is to enable equity of access to all students, regardless of their geographic location. Our proven approach combines the infrastructure of multiple carriers with ENA's expertise, resources and education-focused service and support to assist each Consortium participant in achieving its academic and operational goals. Based on their statewide reach, we have teamed with FairPoint as our principal last mile and backbone carrier in New Hampshire. FairPoint's newly-implemented Vantage Point network provides ubiquitous Ethernet-based access throughout their service territory in New Hampshire and we believe that this will allow us to offer a scalable, flexible and cost-effective solution for the Consortium. While we have entered into a formal agreement with FairPoint related to this Proposal Response due to their extensive and impressive coverage in the State, our agreement with FairPoint does not limit our ability to work with other infrastructure and service providers in New Hampshire should they have better pricing or service availability for a specific school or district office.

ENA understands through our extensive work with school systems in five other states that no one underlying infrastructure provider can meet the needs of an entire state of independent and geographically diverse school systems. In our solutions in other states, we have leveraged infrastructure from traditional telephone companies, dedicated fiber-based infrastructure from cable providers, municipal networks from local utility providers and consortiums as well as grant-funded networks under the recent Broadband Stimulus programs (BTOP and BIP). We have been in contact with the University System of New Hampshire (USNH) for the past two years and are well aware of their award and plans; where possible, ENA will work with USNH to incorporate their infrastructure into our service arrangements. ENA's service approach of leveraging existing infrastructure from a variety of carriers based on service and price enables us to provide scalable service across the entire state while **we serve as the single point of contact to manage and resolve all issues related to the network.**

A real-world example of our commitment to leveraging the best infrastructure provider in each service area is demonstrated by the enhanced bandwidth services we have delivered to the Scott County School System in rural Appalachia. ENA was able to bring high-speed Internet service to this school system enabling distance learning and other instructional benefits that resulted in improved educational outcomes and a cost savings of $45 per student. A complete copy of the white paper showcasing Scott County's ingenuity and innovation using broadband is available at: http://www.ena.com/Newsletters_Publications/white_papers.aspx.

New Hampshire's schools deserve and require a technology partner with a keen understanding of the unique connectivity and technology requirements of schools in the 21st century. Schools will benefit from a flexible service delivery model that can keep pace with inevitable growth and change. **ENA is that partner.** With a singular focus on providing networking and technology solutions in support of teaching and learning, ENA has the skills, experience and capacity to meet and exceed all requirements in this RFP. It is our focus on education, customer service, and our deep commitment to excellence which greatly differentiate us in an increasingly competitive marketplace.

## *Why Select ENA's Managed Service Solution*

Utilizing ENA's managed service solution is similar to hiring a general contractor to build your house and, once built, having an expert around to keep everything running smoothly and reliably. We are the single service provider responsible for delivering a reliable network in support of the variety of applications and technologies deployed throughout the state or district. The promise of ENA's complete turn-key managed network and security services offering is that it encompasses the provisioning, installation and on-going maintenance of all circuits and network and security equipment/hardware. Our solution includes network design, 24x7x365 pro-active monitoring, maintenance and support, security, performance evaluation, and E-Rate filing assistance – **all delivered utilizing Priority 1 E-Rate service.** With ENA's managed services, Consortium participate personnel only need to contact one phone number (ENA's) to request new services or to resolve any and all issues related to network connectivity. As part of this singular attention to customer service, ENA continually evaluates all aspects of our service

and updates or replaces any component that needs attention, including ENA-owned equipment as required in order for all components to perform optimally.

## *Managed Services Leverage E-Rate Funding*

The following graphic illustrates how ENA's managed service fully utilizes E-Rate funding to cover more network and security costs versus a piecemeal approach of purchasing individual products and services. In the piecemeal approach, equipment and maintenance are only covered under Priority 2 (assuming those funds are available and the district qualifies for them) and network operation centers, monitoring and field service have, to date, never been E-Rate eligible when provided utilizing district resources. However, in the managed service approach all of these services bundled together qualify for Priority 1 E-Rate funding. This typically is a substantial cost savings for districts.


**Figure 1: Managed Service Approach Versus Piecemeal**

Additionally, as demand for Priority 1 services increases, Priority 2 funding is diminishing. Over the last 10 years, the disbursement for Internet Access and Telecommunication Services (both Priority 1) have gone steadily up – leaving less availability for Internal Connections (Priority 2). The 2009 Government Accountability Office (GAO) Telecommunications Report documented that at some very near future point, the applications for Priority 1 funding will fully consume the available E-Rate funding leaving no funds left for Priority 2 requirements. School districts that rely on Priority 2 funding will be adversely affected.

## *ENA's Solution Leverages FairPoint's Impressive Vantage Point Network*

Designed from the ground up, the FairPoint Vantage Point network is a highly scalable network that provides the foundation for collaboration between users in New Hampshire regardless of geography. Participating Consortium members will receive an Ethernet hand-off for access to ENA's managed service offerings. Our network will provide any-to-any connectivity, and not limit customers to a rigid point-to-point or hub-and-spoke architecture. No other provider in New Hampshire can offer the scalability, flexibility, and resiliency over an IP/MPLS backbone, and do so over the most expansive fiber optic network in the Northeast.

## *Quantifying the Potential Cost Savings*

ENA's Priority 1 E-Rate eligible managed service approach has been recognized as one of the most effective ways to maximize and utilize E-Rate funds. We have a solid 14-year track record for success under the program (securing over $350 million in E-Rate funding approvals for our clients). Additionally, ENA has the ability to leverage our much larger, multi-state volume purchasing relationship with telecommunications carriers to bring forward much more advantageous terms, pricing and upgrade opportunities throughout the life of our service than would typically be available to a single School Administrative Unit (SAU)/district, or state.

## *Qualitative Benefits of a Managed Service*

Many service providers claim to offer a "managed service," but **with ENA, managed service means full service**. Our solutions are education-specific, built from the ground up to meet the needs of education, because schools and libraries are the only community we serve. We understand the unique technology challenges that must be addressed to enable the delivery of 21st century education.

Compare ENA's managed service offering with traditional telecommunications and Internet service providers and you will quickly understand why ENA's solutions offer more value to Consortium participants.

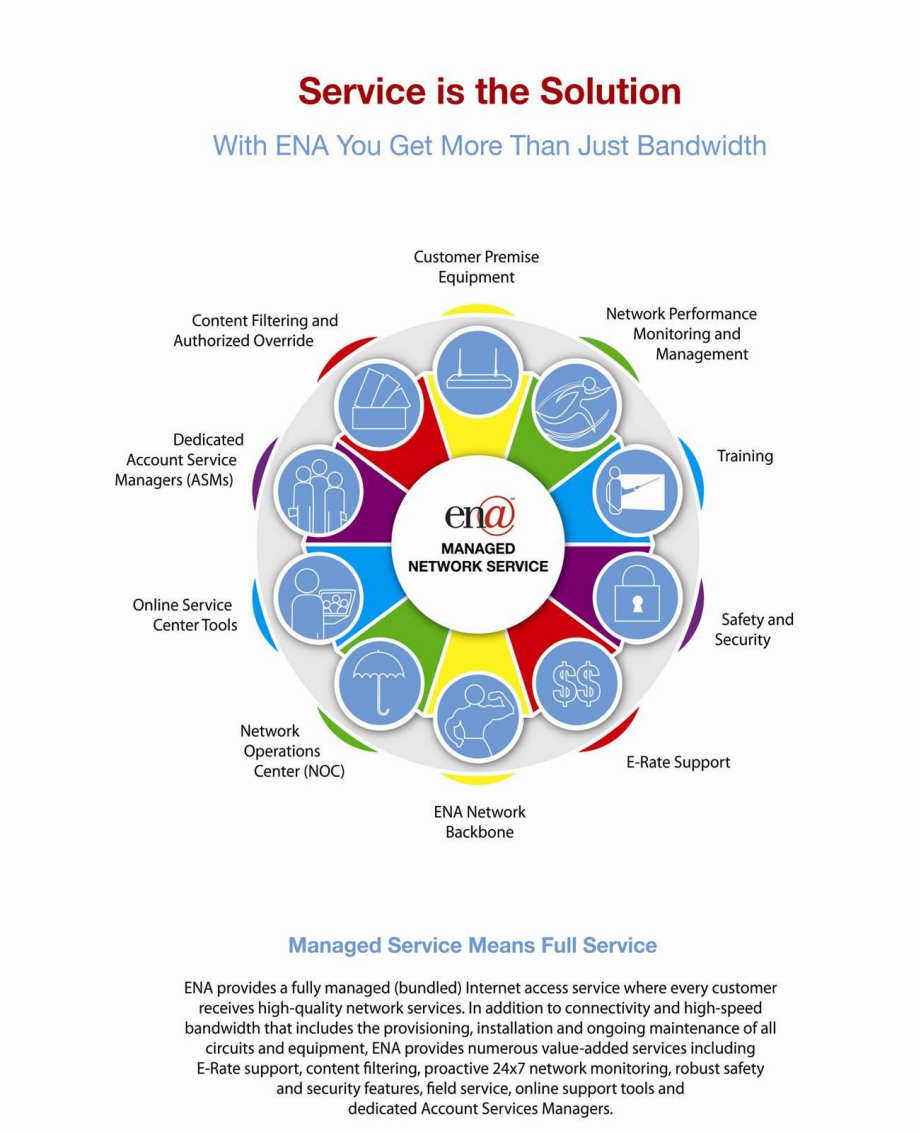


**Figure 2: Managed Service Means Full Service**

## *Key Considerations for ENA's Managed Service Approach*

We are not a typical service provider – we consider ourselves ***your partner in education***. ENA believes that our customer service, vision, experience, demonstrated performance, innovation and extensive optional services are the key differentiators that distinguish us from other service providers. Throughout this Proposal Response we have provided concrete examples of our excellent service history, capability to support K-12 schools and evidence of successful long-term partnerships with statewide consortiums as well as with hundreds of individual school districts. As you evaluate this response, we encourage you to consider the following unique benefits of ENA's managed service proposal:

- **Financial Advantages.** The managed network service model has a history of providing cost-effective solutions as much as 50% lower than piecemeal solutions and maximizing the use of federal E-Rate funds. Our managed service typically delivers enhanced service with improved Total Cost of Ownership (TCO). **Benefit – Do More With Less**

- **E-Rate Experience and Expertise.** ENA is one of the top 10 national E-Rate service providers. As allowable, we assist you with every step of the E-Rate process, providing ongoing guidance, training and support to ensure compliance with all E-Rate regulations. **Benefit – Maximize Your Share of E-Rate Dollars**

- **Single Point of Accountability.** A managed service provides the ability to leverage existing infrastructure as well as services and technology from multiple telecommunications and other service providers while maintaining a single point of contact to manage and resolve all issues related to the network. **Benefit – Save Time and Money**

- **Continuous Technology Improvement**. ENA supplies, configures, installs, manages, maintains and monitors all circuits, security and related on-site equipment for the life of your contract with ENA. As new technologies become available at lower costs, a managed network service allows school districts to take advantage of these enhancements throughout the life of the service as opposed to being locked into a single technology for the duration of any given contract. **Benefit – Equipment Headaches and Significant Cap-Ex are Eliminated**

- **Emphasis on Safety and Security.** Our multi-level, integrated security approach incorporates fully hosted firewall services, customizable Child Internet Protection Act (CIPA) and First Amendment compliant content filtering, and application-level filters to contain any virus outbreaks and other vulnerabilities that might affect either your local area network or the overall health of the network. **Benefit – Peace of Mind**

- **Personalized, Dedicated Account Service.** Every ENA customer is assigned an Account Service Manager (ASM) who builds a trusted relationship with you and your team and works to maintain an understanding of your unique goals and needs. **Benefit – We're There When You Need Us AND When You Don't**

- **24x7x365 Monitoring and Proactive Notification.** All calls to the ENA Network Operations Center (NOC) are answered by a live person in the U.S. with experience in education, network operations and problem resolution. With our proactive network and security monitoring tools, ENA is able to contact our customers in advance of their call to alert them of a service issue over 90% of the time. **Benefit – ENA Has You Covered**

- **Comprehensive and Full Service Support Capability.** The network management expertise needed to meet the performance levels required in today's K-12 network environment puts an unnecessary burden on valuable district resources. The managed service model helps to remove this burden. **Benefit – Focus District Resources on Higher Priorities**

- **ENA's Internet Access Network Backbone.** The ENA network is a private, secure regional network that exchanges traffic with multiple global carriers, connects to multiple Internet peering points and to research and education networks such as Internet2 as well. **Benefit – Connecting You to the Future**

- **Beyond Bandwidth.** ENA is constantly developing and bringing to our customers innovative products and services such as voice and video-conferencing solutions among others. Over our service history, we have developed and deployed products and services to meet the changing needs of our customers. **Benefit – Innovation and Efficiency**

## *Results that Matter*

At the end of the day, we know that it is measurable results and improved outcomes that really matter. ENA's service history and demonstrated performance have resulted in the following key performance indicators:

1. **Consortium Customer Participation**
    a. Idaho - we secured 98% participation in the first statewide consortium within the first month and have improved participation in the consortium each subsequent year.
    b. Indiana - we have established a 93% school corporation (district) participation rate.
    c. Tennessee - over 13 years we have served over 90% of the school districts on average.

2. **E-Rate Success**
    a. We have increased E-Rate funding significantly for the states we serve:
        - Tennessee Schools have grown 92% since 1999
        - Indiana Schools have grown 164% since 2005
        - Indiana Libraries have grown 99% since 2006
    b. ENA has more than a 99% success rate obtaining needed E-Rate funds with its customers.
    c. ENA is one of the top-10 national E-Rate service providers in terms of both our success with the program and securing critical funding for our customers.
3. **Increased Service and Cost-Effectiveness**
    a. Since 2005 ENA has been able to increase the total Internet access available to Indiana schools by over 700% while simultaneously cutting the overall price of capacity to less than one fifth of what it was when we began to provide service.
4. **Customer Satisfaction**
    a. In multiple customer satisfaction surveys, the results demonstrate:
        - 100% of respondents were satisfied with ENA's network performance
        - 100% of ENA customers would recommend ENA to others
    b. ENA has established a high-degree of customer retention and longevity in working with customers, many over 13 years.

**These results allow us to speak confidently about our ability to successfully deliver the services requested by this RFP.**

# I. Required Elements

**All responses should describe how the managed service provider will deliver services in an effective and timely manner to facilitate school access to the Internet:**

**1. Bidder will provide complete contact and background information on its organization, with evidence of high quality service, such as customer satisfaction surveys, and client references.**

## *Contact Information*

The primary ENA contact person for the Consortium is:

**Oliver Landow**
**National Customer Services Director**
Phone: (443) 364-9100
Cell: (443) 326-7240
E-mail: olandow@ena.com

## *Background and Unique Qualifications*

***"Our technology solutions make reaching and using valuable information as easy and reliable as turning on the lights."***

ENA was founded in 1996 and for fourteen years has been serving the K-12 education community with managed district-wide and statewide networks and communication solutions as well as instructional and productivity tools. ENA believes that a network is much more than just hardware and software. It's about connecting people so reaching and using valuable information is as easy and reliable as turning on the lights. That is our mission, and it reflects our commitment to providing trouble-free, reliable connectivity and telecommunication services. We have established an excellent reputation as experts in the design, deployment and operation of broadly distributed networks and have a strong history of delivering reliable, scalable, safe and cost-effective network-based services including voice, data and video to K-12 schools and libraries. ENA is a pioneer in network-based services for K-12 schools and our experience includes unmatched levels of success in the E-Rate funding program.

Since its inception, ENA has provided connectivity and communication services along with instructional and productivity services to the education community. ENA's services have evolved into a comprehensive, managed network service offering that includes: connectivity for Internet, voice, data and video, end site equipment, network monitoring and management, content filtering, e-mail services, caching and firewall services, e-mail archiving services as well as instructional and productivity tools.

ENA is managed by experienced technology professionals who ensure ENA remains on the cutting edge of technology service providers for the K-12 community.

**ENA currently connects over 5,160 end sites including 560 school districts and 253 libraries that serve over 2.6 million students, teachers and administrators, as well as more than 6.2 million library patrons.**

## *Company Organization*

ENA consists of ENA Services, LLC, a licensed telecommunications company qualified to provide Internet Access and Telecommunication Services for E-Rate purposes, and its parent company Education Networks of America, Inc., which owns 100 percent of ENA Services, LLC. The company has been in business for 14 years successfully delivering services of the type and scope requested by this RFP.

Education Networks of America, Inc. is a C corporation incorporated December 17, 1999, in the State of Delaware. Prior to incorporation, ENA was a LLC formed in 1996.

ENA Services, LLC is the respondent of record for this Proposal Response and subsequent contract and should be the named vendor on E-Rate filings. ENA Services, LLC is a Limited Liability Company formed January 26, 2006, in the State of Delaware.

## *Financial Strength and Stability*

**ENA is a financially responsible and stable company with a strong balance sheet and favorable operating results, ensuring ENA's long-term financial viability and financial strength to perform the required services of this RFP**. ENA has a $20 million surety bond facility with Travelers Casualty and Surety Company of America. ENA has no long-term debt outstanding and has over $27.5 million in financial liquidity and other financial resources to support services to our customers, including the Consortium.

ENA can provide the 2008-2009 and 2007-2008 consolidated audited financials of Education Networks of America, Inc. and its subsidiary, ENA Services, LLC upon request.

## *Experience in Delivering Managed Internet Services*

ENA's entire business is dedicated to serving the connectivity and communication needs of schools and libraries across the nation. We do not offer generic services that can be adapted to an education environment, but instead we design our services to specifically meet the needs of education. For 14 years we have provided managed network and telecommunication services to support and enhance

technology-enabled education. We understand the business and mission of education and all of ENA's solutions are designed to allow for maximum flexibility while minimizing the burden on schools' administrative and technical resources. ENA's managed Internet service approach was featured as a best practices model for school districts in the State Educational Technology Directors Association's (SETDA) report on the importance of bandwidth in education titled *"High-Speed Broadband Access for All Kids: Breaking Through the Barriers."* We have included a hard copy of the report in **Appendix 1**.

ENA's understanding of the needs of K-12 schools always begins with the teachers and students. Our technical solutions are designed to work for non-technical people who have limited access to technical support and no time to learn new and complicated procedures. Our support services are designed with sensitivity to the importance of eliminating anything that could disrupt or reduce valuable time in the classroom.

## *Statewide Network Service History*

ENA's experience in serving statewide networks includes a **strong service history of providing superior, cost-effective opt-in statewide solutions in several states** as described below:

- **Tennessee Consortium K-12 Network** - In 1996, ENA created one of the first statewide K-12 networks in the country connecting all schools and school districts in the State of Tennessee, making Tennessee a model for the nation. Since 1996, the ENA network in Tennessee has continued to grow and now serves 107 school districts in the state under the Greeneville City Schools Statewide Consortium.

- **Indiana Statewide K-12 Network** - In 2005, ENA was selected as the managed Internet service provider by the Indiana Department of Education (IDOE) for the K-12 school corporations (districts) across the State of Indiana. This contract required a transition of approximately 580 existing circuits (ranging from single and multiple T-1s to 1 Gbps at each location) at over 300 school corporation sites prior to the start of the 2005-2006 school year. The network transition was completed successfully within three months and with school corporations experiencing virtually no downtime. Our dedicated account team works with each school corporation to understand and plan for their higher bandwidth needs and works with local fiber providers to secure and deploy cost-effective alternatives to upgrade the network over time in support of Indiana's statewide educational initiatives. ENA proactively reinvests in the statewide network to constantly increase its capacity and value to the IDOE and its Consortium participants. This statewide service contract was re-bid in 2009 and ENA was deemed the successful respondent and awarded the new contract.

- **Indiana Statewide Library Network** - In 2006, ENA was awarded the Indiana State Library (ISL) statewide network contract to provide managed Internet services to public libraries across the state. This contract required a transition of approximately 200 existing circuits at 170 sites. The library network transition was also completed successfully in a three-month period with local libraries experiencing no down-time. ENA also worked with the ISL to implement a statewide content filtering solution to enable libraries, on an opt-in basis, to comply with the Children's Internet Protection Act (CIPA) regulations and thus take advantage of E-Rate funding. This statewide service contract was re-bid in 2009 and ENA was deemed the successful respondent and awarded the new contract.

- **Idaho Education Network** – In 2009, the Idaho Department of Administration, Office of the Chief Information Officer (OCIO) selected ENA as the named E-Rate service provider for the Idaho Education Network (IEN) based on ENA's extensive experience in providing similar services throughout the country. The State of Idaho actively pursued a service provider that could meet the unique needs of K-12 schools and library customers. ENA's role is to design, provision, install and provide ongoing support for all components of the service, which includes Internet services, wide area data transport and video services (interactive and streaming). In addition, ENA provides extensive support to the State and the individual school districts for the State Consortium E-Rate application and the districts' individual applications.

As demonstrated above, ENA has the qualifications, experience and infrastructure to deliver the statewide services sought in this RFP.

## *Exemplary Customer Service and Support*

What truly sets ENA apart from any other company or solution the Consortium will evaluate is our demonstrated track record of providing exemplary customer service. The best indicators of our success are the positive feedback we receive on an ongoing basis from our customers and the extremely high levels of customer loyalty and customer retention we have achieved.

ENA collects customer satisfaction data in the form of surveys and grade reports. The results of our most recent survey, conducted across our entire base of education customers, are similar to the results we have achieved consistently over the last several years—**100% of the respondents were satisfied with ENA's services and would recommend ENA to others.**

We have established long-term relationships (in many cases exceeding 13 years) with our customers because they view our value-added relationship as a long-term partnership. ENA makes a committed effort to earn our customers' recurring business year after year. **We understand the needs of schools and we are confident that the Consortium will benefit from the long-term business relationship and superior level of customer care you will receive.**

## *Dedicated Account Service Managers*

Each participating Consortium member will have an assigned Account Service Manager (ASM) to act as the single point of contact to own and manage the overall customer relationship. It is the ASM's responsibility to establish a communications plan, to schedule and conduct regular onsite account review meetings, and ensure customer satisfaction.

> ***"Our (account manager) is fabulous! He is always quick to assist every time we have a need. Every tech that I have ever worked with at ENA is helpful and extremely knowledgeable."***
>
> Tamra Ranard, Director of Technology
> Richland-Bean Blossom Community Schools

The ASM represents each district and network participant's interests to ensure continuous improvements in ENA's product offerings and network effectiveness. The ASM is also responsible for taking the lead in the strategic planning process and engaging the appropriate team members in any customer strategic planning activities and discussions to make certain all current and future needs are met.

## *Personnel Resources*

ENA is led by individuals with a deep understanding of, experience in, and commitment to schools, libraries and technology. Our entire company is dedicated to the common goal of providing

extraordinary customer service in turn-key connectivity solutions and we are dedicated to delivering services as those requested in this RFP.

ENA currently employs 82 highly qualified and technically skilled professionals. We provide extensive project management and customer support teams that deliver service excellence to our customers. Because ENA is focused on serving schools and libraries, each member of our team has extensive experience delivering quality services to those customers.

ENA's services are supported by a broad base of highly skilled ENA employees who are dedicated to network support and superior performance in a number of disciplines. **ENA's Engineering team holds several industry certifications including Microsoft MCSE and MCSA, RedHat RHCE, Cisco CCNA, CCIP, CCNP and CCIE, and Linux LPIC-2**.

ENA employees hold a total of 53 advanced technical certifications as listed in the following table:

**ENA's Advanced Technical Certifications**

| Technical Certification | |
|---|---|
| A+ | 2 |
| Certified C++ Developer | 1 |
| Certified Java Developer | 1 |
| Certified ScrumMaster (CSM) | 1 |
| Cisco Certified Network Associate (CCNA) | 9 |
| Cisco Certified Network Associate Voice (CCNA - Voice) | 1 |
| Cisco Certified Network Professional (CCNP) | 4 |
| Cisco Certified Internetwork Professional (CCIP) | 1 |
| Cisco Certified Internetwork Expert (CCIE) | 1 |
| Citrix Certified Administrator (CCA) | 2 |
| HDI Support Center Analyst | 7 |
| HDI Support Center Director | 1 |
| Linux Professional Institute Level 2 Certification (LPIC 2) | 1 |
| Microsoft Certified IT Professional Enterprise Administrator (MCITP-EA) | 1 |
| Microsoft Certified IT Professional Server Administrator (MCITP-SA) | 1 |
| Microsoft Certified IT Professional Exchange Administrator (MCITP-EA) | 1 |
| Microsoft Certified Professional (MCP) | 3 |
| Microsoft Certified Professional + Internet (MCP+I / NT4) | 1 |
| Microsoft Certified Systems Engineer (M-DCPSE / NT4) | 2 |
| Network + | 7 |
| Novell Master CNE (MCNE) | 1 |
| Novell GroupWise Certified | 1 |
| RedHat Enterprise Linux (RHEL) | 1 |
| RedHat Certified Engineer (RHCE) | 1 |
| Security + | 1 |
| **Total Number of Certifications** | **53** |

**Figure 3: ENA Advanced Technical Certifications**

The entire ENA team strives to delight each customer by meeting individual network technology needs and delivering service excellence. From the initial network connection through ongoing support needs, this team of professionals works hand-in-hand with schools to achieve the desired results.

> ***"I've never seen such customer support as I'm getting from ENA. I used to go through several phone numbers trying to get help from our previous provider. These days, ENA calls me to see if I need help."***
>
> Chris Gibson
> Technology Coordinator
> Jerome School District, Idaho

When support is needed, ENA's Network Operations Center (NOC), Field Engineers and ASMs are ready to provide superior customer service.

The ENA NOC is the single point of contact for all customer support issues. Our Field Engineers are deployed throughout our service geography thus assuring that ENA network equipment is maintained in the event of a hardware failure. Dedicated ASMs are assigned to ensure client satisfaction and to identify and understand each customer's unique needs. The ASM will be available to meet with Consortium and district technology staff on a regular basis and participate in the technology planning process as appropriate to ensure both current and future requirements are being met.

Additional support comes from the Client Services team, who communicates regularly with customers to understand areas for improvement in ENA's products and services. ENA's Finance team provides expertise which directly supports school districts and libraries through the complicated maze of E-Rate filings. The Administrative team of ENA provides business strategy and leadership and demonstrates a commitment to diversity and compliance with all state and federal employment laws.

**The following diagram illustrates the comprehensive personnel resources dedicated to network and communication support and the successful operation of the services proposed in this Proposal Response.**


**Figure 4: ENA Personnel Support Resources**

## *Client References*

ENA serves schools in all areas including, small, rural districts dispersed over varied landscapes as well as large statewide consortia and entire states. As noted by our excellent ratings on recent customer satisfaction surveys, our customers are pleased with our services and ENA is delighted to showcase our exemplary customer references. **We encourage you to contact any of these references, as well as any of the 560 school districts and the 253 libraries we serve.** We are confident that you will receive very positive feedback from each and every one of them.

**In this section, ENA has provided contact information for our customer references along with supplemental insight into customer projects via a spotlight overview. They are as follows:**

**Statewide References:**

- Indiana Department of Education, Dr. John B. Keller, Director of Learning Technologies*
- Idaho Department of Administration, Garry Lough, IEN Communications Director*
- Statewide Consortium for Greeneville City Schools, Beverly Miller, Technology Coordinator

*Letters of recommendation are included.

**District References:**

- Crawford County Community School Corporation, Dr. Mark Eastridge, Superintendent
- Knox County Schools, Mr. Jim Idol, Technology Services Coordinator
- Payette School District, Ms. Barbara Choate, Business Manager

**Letters of recommendation** from a variety of customers are included in **Appendix 2,** reinforcing ENA's ability to deliver the exact services required by this RFP with utmost customer satisfaction. These include letters from:

- Indiana Department of Education
- State of Idaho, Department of Administration
- Indiana Virtual Academy
- Johnson County Public Library, IN
- North Daviess Community Schools, IN
- Orange County Public Schools, FL
- Tennessee Educational Technology Association

As evidenced by our experience and customer references, **ENA can guarantee smooth, transparent and successful implementation of the full scope of services required by this RFP.**

## *Customer References with Spotlight Overviews*

| State of Indiana - Indiana Department of Education | |
|---|---|
| **Consortium Customer:** | Indiana Department of Education |
| **Customer Address:** | 151 West Ohio Street, Indianapolis, IN 46207 |
| **Contact Name & Title:** | Dr. John B. Keller, Director of Learning Technologies |
| **Contact Phone:** | (317) 234-5703 |
| **Contact Fax:** | (317) 232-8004 |
| **Dates of Service:** | July 2005 - Present |

In 2005, ENA was selected as the Managed Internet Service Provider for the K-12 school corporations (districts) across the state of Indiana. This contract required a transition of approximately 580 existing circuits (ranging from single and multiple T-1s to 45 Mbps DS3s per location) at over 300 school district sites prior to beginning the 2005-2006 school year.

The network transition was completed successfully within three months and with the school corporations experiencing virtually no downtime. ENA designed, provisioned and implemented all components necessary and is responsible for network monitoring and management, Help Desk, and customer support. **ENA manages this statewide education network by coordinating service delivery with over 40 infrastructure providers (telecommunications companies, cable companies and others).**

ENA also assists the Indiana Department of Education in equitably distributing state connectivity funds and completing the annual State Consortium E-Rate application. Indiana school corporations are active users of video conferencing and distance learning services.

This statewide service contract was re-bid in 2009 and ENA was deemed the successful respondent and awarded the new contract.

| State of Idaho - Department of Administration | |
|---|---|
| **Consortium Customer:** | State of Idaho |
| **Customer Address:** | 650 West State Street, Boise, ID 83720-0027 |
| **Contact Name & Title:** | Garry Lough, Director of Communications<br>Idaho Education Network |
| **Contact Phone:** | (208) 332-1872 or (208) 332-6800 |
| **Contact Fax:** | (208) 334-2228 |
| **Dates of Service:** | January 2009 - Present |

Over the course of several years, ENA engaged with the Idaho State Department of Education (SDE) and Department of Administration (IDOA) to assist in advocacy efforts supporting legislation to establish a statewide high-speed education network. By articulating and documenting the benefits of a statewide network and sharing best practices from other states, the SDE and IDOA were able to work with the Legislature in 2008 to create the Idaho Education Network (IEN).

In 2009, the Idaho Department of Administration, Office of the Chief Information Officer (OCIO) selected ENA as the named E-Rate service provider for the Idaho Education Network (IEN) based on ENA's extensive experience in providing similar services throughout the country. The State of Idaho actively pursued a service provider that could meet the unique needs of K-12 schools and library customers. ENA's role is to design, provision, install and provide ongoing support for all components of the service, which includes Internet services, wide area data transport and video services (interactive and streaming). In addition, ENA provides extensive support to the State and the individual school districts for the State Consortium E-Rate application and the districts' individual applications.

| Statewide Consortium - Greenville City Schools | |
|---|---|
| **Consortium Customer:** | Greeneville City Schools - Statewide Consortium |
| **Customer Address:** | 129 W Depot Street, Greeneville, TN 37742 |
| **Contact Name & Title:** | Beverly Miller, Technology Coordinator and Consortium Coordinator |
| **Contact Phone:** | (423) 787-8019 |
| **Contact Fax:** | (423) 638-2540 |
| **Dates of Service:** | January 2009 - Present (Consortium)<br>1999 - Present (Districts) |

Greeneville City Schools (GCS) is a small school district located in East Tennessee known for its leadership in education technology. GCS performs the role of E-Rate Consortium lead on behalf of all participating Tennessee school districts. GCS, as the E-Rate consortium lead, along with representatives from small, medium and large school districts throughout the state, conducted a competitive bid process to secure a contract for E-Rate eligible statewide managed network and Internet access services that all school districts in Tennessee could use to procure services. 107 of the 136 school districts in Tennessee are purchasing services under this contract.

**ENA has been serving the majority of school districts that participate in this consortium for over a decade and provides a variety of managed services to the greater part of individual school sites in each district in addition to providing Internet access to one site per district.**

| Crawford County Community School Corporation | |
|---|---|
| **Consortium Customer:** | Crawford County Community School Corporation |
| **Customer Address:** | 5805 E Administration Road, Marengo, IN 47140-8415 |
| **Contact Name & Title:** | Dr. Mark Eastridge, Superintendent |
| **Contact Phone:** | (812) 365-2135 |
| **Contact Fax:** | (812) 365-2783 |
| **Dates of Service:** | July 2005 - Present |

Crawford County Community School Corporation (CCCSC) is located in one of the most remote and historically underserved areas of Indiana. When ENA became the State's service provider in 2005 and completed the initial network transition, CCCSC was connected to the statewide network via a single T1 to the district's head site.

After completing the transition, ENA immediately met with the district technology staff to assess their future network requirements and discovered that CCCSC was receiving Internet access individually to each of its five outlying buildings via an assortment of unreliable wireless providers.

In 2006, ENA identified and installed a more reliable T-1 service for CCCSC (which they had been told previously was unavailable to them), connected each site to the district's first wide area network, and increased the Internet access bandwidth to the head site by a factor of five (5). **As a result, Crawford County was able to initiate a robust IP video conferencing program to boost its course offerings.**

**ENA continued to pursue a scalable fiber service to accommodate CCCSC's growing needs and completed the delivery of a robust fiber-based service to the district aggregation site and to four of the five wide area network sites during the summer of 2010.**

| Knox County School District | |
|---|---|
| **Consortium Customer:** | Knox County School District |
| **Customer Address:** | 912 S. Gay Street, Knoxville, TN 37902 |
| **Contact Name & Title:** | Jim Idol, Technology Services Coordinator |
| **Contact Phone:** | (865) 594-1726 or (865) 594-1801 |
| **Contact Fax:** | (865) 594-1325 |
| **Dates of Service:** | July 1998 - Present |

Knox County school district is the third largest school district in Tennessee with approximately 53,000 students and 92 facilities. ENA has been providing a variety of managed network and Internet access services to Knox County Schools for 12 years under multiple state and statewide consortium contracts.

In mid-2005 they engaged with ENA to upgrade the district's wide area network and deploy 100 Mbps fiber-based service to all locations. **In addition to managed telecommunication and Internet access services, ENA is providing hosted firewall and caching services, e-mail services, and extensive network consulting.** ENA has also worked in conjunction with the Knox County government to establish direct connections between the school district and the county to optimize the performance of mission-critical applications and exchange of data.

| Payette School District | |
|---|---|
| **Consortium Customer:** | Payette School District |
| **Customer Address:** | 20 N 12th Street, Payette, ID 83661 |
| **Contact Name & Title:** | Barbara Choate, Business Manager |
| **Contact Phone:** | (208) 642-9366 |
| **Contact Fax:** | (208) 642-9006 |
| **Dates of Service:** | 2008 - Present |

Payette is a small, rural community located near the Oregon-Idaho border of southwestern Idaho. For several years, they had experienced significant challenges with an unmanaged, unlicensed wireless Internet and wide area network solution. The condition of the network was severely hampering their ability to operate network-dependent mission critical applications as well as take advantage of 21st century learning opportunities.

In 2007 Payette School District selected ENA as its managed network service provider. By combining infrastructure from multiple providers and ENA's network management and value-added services into a comprehensive, Priority 1 E-Rate eligible service, ENA was able to offer a district-wide scalable fiber solution to connect all of Payette's school sites along with a hosted firewall and content filtering solution that was far more robust than the solution the district had in place.

Educational, administrative and financial benefits to Payette School District:

- By contracting for a bundled Priority 1 service, Payette Schools is able to apply for E-Rate reimbursements to fund 77% of the fiber services cost for each service year. **This increased the district's E-Rate funding from $18.56 per student in 2007 to $65.87 per student in 2008.**
- ENA's proactive network monitoring and support, along with the value-added services we were able to offer (content filtering and firewall services), removed a tremendous burden from district resources.
- The district's technology staff was able to focus their attention on much needed projects to upgrade, enhance and consolidate many of the district's mission critical administrative and instructional applications.
- **Payette schools now have a network that will enable them to take advantage of distance learning opportunities to enhance education for its students.**

## *Customer Communication and Community Activities*

ENA has demonstrated success in effectively sharing key information and training with our education customers through communication outreach, professional development, and training opportunities. All of ENA's trainings and professional development resources are designed to allow for maximum flexibility while minimizing the burden on schools' administrative and technical resources.

**ENA will work with the Consortium and its participating members to develop an ongoing plan and customized schedule for communications, professional development topics, and training that meets your needs.**

We work with our state partners to develop and distribute information about the statewide network project and programs. An example of this is our Idaho Education Network (IEN) Introduction Newsletter. ENA designed and distributed a newsletter introducing the IEN and providing information about the program and its value to school districts that choose to opt-in to the network services. Please see **Appendix 3** for a copy of this communication. If ENA is the successful bidder, we will work with the Consortium to develop a similar communication for New Hampshire schools.


The Idaho Education Network (IEN)

every school

every library

global marketplace

collaboration

Introducing the New Statewide High-Speed Network

The IEN initiative, chartered by the Idaho Legislature in 2008 through House Bill 743, recognizes that preparing its students and citizens for the increasingly competitive global marketplace of the 21st century is critical to improving the state's economy. Education stakeholders, especially teachers and students, must have reliable and high-speed access to networked tools to improve their ability to communicate and learn in a more collaborative environment.

Bringing New and Enhanced Broadband to Every School and Library

Through a competitive RFP process, the Department of Administration, Office of the Chief Information Officer (OCIO), has contracted with Education Networks of America (ENA) and Qwest to deliver a powerful statewide education network called the Idaho Education Network (IEN). The overall objective of the project is the development of a unified, scalable, statewide high-speed broadband communications network infrastructure to aggregate disparate networks into a multipurpose IEN backbone infrastructure that significantly enhances broadband communications to every public school, library and state agency office in the state. To accomplish this, Qwest, ENA and our partners will build new infrastructure where required while also leveraging and enhancing investments that have previously been made to dramatically improve connectivity for all IEN participants as well as bring fresh broadband investments to communities throughout Idaho.

**Figure 5: IEN Introduction Newsletter**

As part of our commitment to the education community we serve, ENA conducts various activities to communicate and provide training, professional development and customer outreach to disseminate information including:

- ***Webinars*** – ENA conducts regular webinars on various topics of interest for our school customers. Please note ENA endeavors to conduct these webinars with nationally recognized thought leaders

with mastery in the presented subject area. Examples webinars include such topics as:

- *Maximizing Technology and Resources to Transform Education and Create Systemic Reform*, given by Mary Ann Wolf, former Executive Director of SETDA.
- *What Do Schools Look Like in 2020? What Must We Think About to Prepare?* given by Will Richardson, a nationally known speaker on using Web 2.0 technologies in education.

- ***E-mail Correspondence*** – ENA maintains a current database of key contacts with each of our customers and sends informative and timely e-mails to communicate special events or training sessions. We typically utilize "My Emma" or other professional e-mail notification services. ENA provides this communication outreach an average of 12 - 15 times per year.

- ***Advisory Council*** – ENA facilitates an Advisory Council for our statewide consortiums that focuses on collaboration, sharing innovative ideas and problem solving specific to the local communities we serve. Advisory Council members are typically representatives from the DOE, the Consortium, LEAs and other education agencies. ENA can use this venue in New Hampshire, if desired, as one method to provide thought leadership, professional development, and as an avenue to gain a clear grasp of the unique challenges facing the state's schools and educators. Advisory Councils are usually conducted bi-annually at convenient local locations.

- ***Newsletters*** – ENA publishes a quarterly newsletter entitled *Get Connected: The ENA Network Community Journal.* **This journal provides a means for keeping Consortium members abreast of information occurring both locally and nationally.** A copy of ENA's most recent *Get Connected* journal is included for your reference in **Appendix 4**.


GET CONNECTED

September 2009 The ENA Network Community Journal

New Superintendent Turns to Technology to Ramp Up Learning, Ramp Down Costs

Contents



Figure 6: Get Connected Community Journal

## *Summary*

ENA has the qualifications, experience and infrastructure to deliver the services required by the Consortium's RFP for Internet Access and Additional Services. ENA's proven approach to connectivity, voice and network solutions capitalizes on the combined strengths of our expertise, resources and partners to offer speed, reliability, scalability, best-of-breed technologies and continuous network upgrades to our customers. Our solutions increase access to online information, facilitate communication and collaboration, increase productivity and decrease the costs of information management—all while assisting in making education personalized, equitable, relevant and cost-effective.

**In summary, historically, ENA has consistently provided its customers with cost-effective and reliable service using innovative and new approaches while fully leveraging E-Rate funding. We believe no other vendor can match ENA's years of dedication, experience and proven track record in providing statewide cost-effective Internet access for schools and libraries.**

**2. Bidder will show evidence that it understands and will comply with all related requirements associated with FCC / USAC Schools and Libraries E-Rate Program.**

## *E-Rate Experience*

ENA is an eligible E-Rate service provider in both Telecommunications and Internet Access with a broad understanding of the E-Rate program and a commitment to use that knowledge and experience to help our customers obtain deserved E-Rate funding. Our registration numbers are as follows:

**ENA Services, LLC**
**SPIN – 143030857**
**FRN – 0015297245**

**Education Networks of America, Inc.**
**SPIN – 143008159**
**FRN – 0011583515**

**ENA is a top-10 service provider recipient of E-Rate funding based on total dollars filed by a service provider and has been successfully working with E-Rate customers for 12 years.** ENA has participated in the E-Rate program as a service provider since its inception and has **received over $350 million in E-Rate funding approvals with its clients, representing over 5,000 Form 471 funding requests over the life of the program.**

**ENA E-Rate Quick Stats**

- Over $350 Million in E-Rate Funding Approvals Since Program Inception
- Top-10 Vendor for Priority 1 Funding
- Filed More Than $70 Million in Funding for Customers in E-Rate Year 12
- Over 99% Success Rate Overall
- 12-Year Successful Track Record

ENA considers active involvement with E-Rate part of its role as a partner with its customers and has more than a 99% success rate obtaining critical E-Rate funds with all of its customers.

ENA's E-Rate-eligible communications and networking services include managed network and Internet access services, firewall and security services, and Voice over Internet Protocol (VoIP) services. ENA also provides non-E-Rate-eligible services such as advanced content filtering with authorized override. Additionally, ENA is well-known for its Priority 1 E-Rate-eligible managed services that combine bandwidth, on-premise equipment and customer support services (help desk, equipment ownership and maintenance, field service, etc.) into a seamless package of quality services.

ENA will meet all the Consortium requirements related to E-Rate program administration. We have extensive knowledge and numerous successful experiences with all parts of the E-Rate process. In addition to our own internal team of E-Rate specialists, ENA has a team of experienced outside advisors, including E-Rate legal specialists based in Washington, D.C. This team keeps ENA on the cutting edge of E-Rate knowledge and policy changes.

ENA's internal team regularly participates in SLD vendor conference calls and training to maintain its knowledge base and program understanding. Our team is led by Rex Miller, ENA's Chief Financial Officer

and prominent E-Rate speaker, who also conducts training sessions locally and nationally. Mr. Miller is your primary E-Rate contact: 1101 McGavock Street, Suite 301, Nashville, TN 37203. Phone: (615) 312-6005; E-mail: rmiller@ena.com.

As part of our ongoing and proactive methodology, ENA's team reviews E-Rate program rules and requirements frequently, including review of SLD-issued materials to ensure continuing compliance. Our team focuses explicitly to assess ongoing policy guidance provided by the FCC and SLD, examine requests for review from participating applicants, and to monitor changes in the Eligible Services List (ESL).


Guidance, training and assistance ensure E-Rate compliance and maximizes funding.

**ENA's E-Rate knowledge and experience goes far beyond what is required by a typical school district-level filing and includes detailed knowledge of eligible services issues and statewide consortium filing complexities as well as CIPA/filtering requirements.** We are a leader in working with state and school district applications. As part of our support process, ENA actively collaborates with the Consortium or individual school districts and libraries to get their E-Rate funding application (Form 471) filed to ensure funding approval and to avoid errors that could create slowdowns or denials. We understand our role in providing guidance, while at the same time respecting the rules governing acceptable service provider-applicant interaction. **Our services include:**

- Reinforcing compliance with all E-Rate Program rules
- Providing guidance about ENA's specific services
- Reminding customers of deadlines
- Customer education on E-Rate rule changes and program issues
- Working with customers/consultants during the 471 process to ensure adequate filing amounts to cover E-Rate eligible services

**Today, ENA continues work with customers in a proactive manner and to go the extra mile. As a value-added component of ENA's service, we also provide the following assistance:**

- Compilation and review of Form 471, including free/reduced lunch and discount rate data
- Preparation of Form 471 Item 21 Attachment describing ENA services
- Aid districts in responding to Program Integrity Assurance (PIA) questions during the application review phase
- Completion of Form 486, start of service
- Filing appeals/actions to gain funding

Please see ENA's response to **Question 7** for additional information on our comprehensive district-level E-Rate support.

ENA's entire business is built on an end-to-end customer service model, and the E-Rate funding process is no different**. ENA is fully committed and capable of facilitating the Consortium's compliance with the E-Rate funding process.** ENA's E-Rate specialists provide ongoing support throughout all phases of the E-Rate process to the fullest extent allowed by the SLD. This support includes both the high-level consulting related to complex E-Rate issues and the resources necessary to make sure that all E-Rate filing deadlines are met.

## *Demonstrated E-Rate Success for Statewide Consortiums*

ENA is a leader in helping states create and grow statewide services and consortiums from both a services standpoint and an E-Rate standpoint. We currently serve four statewide consortiums.

| School/Library System | Service Date | E-Rate Growth |
|---|---|---|
| Tennessee Schools | Since 1998 | 92% |
| Indiana Schools | Since 2005 | 164% |
| Indiana Libraries | Since 2006 | 99% |
| Idaho Schools & Libraries | Since 2009 | 1% New Statewide Network Project |

ENA's support includes assisting with the E-Rate process and helping our customers gain needed E-Rate dollars. We believe that our service growth rates and our successful E-Rate record demonstrate the value of ENA as a vendor for a successful statewide consortium.

ENA has successfully worked with the states and consortiums above to earn E-Rate approval for each year of the program. A recent E-Rate success is the quick approval of Idaho's first Statewide Consortium E-Rate application. Idaho created a new network called the Idaho Education Network (IEN) and with our assistance filed and received $6.8 million in E-Rate funding for the first year of the network. This represented new funding for the State of Idaho that may be used to provide services under the new statewide education network.

We have also studied the 2007-2008 New Hampshire School Tech Survey. The survey indicates that a significant portion of New Hampshire school districts have less than a T-1 (1.544 Mbps) connection to the Internet and may not be pursuing E-Rate funding for services for a variety of reasons largely driven by the perceived or actual staff time requirements to participate. ENA makes this process easier and more manageable.

As part of ENA's service and in partnership with the Consortium, ENA will establish and maintain regular contact with each school district in the state and through this ongoing outreach effort, ENA will monitor and encourage participation in the E-Rate program. This is a proven method that has achieved remarkable results in Idaho schools as well as in the hundreds of school districts we serve, leading to

significant network growth to support education needs along with increased E-Rate funding to help pay for the services.

We will assist our customers by uncovering and presenting opportunities for higher level broadband connectivity across the state and will support such efforts with world class E-Rate support. ENA's efforts at customer outreach regarding both E-Rate and overall customer relationship building are second to none.

We encourage the Consortium to ask any ENA customer about our E-Rate and Consortium support services. We are dedicated to helping our customers succeed in the E-Rate program and our customers will confirm the exceptional value of ENA's support.

**3. Bidder will provide a project work plan with a breakdown of the major phases of deliverables outlined in this RFP.**

Since the New Hampshire Consortium network is an opt-in offering, ENA will need to work with each district individually to bring forth a solution that prompts their individual participation. Our experience in other states suggests that a two-fold approach to the project will yield the best results. We have put forth below a scope of work that includes both a ***Project Commencement Work Plan*** as well as a ***Project Implementation Work Plan***. Both will be critical to the success of a project of this nature and both are outlined below.

## *Project Commencement Work Plan*

Relying on years of experience with several statewide consortia, we have established a series of activities for the preliminary project stages for incenting participation in this Consortium.
**Our commencement work plan includes addressing the following key areas:**

- **Customer Outreach, Communications and Collaboration** – A plan for how ENA will effectively reach out to communicate and collaborate with all appropriate New Hampshire stakeholders.
- **Connectivity** – A plan for how ENA will gather preliminary data and identify school districts interested in joining the network and their connectivity requirements.
- **E-Rate Assistance** – A plan for how ENA will collaborate with the Consortium to augment their efforts and help facilitate all E-Rate related requirements.

### *Customer Outreach, Communications and Collaboration*

The key to a successful project is frequent communication among all involved entities (i.e. the Consortium, all of the Consortium's participants and the New Hampshire Department of Education). If awarded a contract, ENA will work with the Consortium to develop a Customer Communication and Outreach Plan. This plan will establish communication outreach to all potential Consortium participants at scheduled intervals starting at contract award and continuing throughout the term of the contract.

At the onset of the Indiana statewide network contract, ENA worked with the Indiana DOE to create a communication outreach plan for general communications, professional development, and trainings performed as part of our partnership with the DOE. We have included a copy of the Indiana Communication and Outreach plan developed in collaboration with the Indiana Department of Education when transitioning their school districts to the ENA network in **Appendix 5.**

As noted in our response to **Question 1** in the **Required Elements Section**, ENA sends customer transition communication newsletters and correspondence. Please see our IEN Introduction Newsletter from our statewide network implementation in Idaho in **Appendix 3.**

### Connectivity

The ultimate goal of this plan is to deliver ENA's managed network connectivity for school districts participating in the Consortium. ENA will work with school districts to maximize existing investments in infrastructure and as many existing assets as possible to minimize costs.

**For the first 90-120 days the plan focuses on two primary activities:**

1. Assist the Consortium in communicating Consortium benefits to all of New Hampshire's school districts.
2. Consult with each participating Consortium school district to determine their individual connectivity requirements and getting all the necessary paperwork completed.

ENA will conduct a comprehensive inventory of existing school networks to include network equipment, connectivity, facilities and use of E-Rate as well as other relevant data that will enable us to identify actual network build-out requirements. Having managed and supported numerous statewide education network implementations and transitions, we have developed tools and processes that streamline and simplify the process of gathering and maintaining this data. Following the data gathering period, ENA will work with the Consortium and its participants to develop a detailed project plan to connect the sites to the ENA network.

### E-Rate Assistance

Assuming a contract is executed within the timeframe established in this RFP, one of the first steps will be to complete the E-Rate Form 471 application requesting E-Rate reimbursements to match district funds that are being budgeted for the 2011-2012 fiscal year. Leveraging ENA's E-Rate expertise, we will assist the Consortium in completing this application. We will provide as much support to Consortium participants as is allowable by E-Rate rules. Please see ENA's response to **Question 2** of the **Required Elements Section** for detailed information on our comprehensive E-Rate support process. Our experience with the E-Rate process and with other consortiums will help the Consortium and its participants reduce the amount of time spent on E-Rate filings.

## Project Implementation Work Plan

ENA considers a contract with a customer as a lifecycle project, and our business processes, people and skills are geared to that business model. Within that model, we have a set of rigorous processes and disciplines to ensure successful deployment across the ENA services portfolio. This model scales very effectively, from delivery of a single new or upgraded site to a district- or state-wide network and voice services implementation.

> ***"…ENA has learned how to implement network architectures from the bottom up, addressing the school's needs and then trying to build a network (of) organizations around them to accommodate their goals."***
>
> Jim Brown
> Preston School District Technology Consultant
> Chief Network Engineer/Technologist
> L-3 Communications Salt Lake City, Utah

## *Project Management and Support Team*

**ENA assigns dedicated project management and support personnel resources to guarantee end-to-end service delivery implementation and coordination.** The successful and reliable operation and evolution of the Consortium network will be a direct result of these dedicated personnel resources.

The implementation of services described in this Proposal Response will require involvement of several ENA teams, including technical and non-technical groups. ENA assigns dedicated project management personnel resources to ensure the project is executed according to commitments and to the satisfaction of the customer.

The Project Manager (PM) is responsible for driving all aspects of the project – including all participants – to on-time completion, while keeping all parties informed of the project status. The PM is also responsible to quickly escalate any issues to obtain full support for timely resolution. In this manner, we ensure customer expectations are met.

During implementation, the PM will engage appropriate support staff to design and plan the technical aspects of the service and to address specific technical issues that may arise. Due to the complexity and specificity required in today's network environment, we assign multiple engineering personnel resources to implement concurrent project elements. All personnel operate under the coordinated leadership of the PM.

The PM reports directly to the Senior Vice President of Operations and Deployment, and has full support to ensure all required ENA resources are brought to bear on the project through frequent and regular project status reviews. The State Director of Customer Services and all Account Service Managers are provided regular updates by the PM and serve as an integral element in robust and timely customer communication. All direct account team participants are local or regional and would be deployed on-site as required to provide superior customer care.

ENA submits the following work plan that provides a breakdown of the major phases of the project along with key deliverables. Upon award, ENA will begin the process of building the detailed project plan while working in close partnership with the Consortium to establish a managed service delivery model for New Hampshire. The ENA project manager is responsible for driving the project, keeping both the customer and internal departments informed of project status, and escalating to management to ensure customer expectations are met. **Key objectives will be to meet the project's critical dates, including the July 1, 2011 service start date.**

## *Implementation Work Plan*

**Objective**: Seamlessly transition all participating New Hampshire K-12 Schools Connectivity Consortium participants to ENA's managed services.

| Date | Team | Step |
|---|---|---|
| **Nov-Dec 2010** | **Consortium & ENA Leadership** | **Contract award, negotiation and signing** |
| **Jan 2011** | **ENA Project Manager (PM) & Consortium** | **Project Kickoff** |
| | | Define participants, meeting schedules, project success criteria |
| | | Define project timeline for initial Consortium participants |
| **Jan-Feb 2011** | **ENA PM & Consortium** | **Complete inventory of current and desired connectivity, network, and managed service requirements for each Consortium participant** |
| | | • Continue/complete survey activity to assure all school administrative units (SAUs) data is obtained and captured in the project data base |
| | | • Gather contact points for each location requiring an installation |
| | | • Obtain address and phone information for each site |
| | | • Obtain current IP allocation plan |
| | | • Verify current services and providers and understand district requirements and desires for future connectivity |
| | | ***Key Deliverables:*** *Database of key site baseline information as well as service requests for 2010 E-Rate year.* |
| **Jan-Apr 2011** | **ENA PM & Field Engineering** | **Conduct site surveys to verify key information and determine required readiness activities for installation and transition to the ENA network** |
| | | Site visit or phone call to each site contact to gather information |
| | | • Verify current IP information |
| | | • Current network information such as NAT |
| | | • Demarc and router location |
| | | • Space and power available for network equipment |
| | | • Verify address, phone and alternate contact information |

| Date | Team | Step |
|---|---|---|
| | | ***Key Deliverables:*** *Updated and accurate site data, both present and as desired at project completion; site make-ready work requirements for SAUs.* |
| **Jan-Mar 2011** | **ENA PM & Implementation Team** | **Compile portfolio of infrastructure providers and establish appropriate relationships. Prepare for required upgrades, transitions, and new deployments.** |
| | | • Establish contacts with sales, engineering, service, and executive teams within each provider |
| | | • Capture profile of served footprint and service capability scope |
| | | • Establish communication and project management protocols, develop clear understanding of processes and expectations |
| **Feb 2011** | **ENA Finance & Consortium** | **Initiate E-Rate process** |
| | | • Verify E-Rate eligibility for indicated sites |
| | | • Coordinate E-Rate filing responsibilities with the Consortium |
| | | ***Key Deliverables:*** *Draft Form 471 and compile Free and Reduced lunch statistics.* |
| **Feb 2011** | **ENA PM** | **Build Implementation Project Plan and Review with Consortium** |
| | | • Refine project scope |
| | | • Build detailed milestone and task plan |
| | | • Define which sites will transition with current infrastructure vs. those that will require new or additional infrastructure build to transition |
| | | • Define key tasks and dates for each site |
| | | • Define and agree upon key deliverables |
| | | • Define roles and responsibilities for ENA, Consortium team, and SAU participants |
| | | • Define pilot transition types, sites and timeframes |
| | | • Define school premise visit clearance requirements |
| | | ***Key Deliverables:*** *Project plan, roles and responsibilities document, action/issues tracking document.* |

| Date | Team | Step |
|---|---|---|
| **Feb-Mar 2011** | **ENA ASM & PM, Consortium** | **Create customer communication plan (See Appendix 5 for NH Communication Plan Elements) to apprise Consortium participants and set expectations regarding timeline, deliverables, ongoing communication** |
| | | • Define communications strategy and objectives |
| | | • Define preferred communications channels within the Consortium |
| | | • Draft initial and periodic communications templates including key information to be included in each, including source and recipients |
| | | ***Key Deliverables:*** *Communication plan and templates* |
| **Feb-Mar 2011** | **ENA Engineering** | **Engineering overview, design and hardware provisioning – tailored to site transition, upgrade, and/or new service requirements** |
| | | • Create and review current and future engineering diagrams for each location and at statewide level |
| | | • Finalize hardware requirements and place orders |
| | | • Define required aggregation points and technology required |
| | | • Define and order necessary backbone network capacity |
| | | • Validate site network infrastructure orders as required |
| | | ***Key Deliverables:*** *Network diagrams and equipment/circuit orders; list of any identified engineering issues* |
| **Mar 2011** | **ENA Order Management Team** | **Place initial network circuit orders** |
| | | • Validate acceptance and obtain projected completion dates |
| **Mar 2011** | **ENA Order Management Team** | **Place initial network hardware orders** |
| | | • Validate acceptance and obtain projected delivery dates |
| **Mar-Apr 2011** | **SAU Facilities** | **Complete site make-ready work** |
| **Apr-2011: First Year Project End** | **ENA PM, Field & Engineering, Infrastructure Providers** | **Build out required circuits** |

| Date | Team | Step |
|---|---|---|
| | | • Establish individual projects with providers; initiate weekly meetings |
| | | • Validate provider technology and design is consistent with ENA standards |
| | | • Validate providers obtain necessary permits |
| | | • Track provider status; identify and address issues as encountered |
| | | • Coordinate site access as required |
| **Apr-May 2011** | **ENA PM & Consortium** | **Conduct pilot transition plans as defined** |
| | | • Document lessons learned and apply to subsequent site transition plans |
| **Apr-May 2011** | **ENA Finance, Consortium** | **Obtain Consortium approval of billing methodology and sample bills** |
| | | • Determine specific information required for invoicing |
| **Apr 2011** | **Engineering** | **Deploy, test and activate equipment at core POPs** |
| | | • Install, configure, test and activate aggregation routers |
| | | • Install, configure, test and activate content filtering appliances |
| | | • Perform POP integration testing to prepare for end site service delivery |
| **May-2011: First Year Project Complete** | **ENA PM, Engineering, Field, SAU Site Contacts** | **Site implementation and activation on ENA network** |
| | | • Mount routing/switching equipment, connect circuit |
| | | • Turn-up and test connectivity and performance on ENA network |
| | | • Activate site in ENA monitoring applications |
| | | • Complete ticket, update data base |
| | | • Notify Consortium and SAU of site completion |
| **First Year Project Complete** | **ENA PM** | **Project close-out** |
| | | • Obtain appropriate concurrence sign-offs |
| | | • Produce and distribute project completion report |

## *E-Rate Project Plan*

| Date | Team | Step |
|---|---|---|
| **Jan 2011** | **PM & Finance** | Review 471 Filings with Consortium. |
| **Feb 2011** | **PM & Finance** | Provide additional E-Rate assistance as necessary to meet Form 471 filing deadline. |
| **Mar 2011** | **PM & Finance** | Consult with Consortium regarding collection of Form 479s from Consortium participants needed to file Form 486. |
| **Jun-Jul 2011** | **PM & Finance** | Assist Consortium with preparation of Form 486 signifying start of service. |
| | | Form 486 filed July 1st. |
| **Jul 2011-Jun 2012** | **PM & Finance** | Upon receipt of Funding Commitment Decision letter, file appropriate monthly service provider invoices (form 474) or BEAR forms (472) with the SLD. |

Note: Schedule is repeated yearly for the life of the contract.

## *Annual Planning Process (begins July 1, 2011)*

| Date | Team | Step |
|---|---|---|
| **Monthly (by the 15th)** | **State Director & Consortium** | Review current processes, procedures, and performance reports. |
| **Sep-Oct** | **State Director & Consortium** | Perform annual Customer Satisfaction Survey. |
| **Oct-Jan** | **Account Management** | Work with the Consortium and local school systems to determine requested service requirements for next contract year and assist in gathering the necessary data and forms to complete the consortium 471 application as directed by the Consortium and local school systems and as allowable under E-Rate rules applicable at that time. |
| **Dec-Jan** | **Consortium & Finance** | Review 471 Filings with the Consortium.<br>• Timing may change depending on E-Rate 471 filing window dates.<br>• Provide additional E-Rate assistance as necessary to meet Form 471 filing deadline. |
| **Mar-Jun** | **Consortium & Finance** | Establish schedule for all requested service upgrades with the State and local school systems for following contract year. |

Note: Schedule is repeated yearly for the life of the contract.

Because of our extensive experience and demonstrated track record in other statewide and large and small school district deployments, we are uniquely positioned to meet and/or exceed plan and schedule commitments for the Consortium.

In addition to our successful network transitions in Indiana and Idaho, ENA has managed the design and delivery of similar large-scope projects. Two of these projects included a six-month deployment of high-speed fiber connectivity to over 200 locations in the Orlando, Florida-based Orange County Public Schools District; and, a comprehensive Wide Area Network and ENA Connect Voice over IP implementation in Memphis, Tennessee consisting of 190 locations and over 15,000 telephones powered by a carrier-class hosted PBX.

We are confident we will perform the work described in this proposal within the required timeline with superior customer care. ENA prides itself on our ability to deliver top-notch customer service and believe that **"Service is the Solution."**

**4. Bidder will propose a monthly recurring charge and any related one time charges for each specified bandwidth and each location. All responses should include the following elements of High Speed Internet Access, with appropriate descriptions, costs, and details to illustrate how the provider would meet these requirements:**

ENA has provided monthly recurring charges as well as any related one time charges for each specified bandwidth and each location. Please see **Section III, Cost Details** for ENA's cost of service and specific charges.

## *Introduction – Technology Vision and Approach for New Hampshire*

There is no doubt we live in a time of rapid technological change. The very nature of how we as a people distribute and access information, communicate to each other, and educate our children is evolving right before our eyes. In many ways, the state of New Hampshire and, specifically, the New Hampshire Department of Education are already on the leading edge of this evolution. Programs such as the *New Hampshire Educators Online* (NHEON) for professional development and curriculum planning for educators show a clear vision for using the collaborative possibilities of new technology to concretely and positively affect educational outcomes.

ENA hopes to become a true partner to the Consortium and its participants across the state as we all work together to help New Hampshire schools meet the 21st century needs of its students and teachers. As such a partner, one of the most important things we can do is to provide a truly robust, scalable, and cost-effective statewide network that is positioned to seamlessly evolve as utilization and network access requirements of New Hampshire's schools continue to exponentially grow.

Since the 2005-2006 school year when ENA was first awarded the statewide contract to connect school districts in Indiana, **we have been able to increase the total Internet access available to Indiana schools by over 700% while simultaneously cutting the overall price of capacity to less than one fifth of what it was when we began to provide service**. This powerfully transformed network capacity is illustrated by the chart below:

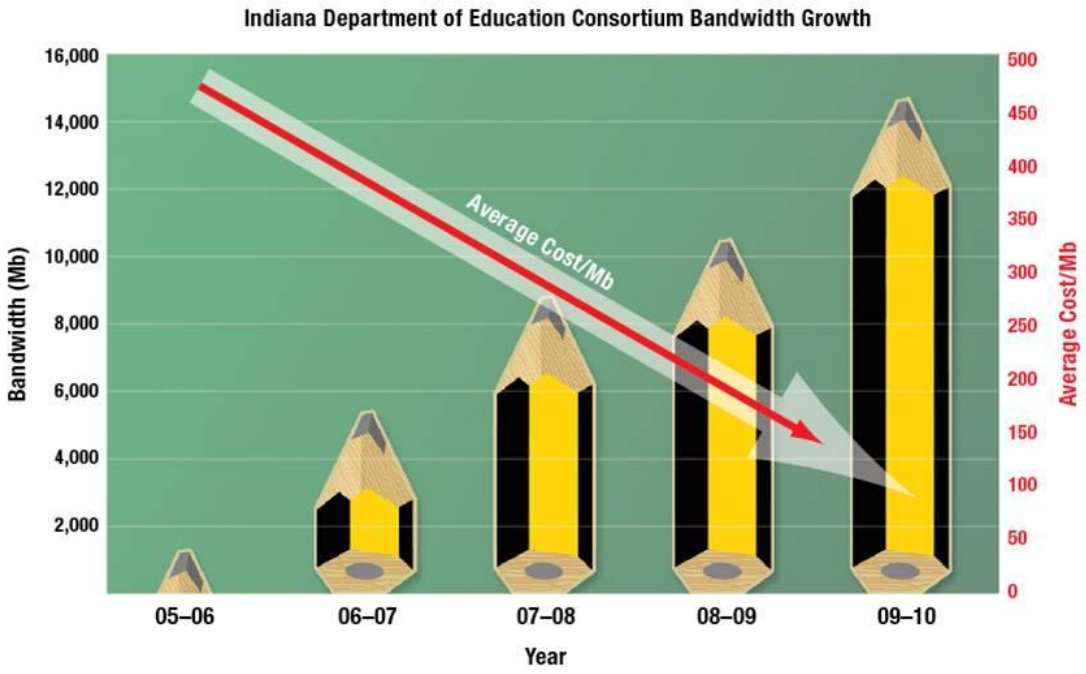


**Figure 7: Indiana School Bandwidth Growth**

ENA's proposal provides options for managed Internet and wide area network (WAN) services for all of New Hampshire's public and private schools, including connectivity from school sites to a school district/SAU aggregation site and from school district/SAU aggregation site to the Internet. Bandwidth options include service speeds ranging from 1.5 Mbps to 10 Gbps (and beyond) per site, with the expectation that average site bandwidth will migrate from T-1 and lower speed services to Ethernet speeds over the life of this contract.

**Our service includes:**

- The provision and management of the Internet access circuits
- Managed customer premises equipment (CPE) and all required routers (updated as needed at no charge to schools)
- Industry leading customer support with 24x7x365 help desk
- Network support and technical field staff
- Access to Internet2
- Guaranteed QoS anywhere on the network
- Integrated video service
- The benefit of FairPoint's statewide Vantage Point network

## *Statewide Network Architecture*

ENA's statewide service will be provided using facilities principally from FairPoint, but will also leverage a variety of backbone and last mile providers such as Comcast and the University System of New Hampshire's Network New Hampshire Now broadband stimulus-funded network as well as others and will establish interconnections so that we can leverage existing last mile infrastructure throughout the state. Initially, we plan to establish a single network aggregation point in the southern part of the state and plan to connect to the carrier hotel at 1 Summer Street in Boston, MA as the network grows. As the Consortium service demands increase, we will continue to improve and expand our network's capacity and coverage. Our statewide network presence will extend to every county in the state and in our existing five-state footprint we leverage **over 50 service providers to deliver last mile services to schools.** This mix of last mile providers combined with our high bandwidth core network helps us **drive down last mile costs to the lowest possible level, while at the same time providing high quality, reliable connectivity across the state.** Additionally, the inclusion of the statewide Vantage Point network from our subcontractor FairPoint provides the Consortium immediate state-wide backbone reach and cost-effective Ethernet capability within FairPoint's service territory.

## *The ENA National Network plus FairPoint's Vantage Point Network in New Hampshire – Key Components of our New Hampshire Network Architecture*

**ENA understands and fully appreciates the critical importance of highly available network services to the Consortium and its participants,** which is why exceptional resilience and the ability to recover quickly from outages and disasters are key components to ENA's network design, implementation, operational management and ongoing technology testing.

The ENA national network backbone will serve as the core for all services ENA delivers to schools in New Hampshire. ENA's national network will be interconnected with FairPoint's Vantage Point network in New Hampshire where school network traffic will aggregate throughout the state, providing the best of both networks for Consortium members. To mitigate the risk of power grid disaster, the generators backing up our network POPs have multiple days of fuel supply on-site, and the facilities have guaranteed long-term contracts for fuel in case of more prolonged outages.

ENA will extend the ENA Network from both Washington, DC and Chicago, IL to the carrier hotel at 1 Summer Street in Boston, MA, and on to our POP in Southern New Hampshire based on our success in securing Consortium participation.


**Figure 8: ENA National Network Map**

FairPoint owns and operates the largest, most diverse fiber optic-based IP/MPLS service provider network in New Hampshire. This network consists of (2) Core Routers (CRs) in Concord and Manchester and (11) Network Provider Edge Routers (NPE), and over (40) UPE routers distributed throughout the state for high bandwidth, resilient network access. All Network Provider Edge Routers (NPEs) have two diverse 10G uplinks to the core routers to provide an additional layer of network resiliency. The FairPoint IP/MPLS network consists of a fully meshed, high-speed 10 Gbps backbone which has the ability to scale to up to 550 terabits as customer demand increases.

Leveraging this IP/MPLS network, FairPoint offers a variety of copper and fiber-based access technologies that provide scalability and resiliency. No other communications provider in New Hampshire can offer the breadth of Ethernet based access services and over an IP/MPLS based infrastructure. End-to-end bandwidth increments can scale from 1Mbps to 1Gbps offering our customers more granular portfolio of options to meet their technical and financial needs.

The FairPoint Vantage Point network provides an Ethernet-based access network that is dedicated and secure, and is not leveraging a shared access medium or Internet-based transport. The FairPoint Vantage Point network is a highly scalable and purpose-built network that provides the foundation for collaboration between users regardless of geography. Participating Consortium members will receive an Ethernet hand-off for access to ENA's managed service offerings. The FairPoint network solution proposed will provide any-to-any connectivity, and not limit customers to a rigid point-to-point or hub-and-spoke architecture. No other provider in New Hampshire can offer the scalability, flexibility, and resiliency over an IP/MPLS backbone, and do so over the most expansive fiber-optic network in the Northeast.

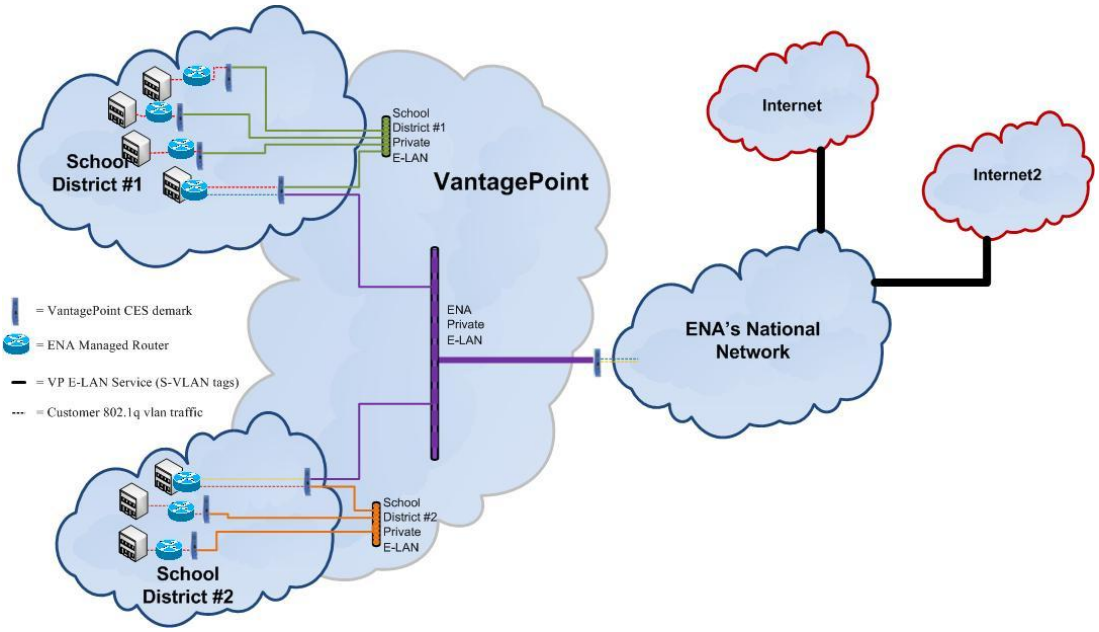


**Figure 9: ENA-FairPoint Vantage Point Network Integration**

In addition to the highly resilient architecture of our core network, ENA will also maintain New Hampshire-based 24x7x365 on-call Engineering resources as well as spare router chassis, interface cards, and other necessary networking equipment in our local storage facilities for quick replacement. Though it is exceptionally rare for an equipment malfunction to become a service-affecting issue, ENA can quickly replace any component of our POPs or equipment placed at local school sites with local spares if required.

## *Connectivity Service Options*

ENA intends to deliver a range of connectivity services across New Hampshire. We strive to provide the best technology solution for the specific environment. ENA has successfully implemented the following technologies in the ENA network nationwide: copper-based T1 and Ethernet services, fiber-based DS3 and 10/100 Mbps and 1 and 10 Gbps Ethernet services and licensed, high bandwidth wireless point-to-point and point-to-multipoint links. Outlined in this section are the uses, strengths, and challenges of implementing these technologies for New Hampshire schools.

All network services provided in this Proposal Response will deliver guaranteed bandwidth at the level of connectivity purchased. ENA uses dedicated circuits ranging in speed from 1.544 Mbps/T1 to 10 Gigabit Ethernet to connect each end site to our core network. All circuits in the core are then extensively

monitored and managed to ensure there is adequate spare capacity at all times to support the level of bandwidth purchased by our customers. We do not employ traditional residential cable modems or DSL circuits in our manner of service delivery as each of those services are 'best effort' and cannot guarantee the purchased bandwidth will be available at all times. **ENA's approach of dedicated circuit delivery allows us to confidently guarantee bandwidth purchased.**

**As new, lower cost technologies become available and are implemented in the network, they will be integrated into our service delivery options and often result in more service for the same cost.** ENA intends to provide the maximum Internet access and services available given each Consortium participant's available funding and service needs.

### T-1 and DS3 Circuits

Also known as DS1, a T-1 is a dedicated digital communication link provided by a carrier that offers 1.544 megabits per second (Mbps) of bandwidth. T-1s are typically delivered over copper network facilities from the closest telephone company serving office to the school and are available statewide. Multiple T-1s can be combined to provide additional service speeds in increments of 1.544 Mbps. In the ENA network these circuits are commonly used for carrying traffic from a school to either the school district aggregation point or to one of ENA's points of presence (POPs).

A DS3, or T-3, is a dedicated digital communication link provided over fiber optic facilities that provides 44.736 Mbps of bandwidth. On the ENA Network, DS3s are used to connect some school district aggregation points to an ENA POP. However, based on service availability, we have found that we can often deliver 20 Mbps copper-based Ethernet and 100 Mbps or 1 Gigabits (Gbps) fiber-based Ethernet at a lower cost than using a DS3. DS3s can be used to provide connectivity in increments between 1 and 45 Mbps.

### Wireless Technology

Wireless telecommunications employ electromagnetic waves (rather than some form of wire) to carry the signal over part or the entire communication path. Wireless solutions use radio towers and antennae to transmit information.

The strength of a wireless solution is that it can provide a large amount of bandwidth for a reasonable cost. The challenge of wireless is that difficulties in physical implementation, such as the amount of towers required in hilly and mountainous regions or delays caused by community opposition to the presence of radio towers, can negate or reverse the cost-effectiveness offered by wireless technology. Additionally, wireless solutions typically require longer times to repair as there are significantly more variables than in a typical wireline network, such as weather influences. This is particularly problematic in areas susceptible to tornadoes. Because a traditional carrier does not manage any of the wireless connections, the vendor must be prepared to handle all issues and repairs.

### 5-100 Mbps and 1-10 Gbps Ethernet Services

Wide area Ethernet services are quickly becoming the most cost-effective and flexible means of providing school to district aggregation and district aggregation to Internet connectivity. Wide area Ethernet services may be provided over either copper or fiber-based facilities, with services less than 20 Mbps generally provisioned over multiple copper pairs and those in excess of 20 Mbps provisioned using fiber-optic facilities.

While copper facilities will be able to meet many Consortium participants' needs now, our experience in providing service to schools in four states has taught us that when fiber-based facilities are available or affordable, they are often the best choice. Fiber (or fiber-optic) refers to the medium and the technology associated with the transmission of information as light pulses along a glass, plastic wire or fiber. Fiber-optic connections carry much more information than conventional copper wire and are in general not subject to electromagnetic interference and the need to retransmit signals. Virtually all local and long-distance lines are now fiber-optic. ENA's backbone is based on fiber-optic transport and is scalable to multiple 10 Gigabit wavelengths. **A significant and growing number of schools and school districts throughout the nation are connecting using scalable 5 Mbps through 10 Gbps fiber-optic connections.**

Because fiber is more complex and costly to install than previous technologies, it is not yet available to all New Hampshire communities. This lack of availability (which can lead to inequitable distribution of connectivity) and higher cost of implementation are fiber's primary drawbacks. **No one transport provider can deliver fiber-optic connections statewide. In order to improve availability, ENA has established relationships with a number of transport providers, including cable, utility (power and water providers), territorial and alternative telephone carriers, municipal networks, cellular/wireless carriers and emerging higher education fiber-optic networks to leverage their networks to provide fiber-optic connectivity for a greater number of schools and districts.**

We can provide two types of Ethernet connectivity for schools in New Hampshire based on service availability: district (WAN) and egress. In a district fiber configuration, service is provided at levels ranging from 5 Mbps through 10 Gbps between the schools in a district and a district aggregation point. Under our egress offering, ENA connects the district aggregation point to an ENA POP in bandwidth increments of 1 Mbps between 5 to 1,000 Mbps.

## *Network Security*

We understand that network security is critical to a safe, productive environment. To safeguard the network against viruses and other invasions, **we use a number of security measures for multilayer protection** including:

- Access control lists (ACLs) at the core of our network and at all end sites
- Routing protocol authentication

- Firewall services
- Virtual private network arrangements
- Proactive network monitoring

Our network security professionals stay on top of the latest developments in network security and risk management. As security needs of networks evolve and change, our engineers use the latest security practices to keep the network secure.

Strict ACLs will be applied and maintained on each ingress interface on each customer link. Only traffic that originates in the prefixes assigned to the site will be allowed to traverse the link; and, only traffic that is specifically destined (non-multicast) to those same prefixes will be allowed in. All other traffic will be dropped and logged. This means that only traffic that is destined to or from a certain site will be allowed, thereby minimizing many of the network-based attacks that try to obscure the source and destination addresses of their virus-laden packets.

Access to all routers and circuits in the network will be managed via RADIUS profiles from centralized servers. All router logging and RADIUS accounting information will be stored on the same centralized servers, allowing us to audit and track access and changes network-wide from a central point. Access to routers will be via telnet with strict VTY ACLs that allow access only from our help desk and NOC. All unnecessary services on routers will be disabled.

Key network components, such as ENA POP equipment and routers, are housed in existing physically-secure telephone company-grade facilities. Physical access to these facilities is via audited card-key access and only top-tier technicians and field service personnel will be allowed access. Routine maintenance will be performed during late night hours and only with 48-hour prior notice.

**As an optional service for schools, ENA offers comprehensive, centrally hosted firewall services including all hardware, software and support.** Additional information on our firewall services can be found in the **Additional Considerations** section of this Proposal Response.

ENA can also provide management and maintenance of school-owned firewall appliances that can be configured to be hosted locally and perform many of the same tasks as our centrally hosted solution.

## *End-to-End Quality of Service (QoS)*

**By default, ENA will provide bandwidth shaping and guaranteed Quality of Service (QoS) anywhere on the network for interactive video conferencing. ENA has optimized its network to provide seamless support for integrated video services using H.323, H.264 and SIP protocols.** Experience over the past five years has shown that ENA's IP video network optimization is critical for classroom teachers to embrace this technology as it ensures a quality experience for reliable classroom use of IP video service.

The ENA network is capable of providing optional bandwidth shaping and guaranteed QoS services for schools on the network for applications beyond video upon request. See **Additional Considerations** for detailed information on QoS.

**a. Upload speeds ranging from a minimum of 1.5Mbps to 1GB with individual entities able to specify their preferred level of service.**

ENA's network service will provide a variety of upload speeds ranging from 1.5 Mbps to 10 Gbps with each entity able to specify its preference. ENA's ASMs will work with districts to match the best connectivity options to their needs and review annually with technology coordinators and district personnel to ensure adequate funds for the following year have been applied for through the E-Rate program.

**b. Download speeds ranging from a minimum of 1.5MB to 1GB with individual entities able to specify their preferred level of service.**

ENA's managed network service offers symmetrical download speeds ranging from a minimum of 1.5 Mbps to 10 Gbps and beyond. The ENA ASMs will work with districts to determine the best match of service and capability at least annually to ensure that we match the best service options with local district requirements.

**c. Option of participating districts to utilize provider supplied connection hardware with layer 3 routing and switching capability, configuration, and management to each end site within a wide area network.**

ENA is responding with a fully managed layer 3 service. As an integral component of our fully managed service, ENA provides all required Customer premises equipment (CPE) and any required routers to deliver the contracted level of service. We will update the CPE and/or router as needed to deliver a reliable service at the contracted service level at no charge to the school for the life of the contract.

**A core benefit of ENA's Priority 1 E-Rate-eligible, turn-key managed Internet services offering is that it encompasses the provisioning, installation and on-going maintenance of all circuits and network equipment/hardware and includes network design, monitoring, maintenance, support, security, performance evaluation, and E-Rate filing assistance.** As such, ENA will provide, configure, install, monitor, manage and maintain all CPE we provide including end site routers and switches required for Internet or WAN connectivity. All end site routers are modular and able to accommodate a full range of technologies, from T-1s to 10 Gigabit Ethernet service delivered by fiber.

ENA will assume all responsibility and continually monitor and maintain circuits and CPE that we supply for the life of the contract with the Consortium. The ENA NOC will be your single point of contact and accountability for ENA provided equipment and services. In the event that any of the ENA-owned devices fail, we will configure and install a replacement coordinating directly with the affected Consortium participant location. ENA field staff will stock an inventory of spare routers and switches to ensure immediate availability in the event they are needed. This spare inventory will allow ENA to ensure rapid resolution of any service-affecting condition.

**d. Access to network utilization statistics.**

ENA takes pride in our ability to deliver seamless end-to-end managed network and security services while simultaneously allowing our customers as much insight into the details of their activity as we can provide. **In addition to our Ticket Tracker event notification tool detailed below, ENA has developed sophisticated, web-based network monitoring, bandwidth utilization, and account management tools that are easy to use, highly visible and accessible to our customers.** With ENA, Consortium participants will get a 24x7x365 view of the status of the network and what is being done to correct any current incidents.

## *Customer Access to Trouble Tickets*

ENA provides easy-to-use, real-time access to our internal trouble ticketing system to all customers. Our trouble ticketing system is an online, always-accessible interface that provides immediate access to all trouble ticket activity involving customer support. **This tool allows Consortium participants to open new tickets, update existing tickets and view up-to-the-minute information about issues that might be affecting their level of service and detailed information about what action ENA is taking to correct the problem.**

An example of our online Customer Support Ticket Tracker that provides customers with an updated view of ENA's Remedy trouble ticketing system detailing all issues being worked to resolution is provided in the following illustration:

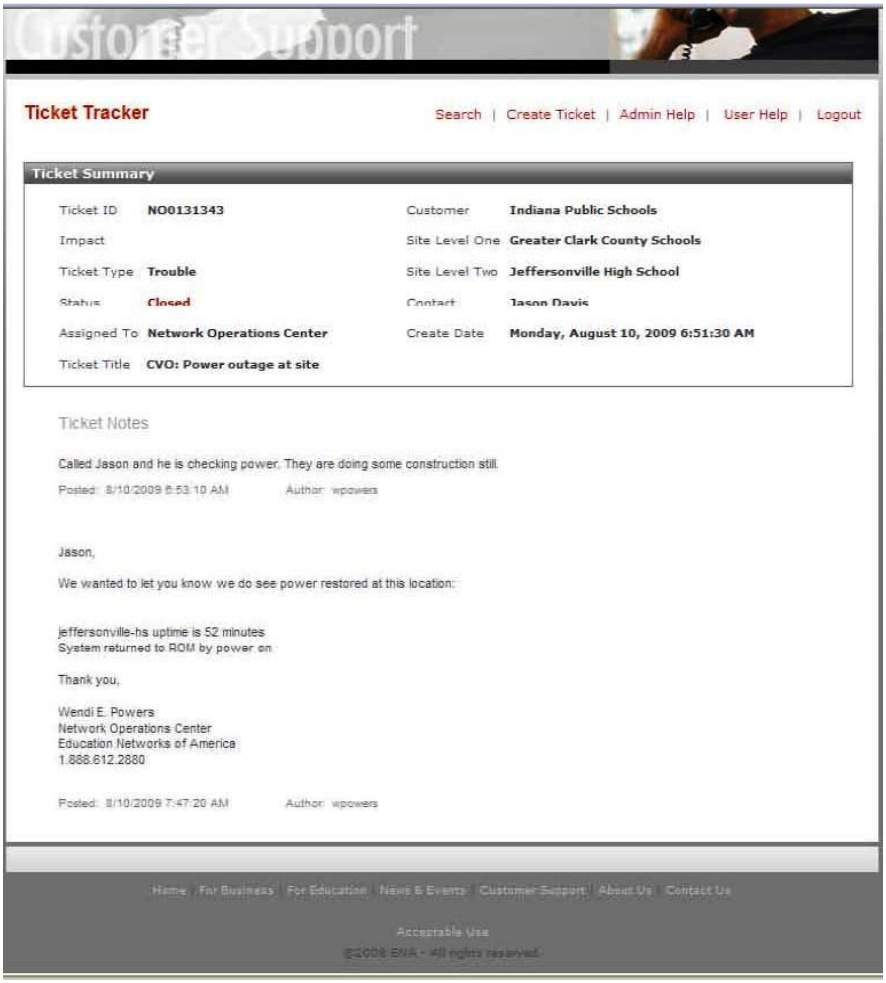


**Figure 10: Web-Based Customer Service Ticket Tracker**

## *Network Monitoring and Management Tools*

Employing our own internal systems using industry-leading software, ENA actively monitors all network traffic in aggregate and has the capability to drill down to specific IP addresses in order to monitor and manage network abuse, virus outbreaks, unusual network traffic, and ensure packet prioritization based on pre-set rules. In addition to the customer facing tools described below, ENA employs sophisticated application level monitoring tools that enable ENA to see exactly how the network is being used. For example, ENA is able to analyze the signatures of each packet that traverses an ENA-managed network. This allows ENA to create custom reports for almost any set of criteria the Consortium might require.

**The tools outlined below will be available to provide data for each individual end site.**

## Network Monitoring Tool

ENA's proactive network monitoring system checks each device on the network in five minute intervals. If a test fails or performs outside expected boundaries, the system alerts the ENA help desk to take corrective action so the device is returned to service as soon as possible. **The Network Monitoring Tool displays real-time status of the Consortium network, allowing insight into the health of the network at any time, from any place with an Internet connection.**

**At a glance all Consortium participant administrators can determine:**

- If an outage has occurred at a site
- Length of the outage
- If it is acknowledged by ENA

If the ENA help desk is currently working such an outage, administrators may click a "Ticket" link and be taken to the Ticket Tracker for that specific issue to see the progress toward resolution. Additionally, Consortium participants can view historical availability information for each site for the last two months.

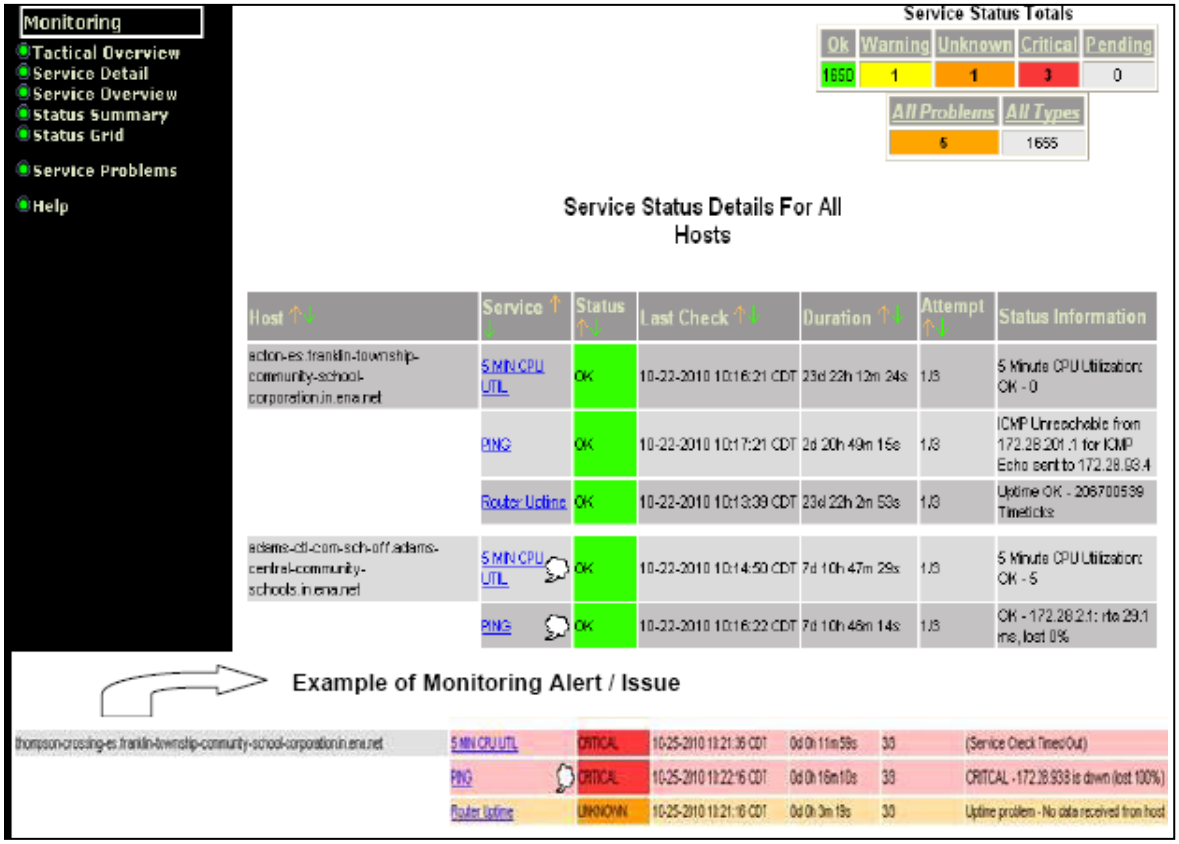


Figure 11: Network Monitoring Tool

## Bandwidth Utilization Reporting Tool

The Bandwidth Utilization Reporting Tool allows Consortium participants to track and **monitor aggregate bandwidth usage by site using industry standard metrics. This tool provides bandwidth usage documentation on an hourly, daily, weekly and monthly basis.** This information assists in troubleshooting, planning, future capacity requirements and tracking usage spikes.

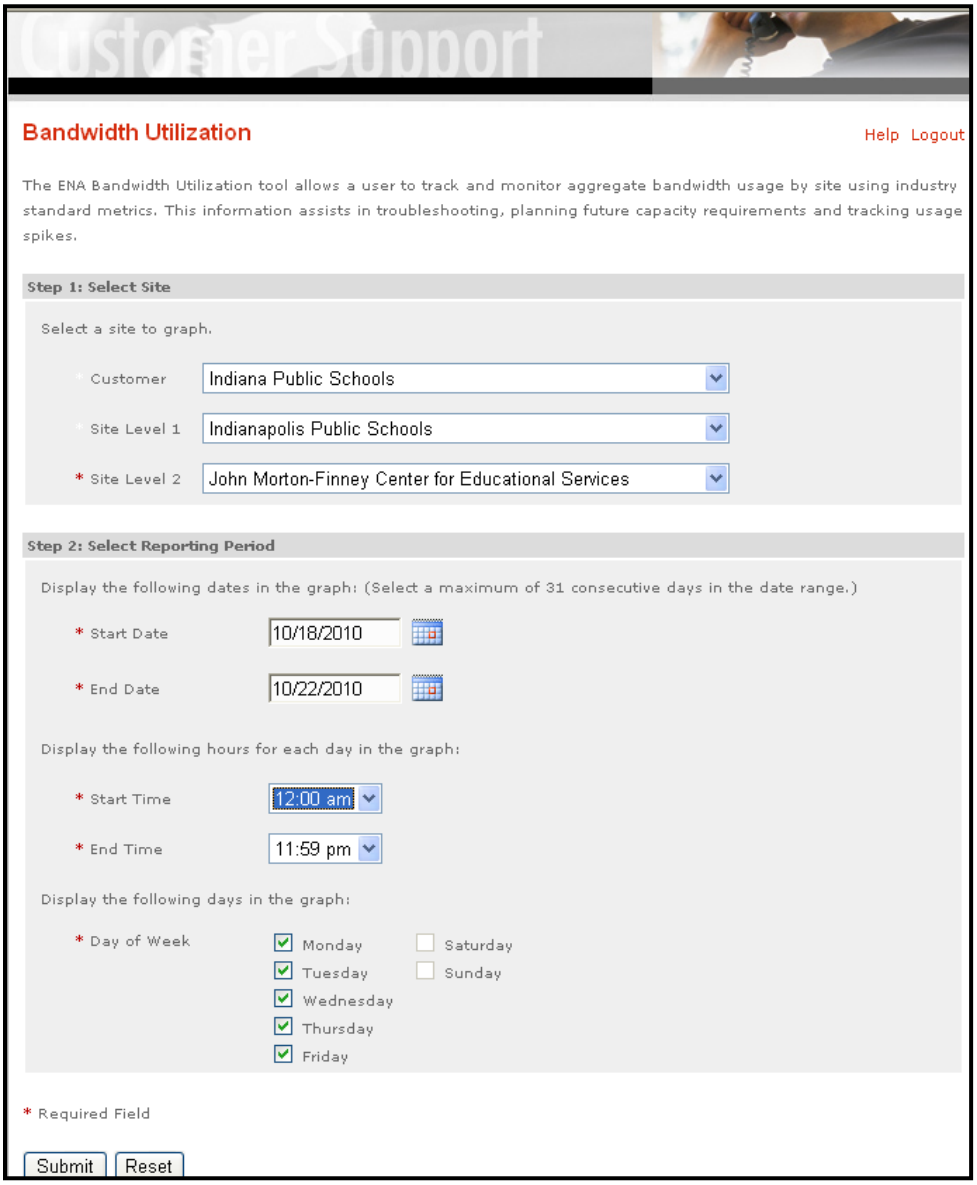


**Figure 12: Bandwidth Utilization Reporting Tool**

### Account Management Tool

The Account Management Tool allows authorized personnel to maintain account information for users who are granted access to the tools for the management of passwords, user profiles and the creation of additional accounts.

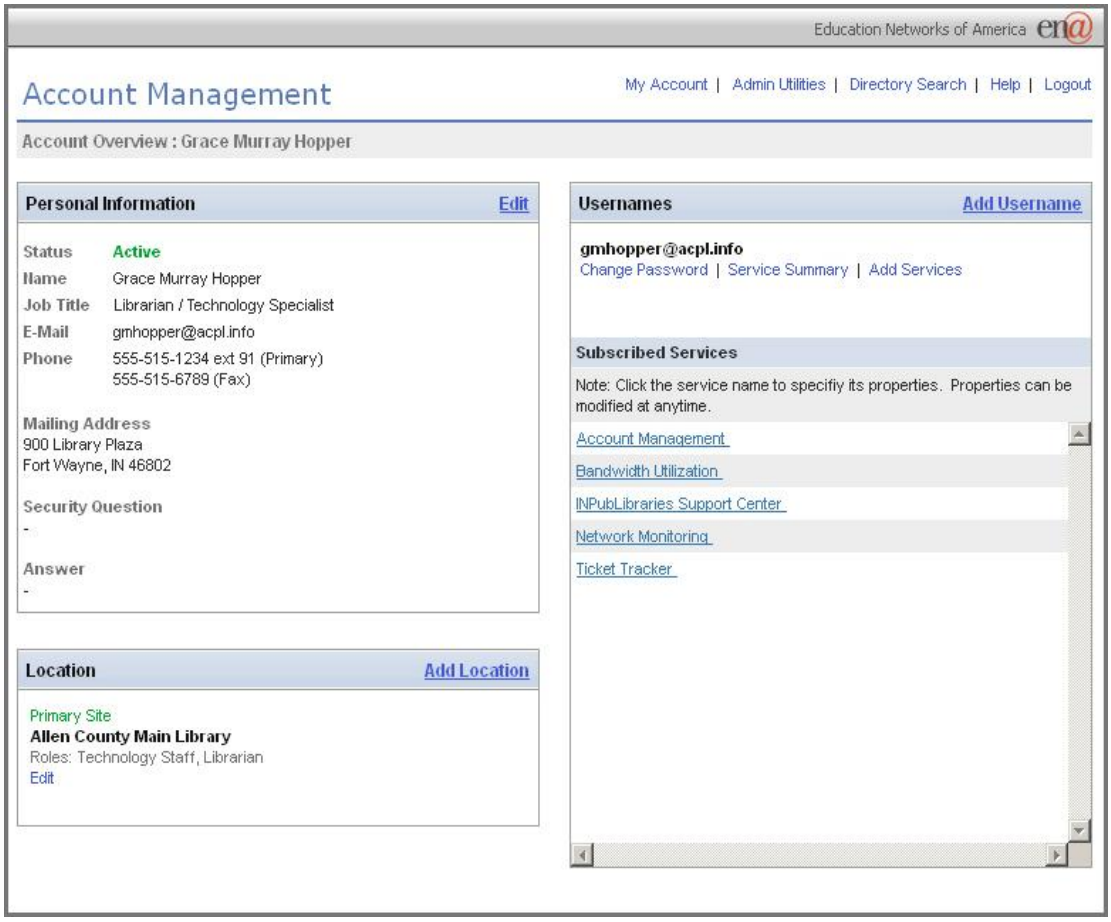


Figure 13: Account Management Tool

## *Training*

ENA will provide access to ongoing web-based training for Consortium participant network staff on all our customer accessible network monitoring and management tools via scheduled webinars and online help functionality. The webinars will include a live demonstration of the tools described above along with a time for specific questions to be addressed.

**e. Retention, deletion, and reporting of Internet access logs must be customizable to adhere to local entity retention policies.**

ENA retains Internet access logs only for the purposes of troubleshooting content filtering. In normal operation, these logs rotate approximately every 20-24 hours as their size grows at an extremely rapid rate. In order to maintain compliance with the rules promulgated from the Commission on Online Child Protection (COPA), the Children's Internet Protection Act (CIPA) and other related legislation, no personally identifiable information is stored in these records. ENA does provide additional log reports that are customizable by the school district for our enhanced content filtering options such as Authorized Override. Additional information about content filtering and our Authorized Override solution may be found in **Section II, Additional Services.**

In addition to content filtering, ENA offers optional e-mail archiving services that provide the ability for districts to customize retention, deletion and reporting to local entity retention policies. Please see the **Additional Considerations** section for this information.

**f. 24/7 technical support with next-day on-site hardware replacement as needed.**

**ENA is your single point of contact for all Internet, voice and WAN support.** School district staff does not have the time or resources to coordinate services between the large numbers of service providers required to deliver equitable service statewide. The ENA NOC serves as the unified point of contact for all network services throughout the state and eliminates the confusion and finger-pointing normally present in any network. **A customer who desires additional service or is experiencing difficulty with current services just calls one phone number and discusses the problem with one unified help desk.**

ENA provides 24x7x365 technical support with often times better than next-day on-site hardware replacement as needed. Complete information regarding our technical support services can be found in our response to **Question 6**.

**g. Provision of public static IP addresses to each participating school to meet school's minimum requirements.**

ENA will provision static public IP addresses to each participating Consortium member with an overall strategy that will provide Consortium participants with a scalable IP addressing schema that meets and exceeds their minimum requirements. We will provide periodic updates to the Consortium regarding IP address changes and will provide DNS for Consortium address pools.

ENA will judiciously manage the Consortium participant's existing IPv4 address space with systems and practices currently in place—including Classless Inter-Domain Routing (CIDR) and Network Address

Translation (NAT). Employing these techniques and practices, ENA's ability to adapt to future network growth has been proven through our work with K-12 public schools and libraries nationwide.

ENA's IP address allocation plan outlines specific rules for the ENA NOC staff to consider before assigning new or additional IP addresses (public or private), including the end site's population, the computer count, and physical location on the ENA network. The result of this process is that schools are allotted the correct number of IP addresses needed based on the metric, as well as an allowance for future growth. Additionally, the geographic assignment of IP addresses allows ENA to summarize routes at our POPs, thus providing for faster Internet connectivity.

NAT, as employed above and outlined in RFC 1918, is a technology that can be used to extend the life of public IP addresses. ENA has designed and implemented a NAT schema in Indiana to help conserve public IP addresses and we would expect to do the same in New Hampshire based on specific district/SAU needs. In this NAT environment, end sites use private IP addresses which free them from the requirement of using a public IP address for each computer at the site and minimize the need for future workstation IP address changes. Although these private IP addresses are plentiful, they are not usable on the Internet. To remedy this, ENA's engineers configure the on-premise ENA router so that it maps all internal private IP addresses to the least number of public IP addresses required.

Over time, ENA will also assist the schools in their eventual transition to IPv6 addressing. IPv6 is the next generation protocol designated by the Internet Engineering Task Force (IETF) to replace the current version, IPv4. Most of today's Internet uses IPv4 which is now nearly 20 years old. IPv4 has been remarkably resilient in spite of its age, but it is beginning to have problems. Most notably, there is a growing shortage of IPv4 addresses, which are needed by all new machines added to the Internet.

All proposed network-layer hardware supports the IPv6 technical requirements in addition to the current IPv4. ENA's current internal support structure will remain in place; the support structure was designed to be flexible and will be kept in line with industry standards and practices throughout the resulting contract term.

In order to ensure we are prepared to provide a scalable IP addressing schema for the future, **ENA has already worked with the American Registry for Internet Numbers (ARIN) to receive an allocation of sufficient IPv6 addresses to support our network customers.** Our experience in providing scalable services that support K-12 school districts and public libraries has led us to look to the future and ensure that we have sufficient resources, including IP addresses, to support the continued growth of our network.

ENA has already deployed IPv6 addressing throughout our backbone and this protocol is supported on most versions of Windows, Mac OS and Unix/Linux-based operating systems.

While migration to IPv6 addresses is not a requirement to maintain connectivity through ENA, we will encourage orderly migration over time for all of our customers. We expect our customers will make

their own determination regarding the value of this migration and their preferred timing to make the change. This migration is part of the ongoing innovation and technology refresh that are key benefits of ENA's managed service. We will work closely with each customer to make any migration as easy as possible.

**h. A standard price per school, as well as bundled prices on various options.**

ENA provides our best and most cost-competitive pricing for each of our services. Please refer to **Section III, Cost Details** for this information.

**5. Bidder will provide data regarding service reliability, such as a percentage of constant connectivity.**

ENA provides an extremely reliable service. Not only do we measure how quickly we react once an issue is identified but we also measure our overall customer satisfaction outside of a trouble situation. Below find summary statistics regarding our monthly Help Desk/NOC call metrics. This information demonstrates the volume of issues we handle on a monthly basis as well as how quickly **we respond and resolve** troubles when they occur.

| Metric | 2008 | 2009 | 2010 |
|---|---|---|---|
| **Average Monthly Call Volume** | 1,777 | 1,797 | 2,196 |
| **Average Speed of Answer** | 18 seconds | 16 seconds | 20 seconds |
| **Percent of Customer Visible Outages Notified Proactively** | 92.6% | 94.4% | 96% |
| **Average Customer Visible Outage Length (SLA)** | 32 minutes | 35 minutes | 45 minutes* |

**Average SLA resolution time increased by 10 minutes in the first half of 2010 due to substantial expansion of our business. While resolution time was well within our SLA commitments to our customers, we have already taken action to shorten that interval, by adding additional staff, enhanced training, and process improvement both internally and with our underlying carriers. We are confident the measures we have taken will minimize outage impact for all our customers.*

ENA is constantly researching and testing ways to further mitigate risk and reduce recovery time. As an example, in 2009, ENA implemented MPLS Fast Reroute (MPLS FRR) across our network backbone. MPLS Fast Reroute, or MPLS Local Protection, is a data link-layer network resiliency mechanism that allows ENA to create pre-configured backup paths for all backbone traffic. **With MPLS FRR, ENA has the ability to reduce the time it takes to route around network outages from several minutes to less than a second.**

**6. Bidder will describe its response strategy regarding any service outages that occur by local providers, including problem resolution estimates for each category of severity and how problems will be escalated from minor, major, and critical.**

## *Centralized Help Desk and Network Operations Center Services*

ENA provides a 24x7x365 help desk/Network Operations Center (NOC) with a dedicated live staff for immediate customer assistance on any and all services issues. Support calls are answered quickly by a live person in the U.S. with experience in working with school systems and libraries. There are no long waits, automated response systems or phone trees. The ENA NOC is available via e-mail at support@ena.com and also directly by telephone 24 hours a day, 7 days a week, 365 days a year at 888-612-2880. **Since ENA is dedicated to serving education customers, participating Consortium members will receive the highest priority level of service.**

ENA's NOC is staffed with seasoned customer service engineers to receive unlimited trouble calls and critical changes and is dedicated to the support of all services outlined in our response. Additionally, ENA provides web-based, always available network monitoring tools, including access to our trouble ticket system. These tools are described in detail in response to **Question 4**.

ENA understands that **downtime during school hours means lost educational opportunities** for students as well as lost administrative productivity. We deliver reliable service around the clock, but have focused our teams on the critical hours for schools in order to ensure that in the unlikely event of a service disruption we are poised to immediately respond and restore service. This level of proactive customer care sets us apart from other responses you may review.

ENA has been operating and staffing its own NOC for managed networks and related services since 1998. During this time, we have implemented and used network monitoring tools and industry-standard Remedy-based trouble ticketing and escalation procedures to ensure quick and efficient resolution of customer problems and issues. Moreover, because of the experience and expertise of our NOC representatives, the majority of trouble tickets are resolved quickly and without escalation, providing rapid resolution and better service to our customers.

**If the NOC representatives are unable to resolve the problem at the first point of contact, they work directly with outside circuit vendors or expeditiously escalate it to Level 2 or Level 3 ENA teams depending on the difficulty and critical nature of the issue.**

### Experienced and Skilled Staff

The primary objective of ENA's NOC is to provide outstanding technical support to participating Consortium members. While the tools are extremely important, the key ingredient for speedy resolution and satisfied customers is seasoned, skilled and proactive support engineers. Our customer

service engineers are experienced professionals with previous work in the support environment and expertise in the unique problems experienced by schools, libraries and government entities.

**Our NOC Manager is certified as a Help Desk Institute (HDI) Support Center Director and 100% of ENA's NOC staff analysts are certified as HDI Support Center Analysts.** This means that ENA NOC staff is internationally recognized as part of the world's largest (50,000 community members) IT service and support professionals' association and certified by the industry's premier certification and training entity. Having this certification ensures customers they are receiving enhanced customer service from individuals who are confident with refined customer service skills. The ENA NOC staff is trained to be focused on effective customer care and problem resolution as well as utilizing fundamental support center processes and tools.

**ENA's 24x7x365 NOC provides comprehensive network management support and acts as the single point of contact for all participating Consortium members.**

## Basic Components

Our deployment of the NOC includes the following basic components:

- Toll-free phone, fax and web communication options
  - Trouble ticketing system
  - Web-based tools custom designed for education and library customers
  - Tools that allow customers to view service status and make service requests
- Detailed processes and procedures
  - For network maintenance
  - For customer support
- Knowledge base with current and historical reference information on ENA's services, technology, and unique education and library customer requirements
- Seamless interface among the front-line help desk/NOC
  - A first-rate escalation process
  - Experienced systems engineers
  - Advanced technical support
- A dynamically linked resolution system that tracks on-the-fly updates to network and systems documentation
- A range of diagnostic network management tools and utilities allowing for the monitoring and tracking of network performance

**Our approach to supporting participating Consortium members is based on seven key principles:**

1. Create a **hassle-free, single-point-of-contact support system** designed around the unique needs of participating Consortium members.

2. Provide NOC personnel with access to **24x7x365 monitoring tools** to identify and resolve potential problems before they affect the system. Consortium participants' authorized administrators will also have web-based access to tools to monitor these activities at any time.

**Key Support Principles**:

- Single-Point-of-Contact
- 24x7x365 NOC Access
- Knowledgeable Staff
- Empowered Help Desk
- Real-Time Access for Field Staff
- Essential Web Tools
- Proactive Monitoring

3. Staff the help desk/NOC with individuals who not only know the technology, but also **understand how to meet the unique needs of education, library and government environments.**

4. Empower the help desk/NOC staff with **best practice** tracking and escalation procedures coupled with ticketing and network management software to enable **continuous improvement, true accountability and proactive problem solving**.

5. Provide all dedicated field service personnel **real-time access** to trouble ticket and network monitoring systems in the NOC from any location via wireless laptop computers.

6. Provide participating Consortium members' technical personnel a broad range of web tools which permit them to monitor the status of their own portion of the network at any time, including **full access to monitoring and trouble ticket activity**.

7. Proactive monitoring and customer notification of service outages.

Network management, configuration management and security management tools allow the support team to stay in front of issues and to work towards swift problem resolution. Equally as important, they generate the key data elements that are both necessary to meet reporting requirements and to create the feedback loop that allows for continuous improvement. Our NOC manager continuously improves customer service by monitoring key metrics such as wait-time on calls, number of contacts per resolution and time to resolution.

## *24x7x365 Proactive Monitoring*

**Ninety percent of the time or better, ENA contacts our customers in advance of their call in the event of a service outage.** We are able to achieve this level of advance notification because of proactive trouble detection by our network monitoring system. Our sophisticated and fault-resilient network monitoring tools monitor all network devices, circuits and related managed services on a 24x7x365 basis. These tools do far more than inform us when a device is up or down. They measure and report interface and circuit errors, latency, ping loss over time and many other factors which can affect an end user's overall network experience.

Key Performance Indicator

**90% of customers are notified of an outage even before they are aware it exists!**

**Of the issues not resolved based on proactive monitoring, many are resolved by our NOC during the first call. This capability coupled with multiple communication methods (e-mail, phone and fax) for reporting troubles enables us to meet and exceed our customers' expectations for network monitoring and support**.

## *Timely Response and Resolution*

**ENA will respond to all troubles within two hours of the occurrence, typically even earlier.** Response is defined as trouble isolation with communication back to the affected participating Consortium member site and appropriate dispatch as required. Service should be restored in all cases within four hours.

For prolonged outages, ENA will notify the participating Consortium member site of the issue and continue to keep the site apprised of ongoing efforts to resolve the problem until full resolution is achieved. A complete incident report, including a record of the extended network outage and troubleshooting activities, will be delivered to the affected site within 24 hours of the problem resolution via e-mail or other agreed upon electronic communication.

## *Field Operations Staff Support*

ENA's Field Operations staff and resources will be deployed locally throughout New Hampshire **assuring we can maintain network reliability and be available at any participating Consortium member site within the committed response times.** This will ensure the highest levels of reliability for Consortium participants. Our field service engineers also carry necessary spare parts to fix problems on the service call, further reducing the time to repair any outages.

## *Incident Matrix*

**The following incident matrix chart outlines ENA's priority levels with escalation paths and timelines.**

| ELAPSED TIME | CRITICAL ISSUE | MAJOR ISSUE | MINOR ISSUE |
|---|---|---|---|
| Immediate | Network Operations Center (NOC) Manager | NOC Manager | Customer Support Analyst (CSA) |
| 20 Minutes | Senior Vice President (SVP) of Operations and Deployment | NOC Manager | Customer Support Analyst (CSA) |
| 1 Hour | SVP of Operations and Deployment | NOC Manager | NOC Manager |
| 2 Hours | SVP of Operations and Deployment | NOC Manager | NOC Manager |
| 4 Hours | SVP of Operations and Deployment | NOC Manager | NOC Manager |
| 8 Hours | SVP of Operations and Deployment | NOC Manager & SVP of Operations and Deployment: Escalated to Critical | NOC Manager |
| 12 Hours | President | Previously Escalated to Critical at 8 hours | Escalated to Major within two business days and SVP of Operations and Deployment notified |

**Figure 14: Incident Escalation Matrix**

## *Escalation Process*

ENA has a record of quickly and satisfactorily achieving problem resolution and has developed consistent procedures and contact processes. This is a result of the superior talent, experience and commitment of our team combined with our technical approach that has enabled us to earn the trust of our customers. **ENA's customers have consistently found our employees to exhibit the utmost professionalism and technical proficiency while performing their duties.**

We have developed an effective and efficient escalation system based on and customized for the needs of the end users of our managed networks. Because we understand that time is a precious and scarce commodity for New Hampshire educators, librarians, administrators and government personnel, we have eliminated the typical superfluous initial point of contact that exists in most network and Internet service provider help desk structures. Our NOC representatives possess and make effective use of a broad range of talent, experience and tools that are uncharacteristic of most help desk teams. **As a result, over 95% of questions or problems reported to the NOC are resolved by the NOC at the first point of contact, avoiding the necessity for engaging higher level resources in the support chain and enabling the customer to return to full productivity as quickly as possible.**

The NOC team boasts professional teaching experience in addition to industry-standard, advanced network and computer hardware certifications. By staffing our NOC with capable and empowered individuals, we provide a level of service tailored specifically to the participating Consortium member's support needs. **The following graphic summarizes our trouble resolution methodology:**

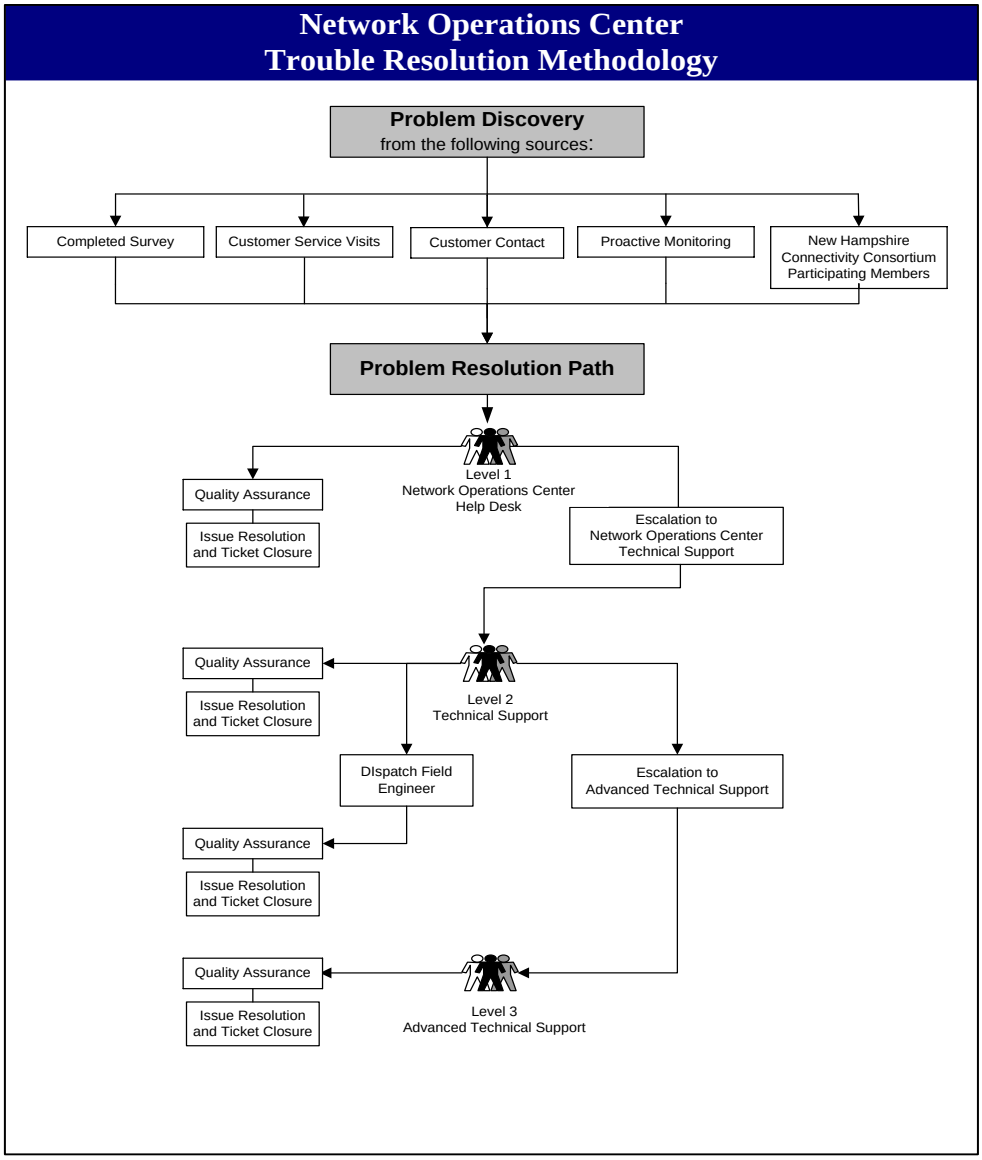


**Figure 15: Network Operations Center Trouble Resolution Methodology**

**ENA's escalation procedures are as follows:**

1. Upon receiving a request for assistance or otherwise identifying a problem with the network, a NOC representative will open a ticket within the help desk system. In most cases the problem is resolved on the first call; however, in case the problem is beyond NOC team capabilities, they will escalate the issue to the Level 2 team. The NOC representative responsible for the problem will assign a work order ticket to an available and appropriate Level 2 engineer and inform the customer point of contact. Each attempt to notify the customer will be recorded. The help desk system will automatically notify the Account Service Manager.

2. Should the problem be beyond the scope of the Level 2 team capabilities, they will reassign the work order to the Level 3 team. The help desk system will automatically notify the Level 3 team and the Account Service Manager. The NOC team will inform the requestor of the progress.

3. The Level 3 engineering team will follow the problem through to resolution.

## Our Advanced Help Desk System Makes Problem Escalation Straight-forward and Uncomplicated.

Should a customer feel that the NOC or engineering teams are not providing an adequate level of service; the customer may use the customer service escalation path. **We provide the customer service escalation path as a means for the customer to raise awareness of any problem to a higher level of management.**

We believe that our customers always have the right to intercede in the process if, for any reason, they believe an issue is not receiving adequate attention or appropriate remediation. Should this situation occur, the customers may contact their Customer Service Representative or NOC Manager and request to speak with anyone listed in the ***Customer Service Escalation*** chart (see below). The customer service escalation path, in order of priority, is as follows:

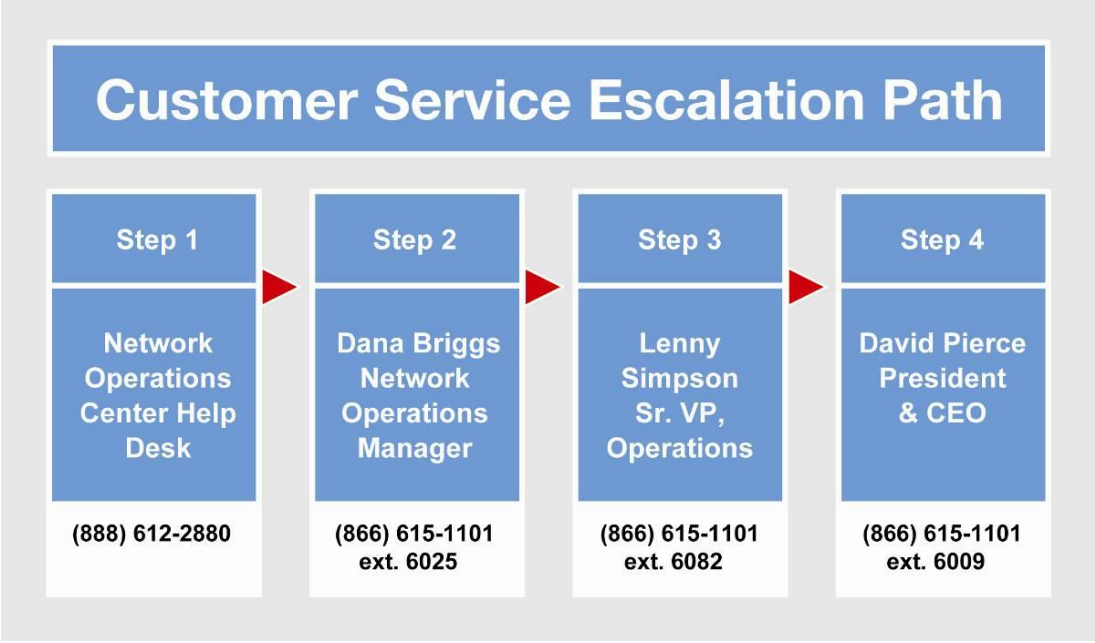


Figure 16: Customer Service Escalation Path

## *Advance Notification of Service Interruption*

ENA strives to notify all potentially affected customers of any planned service interruption at least 48 hours, and preferably 72 hours, in advance of the start time of that interruption. Our standard maintenance windows are Tuesdays and Thursdays from 11 p.m. to 5 a.m. local time. ENA would be willing to create different maintenance windows with the Consortium if desired. ENA will work with participating Consortium members in advance of any scheduled maintenance to ensure our standard maintenance window does not adversely affect planned work at any location on any night we schedule maintenance.

ENA has a track record of providing excellent service to statewide Consortiums. We have consistently met and exceeded our contractual service levels**. However, beyond just meeting the contractual commitments, we strive every day to enable our customers to meet their objectives through proactive management to achieve high network availability and extraordinary expertise and responsiveness when they call us for assistance.**

**7. At the district's option, provider will offer timely and knowledgeable E-Rate expertise to each member district to ensure the appropriate preparation and submission of E-Rate forms.**

ENA considers active involvement with E-Rate part of its role as a partner with its customers and has more than a 99% success rate obtaining critical E-Rate funds with all of its customers. **In addition to the information already provided in response to Question 2, ENA will provide the following assistance in the FCC Form 471 process:**

- We will act as a resource to the participating Consortium members for information about the technology, products and services being furnished under this RFP.

- We will provide timely information Consortium participants can include with its application, for example, supporting documentation fully describing the services being ordered. ENA has significant experience and a very successful track record in working with consortiums to prepare service definitions for Form 471s.

- We will assist participating Consortium members as a resource during all phases of the 471 review and approval process of the E-Rate Program including assistance during PIA review. ENA understands the time restrictions PIA imposes on schools districts and service providers in responding and providing timely and adequate documentation for any questions that may arise. ENA's experience in assisting with over 4,500 funding requests provides a significant resource for customers going through PIA review. Many times ENA has already worked with a customer that had a similar experience and can provide a high level of assistance and comfort to a customer facing similar E-Rate questions.

- We will work with participating Consortium members to determine the specific roles applicable to the actual preparation of FCC Form 471. ENA has performed this role in the past with its consortium and school system customers and understands its role as advisor and assistant to its customers. ENA is fully prepared to assist the Consortium and participating New Hampshire schools in all aspects of Form 471 preparation, as necessary and allowable under E-Rate Program rules, from Free Reduced Lunch/E-Rate discount calculation assistance to review of the final document prior to submission to the SLD. ENA stands ready to commit its resources and experience to assist in continuing successful E-Rate filings by the participating Consortium members.

- We pitch in to assist our customers with skilled manpower to assist with the E-Rate program that is not readily available elsewhere. ENA provides detailed assistance on matters such as Item 21 attachments, treatment of pre-K and adult populations, and eligibility of services and locations. ENA also works with its customers on the complex issues of cost allocation. Once selected as your service provider, ENA will provide as much assistance as allowable under the E-Rate program.

- We will review the Receipt Acknowledgement Letter (RAL) in a timely manner and communicate where problems are noted and get actively involved in making sure corrections are made in the

required timely fashion. ENA understands that participating Consortium members have a deadline to review and submit any corrections upon review of the RAL. ENA will proactively review the RAL and communicate in writing and in person, if desired, any necessary corrections in a timely manner to easily meet any deadlines. ENA is also fully aware of the new rules related to RALs, especially the corrections now allowed under the Bishop Perry Order, and is prepared to assist its customers in making sure information on all RALs is accurate as well as assist in making corrections where needed and allowable. ENA will make necessary corrections based on notifications provided to participating Consortium members and in full cooperation and partnership with the Consortium, E-Rate Coordinator and E-Rate team.

- We will review the Funding Commitment Decision Letter (FCDL) to ensure its accuracy. ENA will communicate in writing when problems are noted and get actively involved in making sure the appeals and/or corrections are made in the required USAC timelines. ENA has successful experience dealing with appeals and other unusual funding situations that may arise in working with the SLD. ENA has detailed knowledge of the appeals process and has participated in several successful appeals including the appeal related to the original Tennessee consortium Form 471 filing in 1998, which resulted in one of the largest appeal wins in the history of the E-Rate Program.

- ENA will assist the Consortium and its participating members in the FCC Form 486 process including providing information relevant to the actual start date of services. ENA understands the time restrictions imposed by USAC and SLD on the filing of the Form 486 and has worked with its customers to meet those time restrictions. ENA has been involved in assisting and guiding its customers in filing hundreds of Form 486s during the 11-year life of the E-Rate Program. ENA understands the changes in the E-Rate program that may result in a 486 review and can advise the Consortium or its participating members in the event that its 486 is selected for review.

**Knowing your service provider is part of your team provides peace of mind and aids in maximizing E-Rate funding.** Should we be selected as the Consortium's service provider, ENA will work diligently with the Consortium and its participating members throughout the entire application and review process to ensure all deadlines are met and that funding is not only secured, but also maximized for Consortium participants.

## *E-Rate Billing BEAR and SPI Forms*

**ENA works with districts to determine a preferred E-Rate billing method:**

1. **Billed Entity Applicant Reimbursement (BEAR) reimbursement method, or**
2. **Service Provider Invoice (SPI) method (Discounted bills with ENA billing the SLD directly)**

ENA has significant experience in providing invoices to district customers and the SLD using either method, with successful outcomes on behalf of hundreds of customers.

If the BEAR method is selected, ENA will bill the district 100% of the service charges and then assist the district with preparing the BEAR reimbursement Form 472 for submittal to the SLD. We will monitor the process to ensure the BEAR deadline is not missed, review and certify BEAR forms quickly using the electronic certification process, help with invoice deadline extension requests, and offer assistance as requested or required. Additionally, as ENA receives BEAR payments, ENA quickly releases the reimbursement back to customers.

ENA typically uses and strongly encourages consideration of the discounted invoice/Form 474 SPI method because of the immediate financial benefits this method represents to customers. School districts selecting this method receive invoices only for their portion of the service cost and ENA invoices USAC for the discounted amount. This approach allows customers to stabilize their cash outlay while ENA funds any delays from the SLD should they occur.

Furthermore, and unlike many telecommunications vendors, ENA bills for its service at the end of each month after service is completed. Copies of all invoices sent to USAC are maintained and provided upon request. We work to make certain your district receives and maximizes the E-Rate funding that it deserves.

## *Customized Billing Capability*

**ENA considers delivery of an invoice that meets customer's needs to be integral to our customer centric delivery model.** We will work to meet and exceed all billing requirements for an efficient and successful invoicing process. ENA has significant experience billing K-12 E-Rate participants and will be responsible for all service billing as required. Our flexible billing system has the ability to provide easy to understand, customized billing based on customer requirements and ENA will work to design a bill that works best for your organization. ENA typically delivers electronic invoices to its customers in Microsoft Excel format through e-mail; if desired, our team will work to provide an acceptable alternative. And to ensure requirements are met, ENA will present a sample invoice for review prior to initial invoicing. **Our goal is to design and deliver an invoice that is easy to review and works well with customer internal payment systems.**

**ENA is ready to help by designing a billing methodology that:**

- Best meets the district's needs
- Meets all E-Rate requirements
- Minimizes time and resources

## *Single Point of Contact for Billing*

A large portion of our success with the E-Rate program is attributed to our internal processes and organizational structure which allows ENA to provide dedicated account management for billing. With ENA, Consortium participants will have a single point of contact for all invoice management and billing requirements. The Consortium's single point of contact for billing at ENA is: Ward Chaffin, Director of Finance; Phone: (615) 312-6015; Fax: (615) 312-6099; E-mail: wchaffin@ena.com.

**8. At the district's option, provider will offer server co-location or hosting option at provider's data center and will propose a monthly recurring charge any related one time charges for such services.**

ENA can provide both server collocation and application hosting services to participating Consortium members upon request. For server collocation, ENA provides rack space, power, and networking to customer-owned servers in our network POPs and collocation facilities. As part of our server collocation package, ENA can provide "hands-on" engineering assistance, power cycling, and custom consulting as required. As we note in **Section II. Additional Services, Service 3 - Disaster Recovery**, ENA's network POPs and collocation server racks are housed in highly secured, hardened carrier hotels that are capable of withstanding extreme weather conditions and power outages.

ENA's basic web hosting package uses either the schools' existing domain name or allows the participating Consortium member to pick a new domain name. Our site creation application provides easy-to-use design tools and templates that can be customized via a point-and-click, web-based interface to create a website in minutes.

Should participating Consortium members desire additional features and functionality, ENA will work to determine our ability to package and deliver a solution that meets both their technical and financial needs.

**9. Assuming some bidders may not have existing Internet connectivity to all localities in NH, project plans should describe how the bidder will work with current NH Internet providers to ensure that all public and private schools have the opportunity to participate in the Consortium.**

ENA recognizes that varying solutions for Internet and internal wide area network (WAN) connectivity are currently in place for many of the schools across the state. We also recognize that many schools desire connectivity solutions beyond those in place today. **We also know that no single service provider's infrastructure can serve all schools in the state; this is why ENA works with so many different underlying service providers to create a single, comprehensive statewide network for the Consortium members.** ENA's service approach of leveraging existing infrastructure from a wide variety of organizations enables us to provide scalable service across the entire state while serving as the single point of contact to manage and resolve all issues related to the network. We have partnered with FairPoint as our primary backbone and last-mile service provider, but intend to work with a wide variety of infrastructure providers in New Hampshire to deliver our services as described in our response to Question 4.

ENA has a long history of providing solutions built upon a managed service delivery model that leverages multiple underlying infrastructure providers. In every one of our markets, we work with a variety of network infrastructure providers such as cable operators, telephone companies, competitive carriers, local utilities, licensed wireless systems, and others to provide a cohesive managed service tailored to the requirements of each customer set. Our portfolio of underlying infrastructure providers numbers greater than 50 at the present time, and we have standard, proven processes for successfully engaging new providers to become participants in our managed service model.

The current environment in New Hampshire is a familiar one to ENA, and we will work with current New Hampshire infrastructure providers to create and deliver a solution that will meet and exceed the requirements of the Consortium. The first order of business is to complete, for all those who opt-in to the Consortium, a comprehensive picture of the existing and desired Internet and WAN connectivity for each School Administrative Unit (SAU)/district. This will include developing a profile of current infrastructure providers.

Based on that profile, combined with ENA's understanding of the needs of each SAU and the availability and capabilities of infrastructure providers across the geography, we will develop a plan to provide an integrated managed solution to deliver the desired service for each SAU. We anticipate that in some cases the current level of Internet and WAN connection capacity is consistent with their desired state, while in others an improvement is desired. In all cases, ENA will work with infrastructure providers to transition participating Consortium members to ENA's managed service at the required level of capacity. **New Hampshire Communication Plan Elements outlining our process in working with SAUs may be found in Appendix 6.**

# II. Additional Services

**NH schools indicated that the following additional services would be desired by some schools. Thus, all responses should include appropriate descriptions and details to illustrate how the provider will provide the following services as an option for districts, either through the provider's own resources or by partnering with another entity. If partnerships are formed, services to interested districts must still be provided and billed through the primary provider, with pricing and partnership arrangements clearly indicated. Provider will include design specifications and pricing on services for the entire K-12 Consortium.**

**1. If a district desires to purchase Internet content filtering, schools will be able to administer such services at the school and district levels. The filtering service will meet the requirements of the Children's Internet Protection Act (CIPA). The proposed filtering solution replaces individual filtering solutions already in place in each of the individual entities and, therefore, may be implemented in phases as entities elect to switch to the consortium filtering solution. Filtering solution will allow for each entity to manage bandwidth and to override initial configuration settings and open up or restrict specific sites, categories of sites, and categories of content by user profiles. Retention, deletion, and reporting of internet filter logs must be customizable to adhere to local entity retention policies.**

ENA acknowledges and will allow replacement of individual filtering solutions already in place in each participating school district and we understand ENA's content filtering solution may be implemented in phases as entities elect to switch to the solution.

## *Content Filtering*

As an optional, opt-in service for participating Consortium members, ENA provides a centralized content filtering solution that can be either on or off at the customer level as well as customized at each individual school if desired. ENA's content filtering service represents a minimal part of our bundled service offering and is fully compliant with the filtering requirements of the Children's Internet Protection Act (Public Law 106-554), Title XVII – Children's Internet Protection (CIPA). ENA has been providing filtering solutions for schools and libraries in a centralized, cost-effective manner since 1998 and is highly experienced with available filtering technologies, filtering legislation and E-Rate requirements related to filtering. ENA remains on the cutting edge in filtering technology and is continuously improving its solution to meet customer needs.

**ENA supplements the school-driven filtering solution with an Authorized Override (AO) service that allows authorized users with a password to override the filter and access an otherwise blocked website.** This feature, as more fully described below, gives the local school the ability to access any blocked website it determines is necessary.

**ENA's filtering solution was developed exclusively for school and library environments by listening to our customer's needs and incorporating their priorities.** With this in mind, ENA's filtering solution was designed around the following end user requirements:

- Protect children and enhance the educational relevancy of Internet content
- Provide maximum flexibility for local communities
- Minimize administrative or technical burden on school staff
- Respect the professionalism and decision making of school administrators
- Support First Amendment protections for adults
- Comply with federal legislation such as CIPA
- Make nightly updates to filtering database

## Filtering Solution Details

While filtering cannot be a one-size-fits-all solution, neither should it increase the administrative burden on school staff by having to constantly maintain and amend lists and categories. **ENA provides the only solution available today that combines maximum flexibility with minimum administrative burden.** ENA's AO solution gives local schools the option of providing administrators and educators personalized unfiltered access to the Internet.

ENA provides a turn-key filtering solution designed to work transparently (i.e., the end user does not have to do anything, nor are any modifications required to individual work stations). ENA's service is delivered via its regional servers with proprietary technology that filters large numbers of computers without performance degradation. The benefit of this innovation to the Consortium is a filtering solution that is proven to work on a statewide scale.

The solution is based on a detailed list of restricted URLs grouped into a number of categories (e.g., pornography, illicit drugs, hate/violence, etc.). The school selects the particular categories it wants filtered and then any computer in a participating district on the ENA network is automatically protected from URLs in selected categories. Local schools can easily request review of a site or suggest that a particular site be blocked or unblocked at any time. In this way the list of URLs is constantly evolving and changing based on end user input. **The following screenshot depicts the online form for requesting a review of a site.**

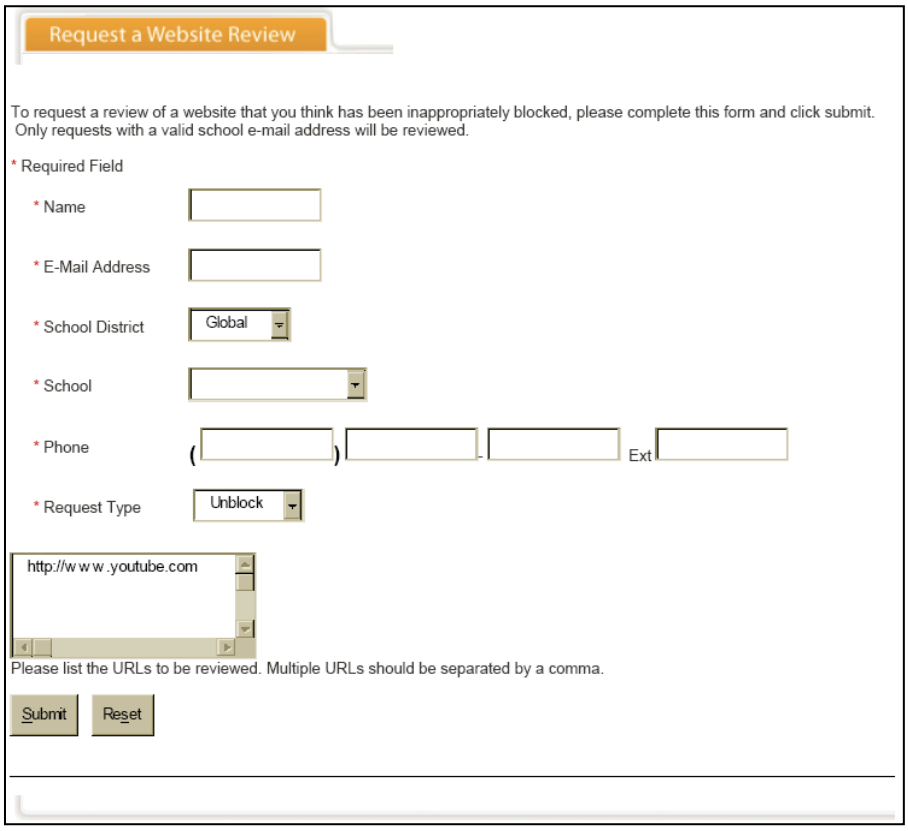


**Figure 17: Online Website Review Request Form**

Personalization for school administrators and educators is achieved through ENA's AO service. ENA's AO solution drives the bypass policy down to the school level to give administrators and educators the ability to selectively override blocked URLs (i.e., access URLs that are on the restricted list). AO is machine-driven and can detect a valid override even when a school is using NAT (RFC 3022) and Private IP addresses (RFC 1918), whereas other IP-based systems will override an entire school rather than the specific workstation requesting the override.

If an override of any URL is desired, the user simply clicks on the link on the ENA block page marked "Authorized Override." A sign-in box will appear with a place for time period. After entering a valid password and time period, an authorized user then will receive a confirmation page that allows the user to override the filter. Local school policies and administrators determine who has access to the override passwords and how this feature is used. **The following screenshot shows the AO tool that allows individual patrons to access blocked sites:**

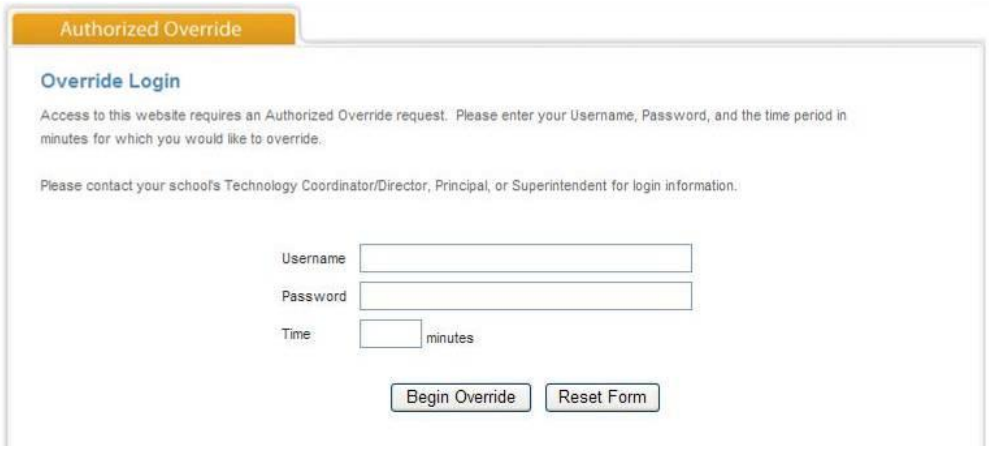


**Figure 18: Online Authorized Override Request Form**

ENA has found that its powerful and flexible content filtering service is a good fit for the school environment, which demands local control, yet often does not have sufficient resources to locally manage a customized solution.

ENA generates daily reports that detail AO usage and sends them to specially designated individuals. These reports list the URLs that have been visited by the AO users under the purview of the designated individual. These reports also list the time the visit occurred and source IP address or list of IP addresses in the case of NAT that the request originated. A monthly comprehensive report is also generated and provided to the same designated individual. Usage data is retained for 30 days and then discarded.

To further protect the privacy of AO users, ENA provides a means to bypass the filters and surf the web anonymously. This is achieved via the AO Single-Use Username/Password Dispenser. This service can be utilized anywhere computers are available to the general walk-up public. This service dynamically creates a username and password that can be used once and only once to establish an AO session. The username is included in the AO reporting mentioned above, but there is nothing to correlate the usage to a specific person.

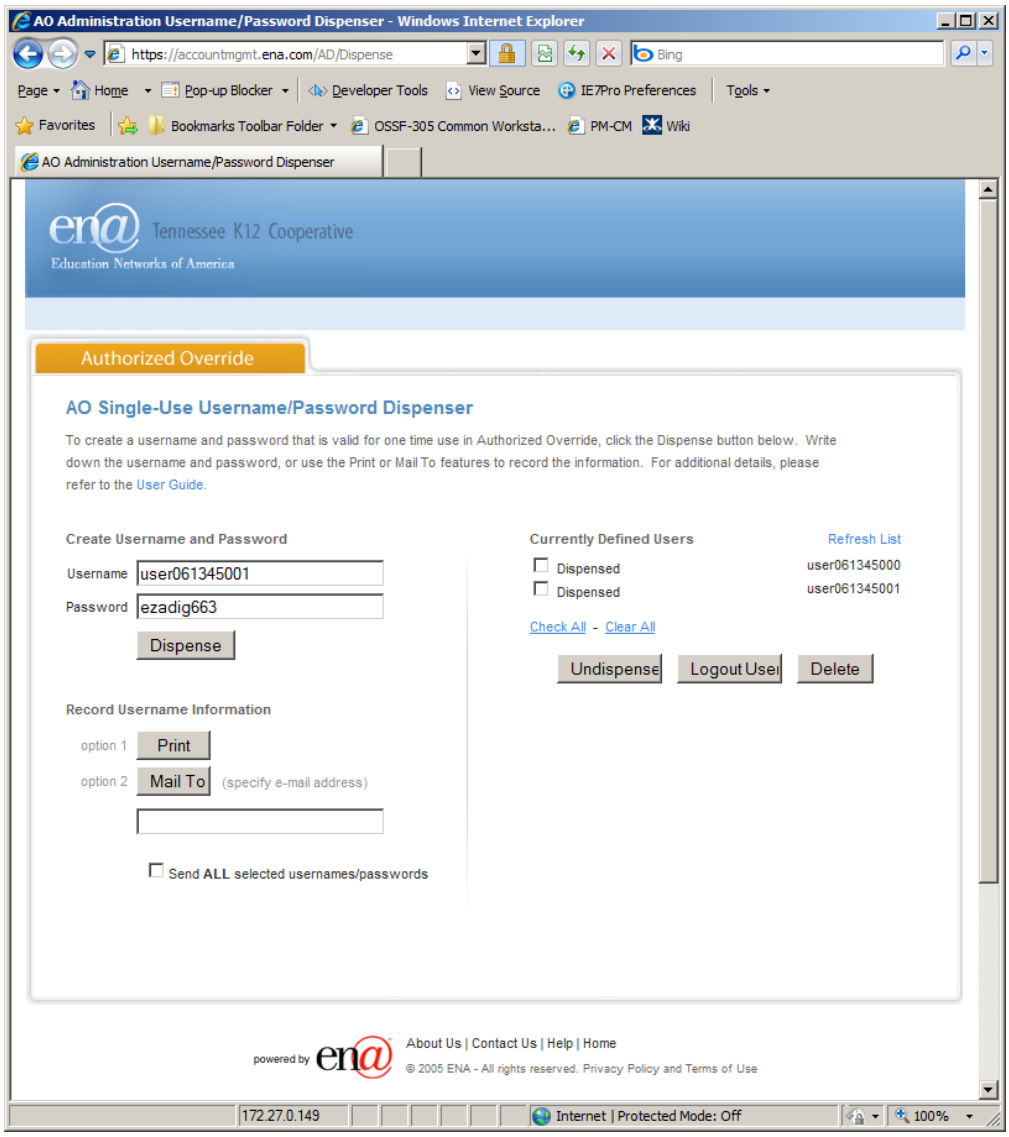


Figure 19: AO Single-Use Username/Password Dispenser

## Children's Internet Protection Act Compliance

ENA's filtering service offering is fully compliant with the filtering requirements of the Children's Internet Protection Act (CIPA). We have studied and reviewed CIPA rules, compared our filtering program, including Authorized Override to those rules, and worked with third-party legal and E-Rate experts to evaluate our offering. **All of these steps have contributed to our assertion that the ENA content filtering service, including our AO bypass system, is compliant with CIPA content filtering rules.**

It must be noted that CIPA compliance does not end with having a compliant filtering software solution. Each school district must also establish CIPA-compliant policies and procedures related to their usage of

filtering as part of any overall CIPA plan. ENA will provide technical assistance to participating Consortium members to improve their understanding of the full scope of CIPA-compliance requirements.

By bringing safety into its proper perspective and focusing on the entire school mission, ENA can assist Consortium participants in bringing not only a robust safety net for children, but also a total solution designed to make the Internet a valuable place to learn and gain access to the growing number of resources and services available to all members of their communities.

**2. If a district desires to purchase an email collaboration suite, the proposed solution will allow replacement of individual solutions already in place in each of the individual entities and, therefore, may be implemented in phases as entities elect to switch to the consortium email solution.**

ENA acknowledges and will allow replacement of individual solutions already in place in each participating school district and we understand ENA's e-mail solution may be implemented in phases as entities elect to switch to the ENA Mail solution.

## *ENA Mail E-mail Hosting and Gaggle Archiving Services*

### ENA Mail

ENA Mail is a fully redundant, scalable e-mail and e-mail collaboration platform enjoyed by over 40,000 users. We have recently completely revamped ENA Mail with a significantly new and improved feature set rivaling any on the market while retaining those tried-and-true features that customers appreciate most. ENA Mail gives the right view, the right tools and the right price for managing vital information and work flow.

**The new ENA Mail features include:**

- Rich collaboration features such as Calendar, Contacts/Address Book, Tasks, Attachment Search, Conversation Inbox view and online Briefcase
- Completely new and modernized web interface
- Compatibility with virtually all browsers, clients and operating systems
- Fast e-mail retrieval
- Unlimited mailbox size
- IMAP/POP e-mail synchronization with any standards-based client
- A system foundation that is used by over 50 million people in 80 countries including considerable usage in K-12 and higher education
- Carrier-class reliability
- Seamless integration with ENA Service Center's user-management tools
- ENA's trusted, dynamic AV/Spam filtering solution
- Easy integration with Gaggle E-mail Archiving
- Native MS Outlook, Apple iSync, and ActiveSync integration for ENA Mail Pro users

The following is a screen image of the ENA Mail Website interface:

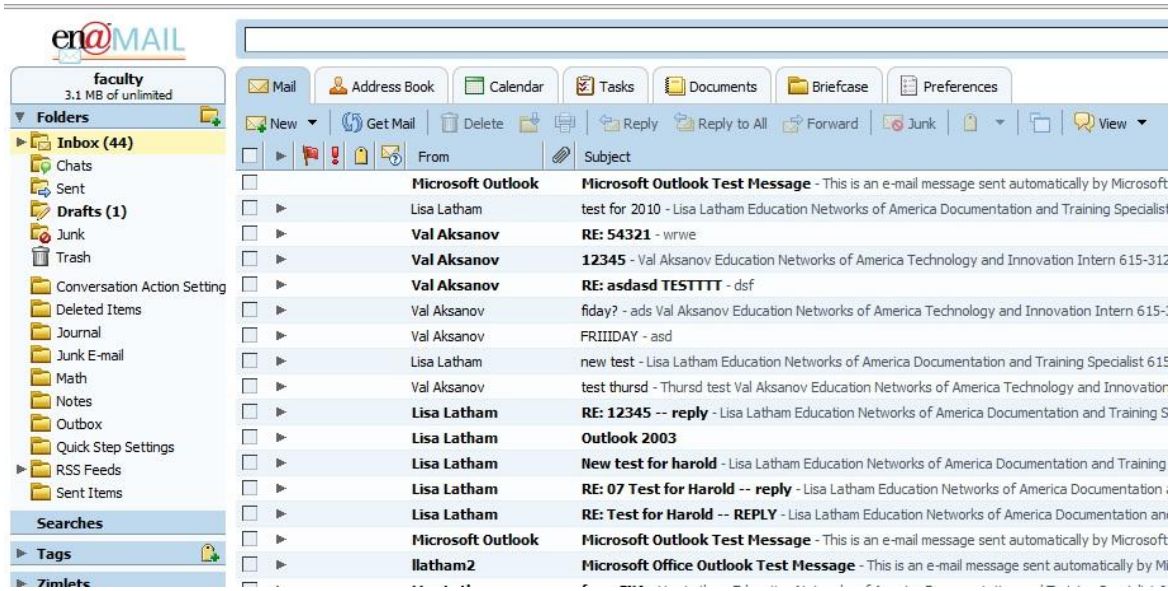


Figure 20: ENA Mail Webmail Interface

## Sophisticated Collaboration Inside Your Browser

All ENA Mail features are available via the ENA Webmail interface. ENA Webmail is built upon Ajax, a browser- and O/S-agnostic programming language for web interfaces that allows ENA to provide sophisticated client features such as drag and drop and right-click menus directly in your web browser. ENA Webmail is compatible with almost all modern browsers, including Internet Explorer (IE), Firefox, Chrome, and Safari. Unlike Microsoft Exchange 2003 and 2007, ENA Mail does not require you to use IE to get most of your features on-line.

**Here are some of the highlights of the ENA Webmail features:**

- **Drag and Drop Calendar** – A user can easily add appointments and send and receive meeting requests using the calendar feature of ENA Webmail. Simply click on the start time of the appointment and then drag the mouse down to the finish time. The QuickAdd Appointment box will automatically pop up with the date/time selection, enabling the user to easily fill-in the rest of the appointment information. Using the Calendar, ENA Mail users can check the availability of and schedule appointments with other users, resources, or locations.
- **Right-click Menu –** Inside ENA Webmail, users can use their right mouse button to show a menu, just like they can when using an e-mail client like Outlook or Entourage. The right click menu is context sensitive and contains popular options for each collaboration feature of ENA Mail. In the Inbox, for example, right-click menu options are Reply, Reply to All, Delete, Move, and Junk.
- **Keyboard Shortcuts** – ENA Mail tasks can be accomplished with simple keystrokes inside the ENA Webmail interface. For Example, “GM” brings up the main mail screen; “GC” brings up the

Calendar; and, "GT" brings up Tasks. ENA provides many pre-defined shortcuts, but ENA Webmail users can also create their own.

- **Powerful Search Functionality** – The search functionality of ENA Webmail is more powerful than that of many mail clients. In one search, users can search not only their mail and calendar entries, but also their PDF, .DOC, .PPT, and other files attached to their e-mails.
- **Tags** – ENA Webmail allows users to create custom tags to apply to email messages. For example, all Biology-related e-mails can have a specific colored tag. Users can then easily filter messages and display only e-mails that contain the custom tag by clicking the tag title in the left pane of the ENA Webmail interface.
- **Briefcase** – The Briefcase feature gives ENA Mail users an online repository or drive share for their important documents right inside ENA Webmail. Users can upload, retrieve, and share files with other users.
- **Shared Folders** – Individual folders can also be shared out to other ENA Mail users or even users not on ENA Mail. Mail, address books, calendars, documents, and files can all be shared quickly and easily.

## ENA Pro Synchronization with Multiple Clients

For users who want to integrate their e-mail, calendar, tasks, and address books across multiple clients and smart phones, ENA offers ENA Mail Pro. ENA Mail Pro users can integrate their Microsoft Outlook clients directly to ENA Mail **as if ENA Mail were a local Exchange server.** But unlike Exchange, ENA Mail also supports similar synchronization with Apple iSync, so ENA Mail Pro users who prefer MAC OS can integrate their ENA Mail e-mail, calendar, and Address Book with Apple Mail, Apple iCal, and Apple Address Book. In addition to MS Outlook and Apple iSync support, ENA Mail Pro users can also synchronize any PDA or smartphone that supports ActiveSync to their ENA Mail account. ActiveSync is supported by the Apple iPhone, MS Windows Mobile devices, Android phones, and Palm OS-based PDAs. For organizations that prefer Blackberries, ENA will provide configuration options for internal Blackberry Enterprise Server so that ENA Mail Pro users who prefer Blackberries can fully integrate their Calendars, Email, and Contacts with ENA Mail.

## Trusted, Dynamic Spam and Virus Filtering

ENA Mail features a multiply redundant, highly scalable anti-virus and anti-spam platform that intercepts and scans all mail from, to, and between ENA Mail users. This platform processes over four million messages a day with a combination of heuristic content and header analysis, reverse DNS blacklists that check for known spammers against multiple distributed spam-reporting databases, Bayesian filtering, and collaborative human review.

**ENA's spam filtering currently allows for three levels of spam categorization:**

1. Mail determined to be clearly spam based on the results of our multi-tiered analysis is deleted before it reaches users' inboxes. This accounts for 90% of the mail ENA receives.

2. Mail determined to be probably spam, but that we cannot be sure is spam, is delivered to users' Junk Mail folders.
3. Mail determined to be legitimate mail is delivered to users' Inboxes.

The following graphic depicts total incoming mail and the break out between legitimate and spam e-mail. You can readily see the importance of a sophisticated and dynamic anti-spam platform.

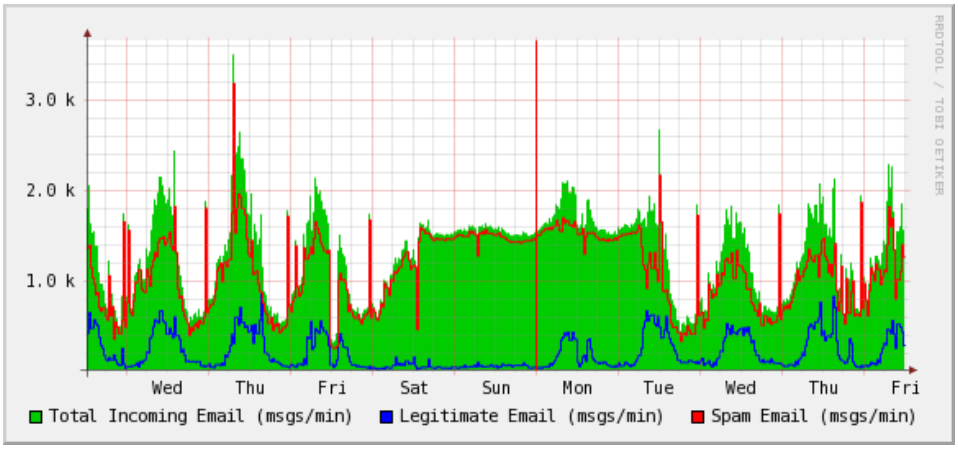


Figure 21: Total Incoming Mail Versus Legitimate Mail Versus Deleted Spam

### Antivirus Scrubbing

The ENA Mail system, using two different enterprise Anti-Virus (AV) solutions, scans every e-mail for virus signatures and virus containing attachments, providing the best available protection against viruses and dangerous attachments. Any e-mail with a detected virus is immediately deleted or inoculated. The system employs two different AV solutions ensuring the system continues to be effective even in the event of failure in a major AV software provider's virus definition files.

### File Stripping

As an additional measure of e-mail security, ENA controls the type of files that can be transmitted via ENA Mail. This file-stripping helps limit the spread of viruses and distribution of infected files via ENA Mail accounts. ENA currently strips any attachments with .exe, .vbs, .pif, and .src extensions, because these are the most probable file types through which a heretofore unknown or undetected virus might propagate.

### Carrier Reliability and Complete Flexibility

ENA can provide e-mail services using any current account naming structure and domain names, so organizations do not have to change their end-users' e-mail addresses in order to take advantage of ENA Mail. ENA also provides e-mail archiving services, both for ENA Mail and many third-party e-mail

collaboration solutions that may be utilized by New Hampshire schools. E-mail archiving enables compliance with the updated Federal Rules of Civil Procedure (Rules 16(b), 26(a), 34(b) and 37).

### Storage and Disaster Recovery

**ENA provides unlimited storage per ENA Mail user account**, but schools can limit their own mailbox sizes or create their own quotas if they wish. All ENA Mail is written to a series of sophisticated Network Storage Arrays, which periodically take snapshots of the system for historical and versioning purposes. A special compression algorithm facilitates storage and retrieval of data at high speeds and in large quantities. ENA makes rolling full backups of each mailbox every fifteen (15) days, with incremental backups of each mailbox every day. We always keep at least two full backups of each mailbox on hand as well as the subsequent incremental backups, ensuring that we can provide full mailbox restore of mailbox data lost within the past thirty (30) days.

### Account Management

ENA provides individual end users with the ability to manage folders, user preferences, spam settings, calendars, and other features through the ENA WebMail interface. ENA also provides technology administrators and their staffs with complete administrative control of all user mail accounts associated with their organizations through the integrated ENA Service Center. Using the Service Center, technology staff members can add, manage, and delete any user account for which they have access. **ENA provides a number of administrative services in order to ensure smooth, uninterrupted and effective e-mail service for end users.**


Figure 22: Account Management Interface

### List Management

ENA maintains and creates Listservs and Mailservs on ENA Mail for network-wide, regionalized and content-based lists. The service consists of both open and closed lists, depending on the level of management and confidentiality that is needed for the subject matter. This service is widely used today as evident in the almost 400 Listservs and Mailservs currently in use.

**In addition to ENA Mail, ENA also offers e-mail and collaboration services designed specifically for students through our partnership with Gaggle.**

## *E-mail Archiving Services*

In partnership with Gaggle, ENA offers an e-mail archiving solution that provides comprehensive archiving, retention, and search and discovery capabilities that will help schools comply with recent changes to the Federal Rules of Civil Procedure (FRCP).

**Highlights of our offering include:**

- Automatic archiving of every message sent and received by your e-mail users
- Advanced, secure online search and discovery
- Compatibility with the most widely used e-mail platforms, including Microsoft Exchange, Lotus Notes, Novell GroupWise, FirstClass and others such as ENA Mail
- Hassle-free setup and support
- A cost-effective, reliable solution offered at competitively priced, per-user subscription rates

**3. If a district desires to purchase an off-site data storage and disaster recovery solution, the proposed solution will allow replacement of individual solutions already in place in each of the individual entities and, therefore, may be implemented in phases as entities elect to switch to the consortium solution.**

ENA acknowledges and will allow replacement of individual solutions already in place in each participating school district and we understand ENA's data storage and disaster recovery solution may be implemented in phases as entities elect to switch to the solution.

## *Disaster Recovery for Consortium Applications*

ENA fundamentally understands the importance of school and business application availability and data integrity. We are fully prepared to offer server collocation, data backup and storage, and an array of disaster recovery solutions to participating Consortium members as part of our overall suite of proposed services.

ENA's data backup and disaster recovery solutions fall into three broad categories, but each implementation can be highly customized to fit the specific needs of individual schools and school districts. **ENA offers:**

1. ***Server Collocation*** – ENA provides rack space, power, and networking to customer-owned servers in our network POPs and collocation facilities. ENA can provide on-site assistance, power cycling, and other basic engineering assistance, but the primary responsibility for application design maintenance and data backup implementation remains with the customer.
2. ***Data Backup and Storage*** – ENA provides secure data backup and storage services for customer data. Data is housed on highly available ENA facilities in our network POPs. We can provide redundant backup sites and data encryption as required.
3. ***Disaster Recovery (DR)*** – ENA provides virtual or dedicated servers to schools and school districts for the purposes of application redundancy and disaster recovery.

All data storage and disaster recovery services are provided using ENA's network POPs and collocation facilities. These facilities are housed in highly secured, hardened carrier hotels that are capable of withstanding F5 tornadoes, or winds up to 150 MPH. Our network equipment and facilities receive electrical power from physically separate utility company feeds, and are also backed up by redundant generator power as well as UPS/battery power. To mitigate the risk of power grid disaster, the generators backing up our facilities have a two-day fuel supply on-site and guaranteed long-term contracts for fuel in case of more prolonged outages.

The best methodology for failover and application availability in disaster recovery situations will depend on the technical details of the applications themselves, the types of protocols they utilize, and the types of clients that access the applications.

**4. If a district desires to purchase Voice Over Internet Phone (VoIP), the proposal for VoIP will allow replacement of voice connectivity already in place in each of the individual entities and, therefore, may be implemented in phases as entities elect to switch to the consortium solution. VoIP services will include the set up and maintenance of a web interface to the gateway router for voice service. Upgrading and maintenance of the internal voice infrastructure (gateway router to user) will not be part of the RFP options.**

ENA acknowledges and will allow replacement of individual solutions already in place in each school district and we understand ENA's VoIP solution may be implemented in phases as entities elect to switch to the ENA VoIP solution.

ENA launched our innovative and cost-effective Voice over IP services in April 2006, and since then we have successfully installed and supported thousands of Hosted PBX extensions and analog, PRI, and IP Trunking lines in hundreds of schools and libraries throughout the United States.

ENA's telecommunication suite offers two convenient ways to provide carrier-class, next-generation telephone service from a trusted provider of mission-critical data connectivity services. **The two state-of-the-art telecommunications options are:**

1. **ENA Connect** – A feature-rich, hosted IP PBX service for schools with no existing premises-based PBX solution, or a PBX or Key system that needs to be upgraded or replaced.
2. **Dialtone Connect** – A comprehensive line of SIP trunking, PRI-and analog POTS- replacement solutions which provides robust voice connectivity to customer-owned PBXs and Key Systems.

Each solution is Priority 1 E-Rate eligible and includes many bundled features such as generous local and long distance calling, and simple, flat-rate billing. With either solution you also have the ability to transfer, or port your current telephone numbers to ENA. Customers may choose different combinations of **ENA Connect** and **Dialtone Connect** including a combination of each service at a single location.

Please see **Appendix 7** for ENA's Voice Services brochure.

## *ENA Dialtone Connect*

The ENA Dialtone Connect service solution is designed to provide inbound and outbound calling for schools and libraries that already have their own installed PBX or Key Systems. ENA Dialtone Connect works just like your current telephone line service, but offers an extensive set of features and a variety of different interconnection methods to meet both current and future needs, all delivered for a single cost-effective monthly fee.

With ENA Dialtone Connect, schools can keep their current telephone numbers and do not need to upgrade or change their internal telephone equipment. ENA Dialtone Connect offers crystal-clear voice clarity and carrier-class reliability. ENA Dialtone Connect includes full E911 emergency calling capabilities, 411 information services and standard information and telephone book directory listings. Complex directory listings are available in certain markets. **Unlike traditional telephone company offerings, ENA Dialtone Connect also includes unlimited local and domestic long distance, local number portability, anonymous call blocking, call waiting, caller ID, Direct Inward Dial (DID), hunt groups and line rollover *at no additional charge***.

Because no network or PBX upgrades are required to begin enjoying the benefits of ENA Dialtone Connect, environments with an existing PBX system will immediately benefit from the rich feature set and lower cost approach of our Dialtone service. Please note, the use of certain features require the support of the PBX. Our simple billing method allows us to provide one-page, straightforward monthly bills.

ENA Dialtone Connect provides dial tone service directly to your existing PBX or key systems. ENA Dialtone Connect can be configured to deliver both one-way and two-way trunks and can utilize analog, PRI, or SIP handoff. We support all common North American PRI signaling methods. We only provide full 23 channel PRI service. We do not provide partial PRI service.

The point of demarcation for ENA Dialtone Connect service is generally in the same room as ENA's end-site network equipment. We install an ENA-managed, ENA-owned gateway that provides analog or PRI handoff to your PBX or key system. ENA will install our own 66 block (also called M-block) in order to provide interconnection to premise equipment.

**Dialtone Connect is offered in three different connection classes:**

1. ***Dialtone Connect Analog Connections*** – Inbound/outbound calls are delivered over your IP infrastructure, but then are translated to a standard analog connection to terminate to your PBX or Key System.
2. ***Dialtone Connect PRI Connections*** – Likewise, inbound/outbound calls are delivered over your IP infrastructure, but then are translated to standard PRI to terminate to your PBX.

3. ***IP Dialtone Connect*** – Alternately, if your organization utilizes an IP PBX capable of SIP Trunking, we offer IP Dialtone Connect that creates a direct SIP trunk between your IP PBX and ENA's voice platforms. Calls between your locations and the external world are delivered directly over these SIP trunks. IP Dialtone Connect offers significant advantages over using traditional PRI or POTS lines. It is far more scalable, as trunks can be added almost instantaneously, without the need to pull new circuits. It is also much more cost-effective, as it does not require you to purchase expensive line cards or gateways in order to translate your internal VoIP implementation to traditional analog or PRI lines.

ENA Dialtone Connect service can be used to provide analog, PRI, or SIP connectivity to PBXs, SIP-compliant IP PBXs, or key systems. **Since ENA's suite of voice solutions utilizes VoIP technologies, ENA does not recommend or support the use of modem-based technologies on ENA Dialtone Connect service.** *Modem-based technologies include fax machines, postage machines, HVAC monitoring devices, and others.* For service to those devices, as well as for service to alarm or other monitoring systems that should be able to communicate during prolonged power outages, ENA recommends those lines remain with your existing carrier.

## *ENA Connect*

ENA Connect is a fully redundant Hosted PBX service that combines the local and long distance calling capabilities of traditional dial tone with all the next-generation phone features of a brand new IP PBX. **Designed for sites that either use Centrex today, or that have PBX or Key Systems that need to be upgraded or replaced, ENA Connect helps schools eliminate the high capital expenditure costs of purchasing, upgrading, managing and maintaining on-premise telephony servers and equipment.**

Like traditional Centrex, ENA Connect delivers features like voicemail, station-to-station dialing, and call-park and pickup directly to individual handsets at your site. Unlike traditional Centrex, ENA Connect is a true hosted IP PBX solution, offering dozens of state of the art features, like smart call forwarding and telephone integration with your desktop. ENA has designed and built our ENA Connect service using carrier-class equipment and architecture designed for 99.999% reliability in real world implementations.

### Administrative Control without Administrative Headaches

Although ENA Connect is a hosted service, you remain in charge. Each ENA Connect implementation is a virtual PBX with its own online administrative interface. From any connected web browser, authorized personnel can perform real-time user management, see call logs for any extension, create new call groups and hunt groups, update the telephone directory, and perform almost any other administrative task.

For larger implementations, school districts can even create group or site administrators to logically split administrative tasks between multiple personnel. As part of each ENA Connect implementation, ENA

provides administrative training sessions to cover all the details of the intuitive but powerful ENA Connect administrative interface that is shown below.

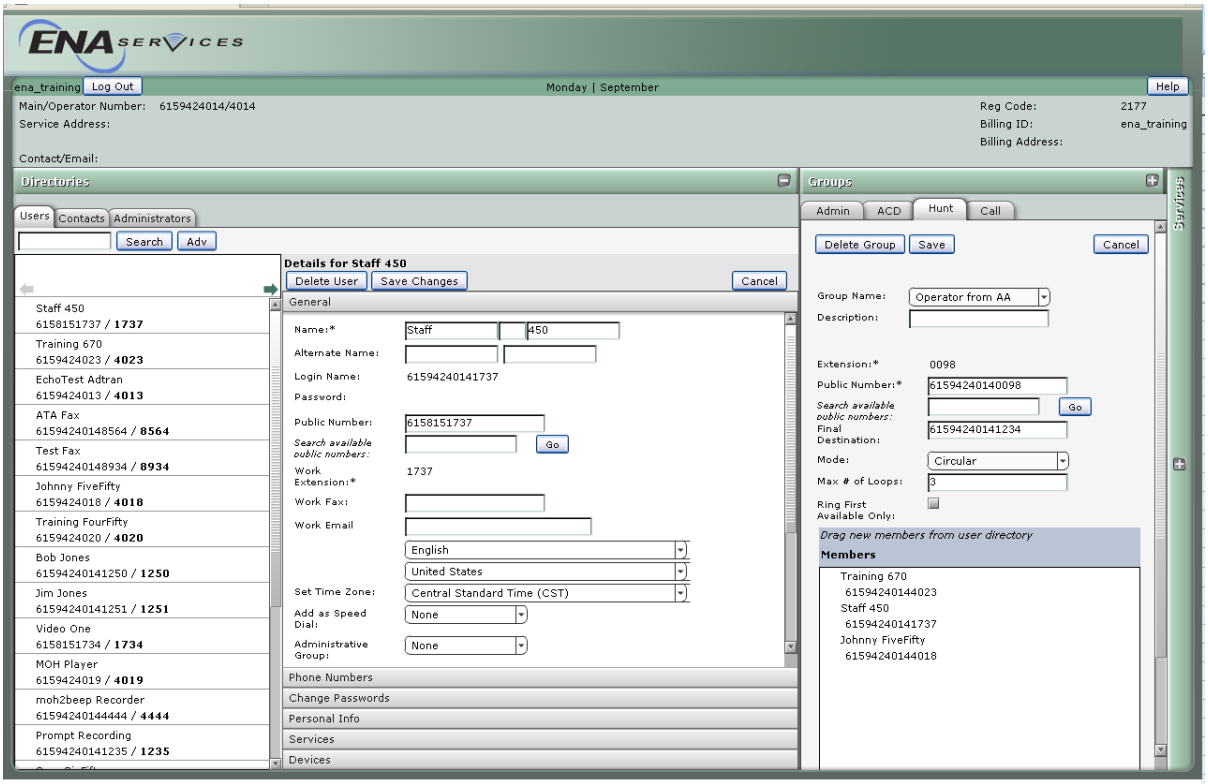


**Figure 23: ENA Connect Online Administrative Console**

## Flexible Service

Available in four convenient extension types – ENA Connect Lite, ENA Connect Basic, ENA Connect Plus, and ENA Connect Pro (all priced on a per-extension basis) – ENA Connect is designed with the needs of the school, library and government agencies in mind. Each ENA Connect implementation can include as many or as few ENA Connect extensions as you wish. ENA Connect features a number of sophisticated call routing structures, such as auto attendants, hunt groups and automatic call distribution (ACD), so you can set up your main telephone numbers in ways that ensure incoming calls are always answered and that callers get to the place they need to be as quickly and easily as possible.

Unlike other Centrex and Hosted PBX offerings on the market, which involve complicated charge-per-feature billing, **all** ENA Connect extensions include important telephony features users have come to rely on, such as call forward, hold, transfer, voicemail, station-to-station (n-digit) dialing, Caller ID, Do Not Disturb, Redial, 3-way conferencing, and Last Call Return. **In addition to this generous bundle of features, certain advanced ENA Connect extensions also include the following:**

- ***Time of the day/day of the week call scheduling*** – Only allow inbound calls to ring your phone when you want them to, or send them to voicemail so instructional time is not interrupted by phone calls.
- ***Call park and call pickup*** – Easily "park" a call and pick it up at another extension; or, use Group or Directed Call Pick up to answer calls ringing at other stations without having to run to their desk.
- ***One-to-one intercom calling*** – The ability to initiate a convenient intercom call to an extension within the same ENA Connect environment**.**
- ***Desktop PC convergence*** – The ability to control phone service from desktop applications such as web browsers and Microsoft Outlook.* This includes call forwarding control, call treatment configuration, click-to-call, contact search and contact-directory synchronization, all from your PC desktop.
- ***Smart call forwarding*** – Includes sequential and simultaneous ring to multiple landline or mobile phones. Allows users to route calls differently based on incoming Caller ID.
- ***Broadcast messaging administration*** – Broadcast a voicemail message to all your voicemail users.

**For a complete breakdown of the most popular ENA Connect features, please see the following table:**

# ENA Connect: Features-at-a-Glance

| | Dialtone Connect | Connect Lite | Connect Basic | Connect Plus | Connect Pro |
|---|---|---|---|---|---|
| **Features** | | | | | |
| Enhanced Network Call Quality Monitoring | ○ | ○ | ○ | ○ | ○ |
| Busy Lamp Field | | | | ○ | ○ |
| Caller ID | ○ | ○ | ○ | ○ | ○ |
| Call Waiting | ○ | ○ | ○ | ○ | ○ |
| Last Call Return | ○ | ○ | ○ | ○ | ○ |
| User-controlled Caller ID Restriction | ○ | | | ○ | ○ |
| Direct Inward and Outward Dial (DID/DOD) | ○ | | | ○ | ○ |
| Call Forward to Voicemail | | ○ | ○ | ○ | ○ |
| Distinctive Ring | | ○ | ○ | ○ | ○ |
| Call Hold | | ○ | ○ | ○ | ○ |
| Call Transfer | | ○ | ○ | ○ | ○ |
| Redial | | ○ | ○ | ○ | ○ |
| Music on Hold | | ○ | ○ | ○ | ○ |
| 3-way Conference | | ○ | ○ | ○ | ○ |
| Speed Dial (Enterprise and Personal) | | ○ | ○ | ○ | ○ |
| Online Interface | | ○ | ○ | ○ | ○ |
| Drag-and-Drop Click-to-Call | | ○ | ○ | ○ | ○ |
| Call Completion Busy Service | | | ○ | ○ | ○ |
| Anonymous Call Blocking | | | | ○ | ○ |
| Bridged Line Appearance | | | | ○ | ○ |
| Call Forking | | | | | ○ |
| Call Forward Variable | | | ○ | ○ | ○ |
| Call Park and Call Pick-up | | | | ○ | ○ |
| Call Scheduling (time of Day/Day of Week) | | | ○ | ○ | ○ |
| Smart Call Forwarding | | | | | ○ |
| External Call Transfer | | | ○ | ○ | ○ |
| Intercom Calling (One-to-One) | | | | ○ | ○ |
| Outbound Caller ID Block/Unblock | | | | ○ | ○ |
| Remote Click-to-Call | | | | | ○ |
| Microsoft Outlook Integration/Toolbar* | | | | | ○ |
| **PBX Features** | | | | | |
| Station-to-Station Dial | | ○ | ○ | ○ | ○ |
| Auto Attendant** | ○ | ○ | ○ | ○ | ○ |
| Hunt/Rollover Groups | ○ | ○ | ○ | ○ | ○ |
| **Calling Plans** | | | | | |
| Unlimited Inbound Calling | ○ | ○ | ○ | ○ | ○ |
| Local-only Outbound Calling (Minutes) | | 100 | N/A | N/A | N/A |
| Local and Domestic Long Distance (Minutes) | Unlimited*** | | 500 | Unlimited*** | Unlimited*** |
| Local Number Portability | ○ | ○ | ○ | ○ | ○ |
| | **Dialtone Connect** | **Connect Lite** | **Connect Basic** | **Connect Plus** | **Connect Pro** |
| **Unified Messaging** | | | | | |
| Voicemail | | ○ | ○ | ○ | ○ |
| Visual Voicemail | | ○ | ○ | ○ | ○ |
| Forward to E-mail | | ○ | ○ | ○ | ○ |
| Message Waiting Indicator | | ○ | ○ | ○ | ○ |
| Outdial Notification | | | | ○ | ○ |
| Broadcast Message Administrator | | | | | ○ |

*Outlook 2010 not supported in the Microsoft Outlook Integration/Toolbar **Additional charges apply ***Some restrictions may apply to unlimited minutes calling services. Unlimited long distance applies to lower 48 U.S States only.

**Figure 24: ENA Connect: Features-at-a-Glance**

## *Architecture and Quality of Service for ENA Connect and ENA Dialtone Connect*

ENA is a facilities-based provider of Interconnected VoIP services. ENA is able to guarantee Quality of Service (QoS) for your voice communication all the way to the publicly switched telephone network (PSTN) when you also select ENA as your WAN and Internet access provider. With ENA Connect and ENA Dialtone Connect, your voice conversations connect over ENA-managed networks, where we are able to measure, monitor, and guarantee QoS for the entire phone call. ENA has interconnection agreements directly with other telephone companies, so we never have to send your voice traffic over the unmanaged Internet. Your calls travel across your local circuits to the nearest ENA POP and then across ENA's high-speed backbone directly to our PSTN partners.

ENA's telecommunications platform and switching fabric are located at the core of the ENA network. ENA provides geographically redundant nodes in carrier class facilities in two different states, each with multiple connections to the rest of the ENA network. All platform components are designed to meet 99.999% reliability standards in real-world implementations. ENA Voice services are delivered to school districts via ENA-managed Internet connections.

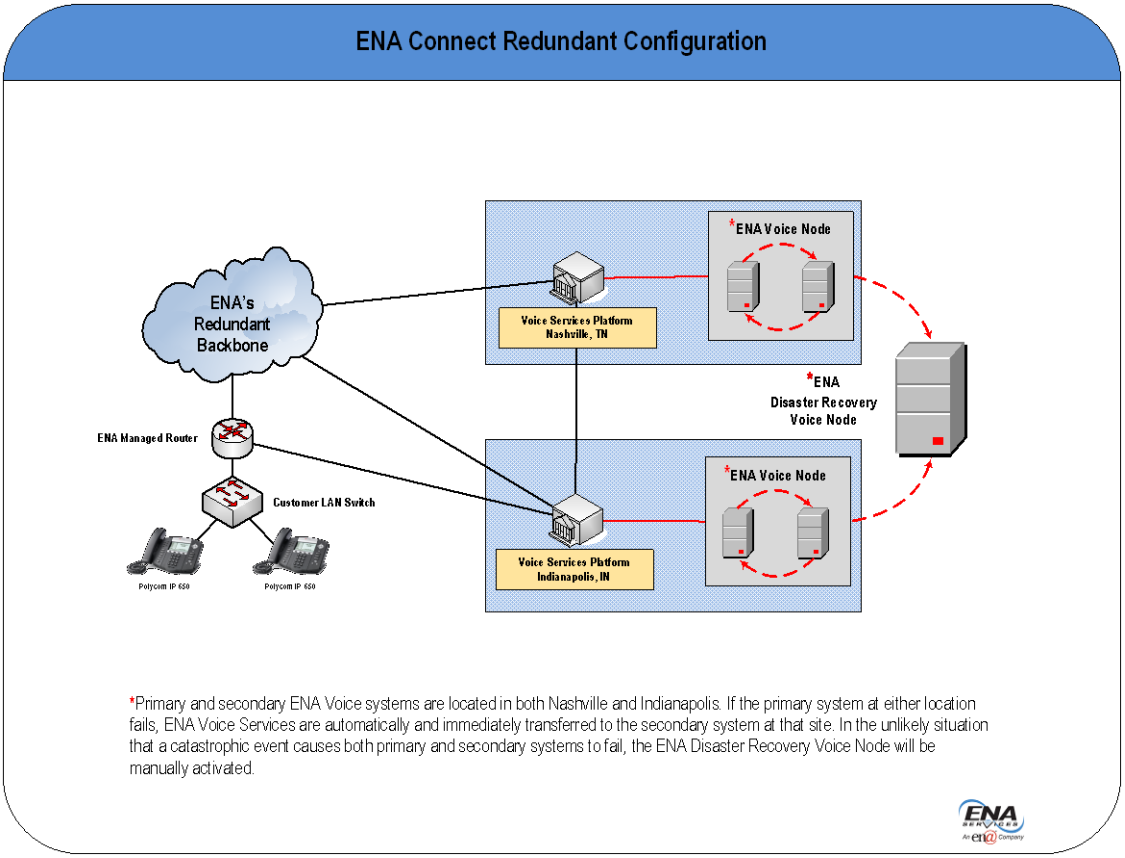


**Figure 25: ENA Connect Redundant Architecture Diagram**

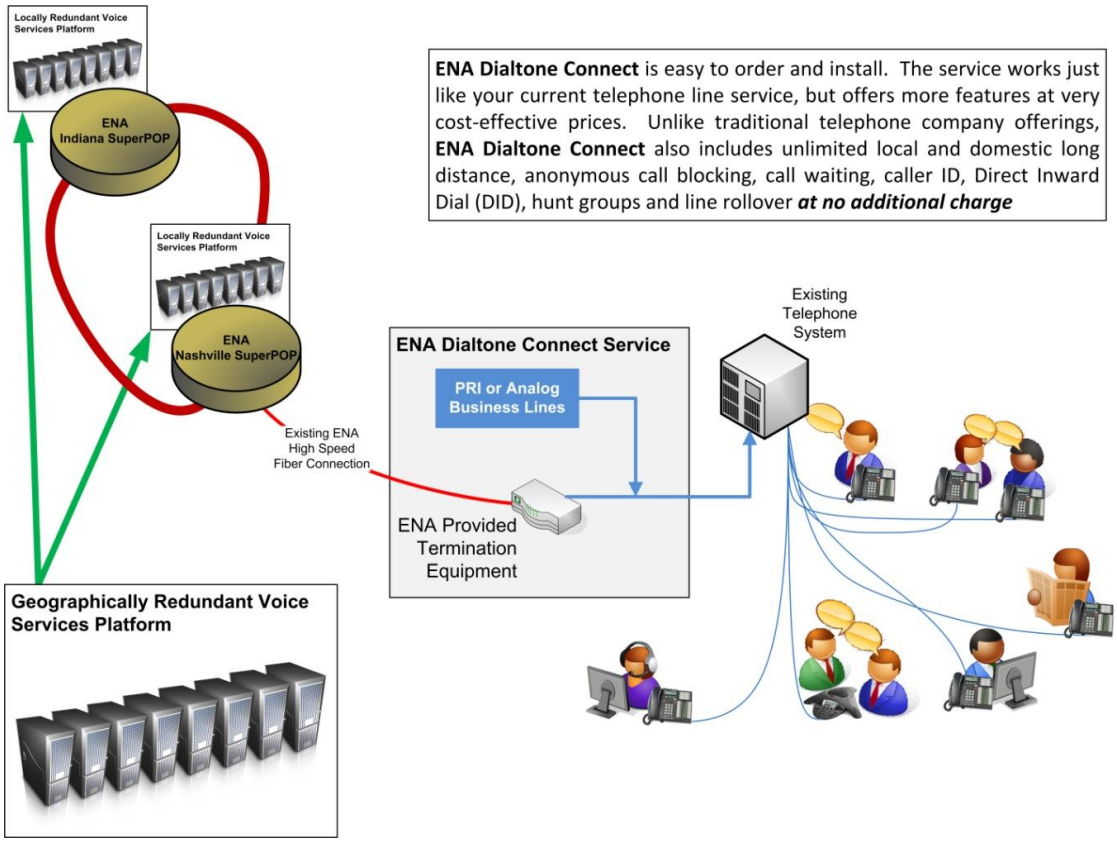


**Figure 26: ENA Dialtone Connect Architecture Diagram**

**5. If a district desires to purchase point to point WAN coverage between buildings or for individual entities as needed, the proposed solution will indicate how this solution could be addressed and at what cost to the district. A brief survey will be sent to schools in order to provide preliminary data for this item. Results will be available on the Consortium website. Sample questions will include:**

**a. District Name, Contact Name, Contact Email and Phone, Number of Schools in District**

**b. Wide Area Network (WAN) – Does Internet connectivity originate from a central district location or does each school in your district have its own connectivity to an ISP?**

- **Our Connectivity is from a central district location (i.e., WAN)**
- **Each school has its own connectivity, not through a WAN**

**c. Do you want an Internet Provider to offer WAN connectivity to your district, and if so, what level of connectivity /bandwidth speed would your district require?**

- **No WAN connectivity needed**
- **At least 1.5 Mbps**
- **More than 1.5Mbps but less than 1 GB**
- **1 GB**

ENA provides dedicated wide area network (WAN) connectivity services as an option for participating Consortium members. This service provides point-to-point or point-to-multipoint WAN coverage between buildings for individual entities as requested. Speeds for this service range from T-1 (1.54 Mbps) through 10 Gigabit Ethernet and may be provided using copper or fiber facilities. ENA is an experienced service provider for the implementation and project management of a managed WAN infrastructure to support connectivity between schools. Our WAN services deliver reliability, flexibility, scalability, increased service capacity, and reduced lease charges for telecommunications infrastructure.

ENA is skilled at providing both Internet access and WAN services to schools. In fact, many of the school districts we serve under our statewide Internet access contracts also purchase their WAN services from us. That is one of the valuable differentiators of working with ENA – we can provide more comprehensive and cost-effective services to schools eliminating the complexity and confusion of working with multiple providers all while leveraging E-Rate funding and providing enhanced levels of service delivery and customer support.

## III. Cost Details

**For each of the elements described in this RFP, provide an appropriate breakdown of costs in sufficient detail to allow the Consortium as well as individual schools and school districts, to make an informed decision about purchasing of services. For any proposed costs that must be provided as approximate and not exact for any school site, the minimum and maximum costs within a narrow range must be clearly indicated. In additional, reasons for such approximation and the timeline for and method by which exact costs will be determined must be explained. Proposals that do nor provide sufficient detail for Consortium members to make an informed decision will be subject to disqualification. Payment of all solicited services is the responsibility of the billed entities as identified on the Form 471. The NHDOE, the Consortium Coordinator, and the NH K-12 Schools Connectivity Consortium are not responsible for any payments, billing issues, or invoicing issues resulting from an agreement based upon contracts generated by this RFP. Administrators of the K-12 Schools will work directly with the awarded Vendor(s) for all billing and service related issues. In the event that a conflict arises between the Vendor's business practices and a billed entity's master plans, policies, and procedures, both parties agree to meet and negotiate an understanding and realignment of this partnership. Any failure to cure such a conflict shall be grounds for termination of any agreement between the billed entity and the Vendor.**

ENA has included a list of its proposed charges below that will provide an appropriate breakdown of costs to allow school systems to make an informed decision about our services.

ENA understands that the Consortium Coordinator and the New Hampshire K-12 Schools Connectivity Consortium are not responsible for ordering or paying for any of the services requested under this RFP. ENA also understands that its billing and payment relationship is with the applicable school district using ENA's services. ENA has experience with this type of arrangement under a statewide contract and will be able to easily implement this request.

ENA will work with each customer to minimize any potential conflicts and expects to meet with customers in a timely manner to work out any such issues. ENA has a long positive history of working with its customers to gain and maintain very high levels of customer satisfaction. ENA's efforts related to minimizing and quickly resolving any issues is part of our overall customer service focus.

## A. Required Elements

| Service Speed Options | Price | Specific Notes |
|---|---|---|
| **District Direct Connections to Internet** | | |
| 1.5 Mbps | $750 | |
| 5.0 Mbps | $1,000 | |
| 10 Mbps | $1,300 | |
| 20 Mbps | $1,900 | |
| 50 Mbps | $3,000 | |
| 100 Mbps | $4,500 | |
| **End Site to District Office Service** | | |
| 1.5 Mbps | $500 | per link |
| 5.0 Mbps | $700 | per link |
| 10 Mbps | $900 | per link |
| 20 Mbps | $1,500 | per Link |
| 50 Mbps | $2,000 | per Link |
| 100 Mbps | $2,500 | per link |
| 1 Gbps | $3,500 | per link |

**General Notes:**

- ENA will deliver service speeds based on customer needs and service availability. ENA will work with all available technologies and may deliver using DSL, cable, T-1, DS3, Ethernet, licensed wireless or other technologies including future technologies as available to most cost effectively deliver the service. All services will leverage dedicated, symmetric bandwidth circuits and no services will be provided in a 'residential grade' or 'best effort' service level.
- Service speeds listed above are representative and all speeds within the range of 1.5 Mbps to 10 Gbps can be offered based on multiples of the above services.
- All circuit delivery is subject to availability, special construction charges and facility make ready.
- As ENA works with over 30 service providers, availability of service is higher than any other vendor and, if applicable, construction charges and make ready are typically lower than any other vendor.
- ENA has no other installation charges or other one-time charges related to new or upgraded service.
- Pricing for 10 Mbps and higher service may vary based on specific customer request, but will not exceed pricing for equivalent bandwidths using T-1s.
- Prices for services below 10 Mbps are average prices and may vary in some markets.
- Service delivery method and pricing will be agreed upon between ENA and customer before services are installed.

## B. Additional Services

| Additional Services | Price | Specific Notes |
|---|---|---|
| **Filtering - Basic Service** | $0.25 per computer, per month | 1 |
| **Customized Filtering for School District** | $200 first rule set, per month | |
| **Customized Filtering for School District** | $150 per incremental rule set, per month | |
| **ENA Mail Standard Hosting** | $1.50 per account, per month | |
| **ENA Mail Pro Hosting** | $3.50 per account, per month | |
| **Data Storage and Disaster Recovery** | $300 per month for basic service | 2 |
| **Point to Point WAN** | | |
| **1.5 Mbps** | $500 | per link |
| **5.0 Mbps** | $700 | per link |
| **10 Mbps** | $900 | per link |
| **20 Mbps** | $1,500 | per link |
| **50 Mbps** | $2,000 | per link |
| **100 Mbps** | $2,500 | per link |
| **1 Gbps** | $3,500 | per link |

**General Notes:**

- Pricing for Additional Services is for basic configurations and services for the category.
- Customization and advanced configurations are available.
- All pricing will be agreed upon between ENA and customer before services are installed.
- Discounts are available on consulting and training services based on volume purchases.
- See detailed listing of all VOIP services below.

**Specific Notes:**

1. Filtering service requires minimum purchase levels from consortium members.

2. Data storage and disaster recovery service pricing is for space in one standard rack for one server at an ENA collocation facility and includes one 20 Amp, 110 volt AC circuit. Additional rack space and electrical capacity will require an additional fee based on size needed. ENA collocation facility capacity will be available on a first come, first served basis and additional capacity may not be immediately available depending on volume requested. Internet Access to collocated equipment is available at ENA's standard rates if additional service is needed.

## VoIP Pricing

ENA's Voice delivery method is designed to be flexible. The pricing list shown on the next page includes all our voice options. Many of these options can be combined to create a customized service bundle that meets your specific school and district needs.

ENA will work with customers to maximize E-Rate funding on its voice services. Monthly service charges for voice services are E-Rate eligible. One-time and hourly charges for hosted PBX service configuration are also E-Rate eligible. Charges for handsets (including installation and configuration), site assessments, training, and LAN/Demarc assistance are not E-Rate eligible.

### ENA Dialtone Connect Services

*All ENA Dialtone Connect connections (Analog & PRI & IP Trunk) include the following: Unlimited local and domestic LD[3] at no extra charge. Annoyance Call Trace, Call Waiting, Caller ID, Caller ID Block/Unblock, DID, Hunt Groups, and user-controlled Caller ID restriction all included at no extra charge.*

| *Service* | *Description* | *One-time* | *Monthly* |
|---|---|---|---|
| **Analog Connection** | Includes one analog line equivalent and one phone number per line. Local Number Portability (LNP) included at no extra charge. Cannot be used for fax, modem, or alarm lines. | | $45.00 |
| **PRI Connection** | Full 23-channel PRI. 23 numbers included at no extra charge. LNP included at no extra charge. | | $575.00 |
| **Direct IP (SIP) Trunk** | Minimum 100 ports/channels - price per channel | | $22.00 |
| **CO-powered POTS line** | | | $65.00 |
| **Voice Mail** | Price per mailbox - minimum 25 mailboxes per customer | | $10.00 |
| **Demarc Extensions** | From ENA Demarc to PBX/Key System - hourly rate | $125.00 | |
| Additional Telephone Numbers[2] | Please see endnote[2] | | $2.00 |
| 1-800 Number Service | First 100 minutes included; extra minutes at $0.04 per minute; requires purchase of ENA Connect or | | $10.00 |
| Toll Free Directory Listing | | | $15.00 |
| USF and government fees estimate[1] | Estimate - based on monthly voice service[1] | | 7.00% |
| 911/E-911 Local Government fees[1] | Based on location[1] | | $1.00 |

All service endnotes are located on page 106.

## ENA Connect Services

*All ENA Connect services include the following: On-line user interfaces, Administrator's portal, and Local Number Portability (LNP) at no extra charge*

| Service | Description | One-time | Monthly |
|---|---|---|---|
| **Hosted PBX Extension Types** | | | |
| ENA Connect Lite | | | $15.00 |
| ENA Connect Lite CIDO[4] | | | $17.00 |
| ENA Connect Basic | | | $25.00 |
| ENA Connect Basic CIDO[4] | | | $27.00 |
| ENA Connect Plus | | | $35.00 |
| ENA Connect Plus CIDO[4] | | | $37.00 |
| ENA Connect Pro | | | $45.00 |
| ENA Connect Pro CIDO[4] | | | $47.00 |
| ENA Connect Loud Ringer | | | $32.00 |
| ENA Connect Auto Attendant | | | $40.00 |
| **Extension for Integration with existing Intercom/Paging/Door Locks** | | | $30.00 |
| **USF and government fees estimate** | Estimate - based on monthly voice service[1] | | 7.00% |
| **911/E-911 Local Government fees** | Based on location[1] | | $1.00 |
| **Site Startup Bundle** | Bundle is per site and includes Administrative Training, up to one day of End User Training, Site Assessment, Site Turn-up, Project Management, and 30 day burn in period. | $1,500.00 | |

| Service | Description | One-time | Monthly |
|---|---|---|---|
| **Add On Features** | | | |
| Local Call Recording | Available with Polycom IP 650/670 only | | $5.00 |
| Voice Mail | Per mailbox - minimum 25 mailboxes per customer | | $10.00 |
| Organizational Directory on Phones | LADP integration, per phone | $10.00 | |
| **Engineering Consulting** | | | |
| LAN/WAN/PBX integration w/ premise systems | Hourly rate | $125.00 | |
| **Additional Training** | | | |
| End User/User Portal/Phone Training | Half day training | $600.00 | |
| End User/User Portal/Phone Training | Full day training | $1,000.00 | |
| **Configuration** | | | |
| Basic PBX/Extension - Configuration or Change | Service is available via Administrator's portal at no charge. ENA can perform this service, if requested by the customer for this one-time charge, per request. | $10.00 | |
| Virtual PBX Configuration | *NOT* available via Administrator's portal | Included | |
| 911 Configuration and changes | | Included | |

## ENA Connect Services - Continued

*All ENA Connect services include the following: On-line user interfaces, Administrator's portal, and Local Number Portability (LNP) at no extra charge*

| Service | Description | One-time | Monthly |
|---|---|---|---|
| **Phones/Handsets ***** | | | |
| **IP Handsets and ATA's** - *Price includes configuration, testing, and ground shipping* | | | |
| **POE-Only Powered Handsets** | | | |
| ***No AC Adapter Included*** | | | |
| ENA Connect Polycom 321 or equivalent | | $120.00 | |
| ENA Connect Polycom 331 or equivalent | | $145.00 | |
| ENA Connect Polycom 335 or equivalent | | $160.00 | |
| ENA Connect Polycom 450 or equivalent | | $225.00 | |
| ENA Connect Polycom 560 or equivalent | | $320.00 | |
| ENA Connect Polycom 670 or equivalent | | $415.00 | |
| **Handsets - AC Power Adapter Included** | | | |
| ENA Connect Polycom 321 or equivalent | | $135.00 | |
| ENA Connect Polycom 331 or equivalent | | $160.00 | |
| ENA Connect Polycom 335 or equivalent | | $175.00 | |
| ENA Connect Polycom 450 or equivalent | | $240.00 | |
| ENA Connect Polycom 550 or equivalent | | $265.00 | |
| ENA Connect Polycom 560 or equivalent | | $340.00 | |
| ENA Connect Polycom 650 or equivalent | | $320.00 | |
| ENA Connect Polycom 670 or equivalent | | $435.00 | |
| ENA Connect Polycom 6000 IP Conference Phone | | $690.00 | |
| **ENA Connect Analog Telephony Adapter** | For Analog phone use with ENA Connect | | $5.00 |
| **On Site Phone Installation** | Minimum of 20 phones, price per phone | $15.00 | |
| ****** Phone models and pricing subject to change*** | | | |

| Service | Description | One-time | Monthly |
|---|---|---|---|
| **Accessory Items** | | | |
| *All accessory items include ground shipping* | | | |
| ENA Polycom Soundpoint Expansion Module for 650 (backlit) | | $195.00 | |
| ENA Polycom Soundpoint Expansion Module for 670 (color) | | $220.00 | |
| Power Supply for Soundpoint IP 320/330/550/650 | | $25.00 | |
| Power Supply for Soundpoint IP 335/450 | | $25.00 | |
| Power Supply for Soundpoint IP 560 | | $30.00 | |
| Power Supply for Soundpoint IP 670 | | $30.00 | |
| Microphone Extenders for IP 6000 | Includes two extension mics | $195.00 | |
| Plantronics Electronic Switch Hook Adapter for Headset | | $70.00 | |
| **Warranties** | | | |
| 1 Year Advanced Replacement Warranty | | Included | |

## Miscellaneous Per Use Charges -- ENA Connect & Dialtone Connect

| *Service* | *One-time* | *Monthly* |
|---|---|---|
| ***International LD & Domestic LD to Alaska, Hawaii, and US territories*** | | Tariff rate/per minute |
| **411/Directory Information Calls - per call** | | $1.00 |
| **Phone Services - Changes, Replacement, Returns** | | |
| Phone/Handset Configuration Change | $10.00 | |
| Replacement Shipping & Handling | $25.00 | |

| *Service Endnotes* |
|---|
| [1] *USF fees & taxes, 911 local county taxes, 411 (Directory Assisted) Calls, International & non-Continental US LD calls are billed in addition to the flat monthly rate. See miscellaneous charges for per call & per minute charges not included.* |
| [2] *Availability of additional telephone numbers vary per LATA. Please see your ENA Account Manager for more details. Additional numbers are available with Dialtone Connect PRI and IP Trunking servic..* |
| [3] *By default, service comes with International LD and 900/976 Calls disabled. International LD can be re-enabled upon customer request. 411 Calls can be disabled upon customer request.* |
| [4] *CIDO; Caller ID customization* |

Please contact ENA with any questions.

ENA's voice services are subject to our master service agreement and tariffs. ENA will work to minimize any additional costs or fees to the customer. ENA's voice services are available only to customers with ENA's Internet Access. ENA Connect Services require the customer's LAN environment to meet certain specifications.

**All pricing is contingent upon service availability.**

## C. Optional ENA Services

| Additional Services | Price | Specific Notes |
|---|---|---|
| Centrally Hosted Firewall for School District | $50 per school, per month; minimum $300 per district | |
| Engineering Support Services (Consulting) | $125 per hour | |
| Professional Development Training | $1,000 per day | |
| Quality of Service configuration | $25 per configuration, per month | |

| Optional ENA Services: Video Conferencing | Cost |
|---|---|
| Classroom Video Connect (8 ports) | $250 per month |
| Small Group Video Connect (3 ports) | $35 per month |
| Individual Video Connect Account | $15 per month |
| Desktop Video Client download | $7 one-time cost per device |
| Hosted H.323 Bridging Service (requires minimum volume) | $833 per device per month |
| Tandberg Management/Monitoring | $100 per device per month |
| ENA CILC Video Conferencing Content, Professional Development and Training Packages: | |
| 1. School Package | $2,250 to $5,500 per school |
| 2. School Corporation Package | $4,200 to $13,000 per school corporation |
| Engineering Support Services (Consulting) | $125 per hour |

| Optional ENA Services: E-Mail Archiving | Cost |
|---|---|
| **Archiving Current Year** | $7 per year, per account |
| **Archiving Setup Fee (External Systems)** | $1,000 one-time |
| **Data Warehousing (per year of data)** | $2 per year, per account |
| **Importing Prior Data for Archive** | $4 per year, per account |
| **Prior Data Warehousing Cost** | $4 per year, per account |
| **Pass-thru Spam and Virus Control** | $5 per year, per account |
| **Spam and Virus Control Set-up Fee** | $1,000 one-time |

# Additional Considerations

## *Beyond Bandwidth Services*

ENA delivers the most comprehensive range of supplemental and complimentary services that deliver more than just bandwidth. **In addition to providing the Additional Services requested in Section II, ENA has the ability to cost-effectively deliver the following additional optional services:**

1. Firewall
2. Engineering Support
3. Quality of Service (QoS) and Traffic Management
4. Cooperative Purchase of Educational Products and Services
5. IP Video and Related Services

Please see **Appendix 8** for *Making the Connection*, ENA's brochure outlining all of ENA's services.

### 1. Firewall

As an optional service, ENA offers a comprehensive, centrally-hosted and managed firewall service including all hardware, software and support that is delivered using a redundant, industry-standard firewall. These devices are hosted within ENA's core network POPs and can be deployed at the school or regional router level. In order to qualify as an E-Rate eligible Priority 1 service, the firewalls must be provided and owned by ENA. **Based on individual enhanced security requirements, we can work with each participating Consortium member to develop specific implementation plans and maintenance schedules to meet their unique requirements.**

The Cisco firewall delivers multi-layered defense for the network through robust, integrated security services including stateful inspection firewalling, protocol and application inspection, and rich multimedia and voice security in a single device. The state-of-the-art ENA firewall provides rich, inspection services, tracking the state of all authorized network communications and preventing unauthorized network access. Moreover, this device provides an additional layer of security via intelligent, "application-aware" security services that examine packet streams at Layers 4-7, using inspection engines specialized for many of today's popular applications. Furthermore, the ENA firewall can provide all of these services well above Gigabit speeds, far surpassing many firewall products on the market.

**The following graphic illustrates ENA's centrally hosted firewall service:**

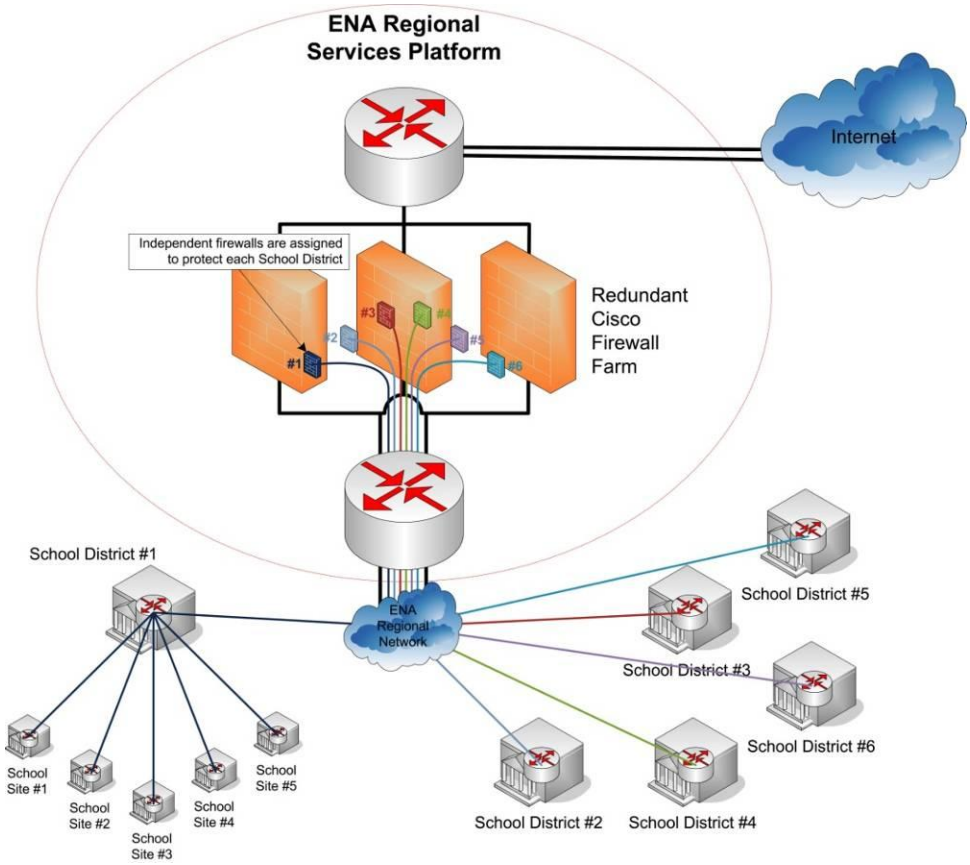


**Figure 27: Centrally Hosted Firewall Service**

ENA can also provide management and maintenance of customer-owned firewall appliances that can be configured to be hosted locally and perform many of the same tasks as our centrally hosted solution.

## 2. Engineering Support

In addition to the on-site support and service provided at no cost by ENA's Account Service Managers, Customer Solution Engineers and Field Engineers, ENA offers packages of hourly engineering support services.

Typical engagements have included Active Directory implementation, LAN assessment and review and in-building wireless implementations. By leveraging our many years of experience and outstanding record of success in directing and managing large, complex technology implementation projects, we are able to reduce costs and implementation time for our customers. Our customers know ENA as a reliable partner, with expert knowledge, dedication to customer excellence and as a one-of-a-kind provider of effective, affordable implementation and consulting services.

### 3. Quality of Service and Traffic Management

Using ENA's MPLS-based backbone, we can implement dedicated bandwidth, packet prioritization and QoS measures, collectively referred to by ENA as traffic management, across the network at the participating Consortium member's direction.

Such dedicated traffic management configurations will permit the ability to dedicate slivers of bandwidth to specific applications and/or packet types to ensure priority routing and minimize latency. We have provided similar configurations and traffic management implementations in other states to maximize the availability of online testing and data collection as well as to minimize any network-attributed latency to applications such as video conferencing, online courses, student information systems and Voice over IP. We will work closely with district personnel to learn all the necessary protocols that need to be prioritized, as well as their source and destination addresses.

### 4. Cooperative Purchasing of Educational Products and Services

ENA develops partnerships with solution providers who we believe offer exceptional value, usefulness and educational content resources to our customers. Individual customers are able to take advantage of lower, volume-based negotiated prices on outstanding instructional, productivity and safety products than they would otherwise be able to qualify for individually. **The product portfolio is enhanced each year, but currently includes products such as:**

- CILC Professional Development and Interactive Video Content
- netTrekker Educational Search Engine
- BrainPOP Animated Curriculum Content
- Apangea Learning Personalized Tutoring
- Gaggle Student E-mail
- Gaggle E-mail Archiving
- Learn360 Streaming Video
- MyVRSpot Hosted Web Space for Videos and Digital Files

Detailed information on ENA's Customer Cooperative Purchasing Program is included in **Appendix 9.**

### 5. IP Video and Related Services

### A. ENA Video Connect

ENA's new video conferencing service, ENA Video Connect, is designed to safely and cost-effectively promote and enable face-to-face distance learning, professional development, and collaboration using the computing power already present in most classroom desktop and laptop computers. It does ***not*** require the use of expensive, dedicated video conferencing hardware available from manufacturers like Tandberg and Polycom. Instead, it uses the *VidyoDesktop* client, which is available for both Mac OS X

and Windows PCs. Use of the desktop client is part of the service, and there are no one-time charges associated with the client's download or utilization.

### Point-to-Point and Multi-Person High Definition Video Conferencing

ENA Video Connect allows registered users to call any other registered ENA Video Connect user and participate in either person-to-person or multi-person high definition video calls. At this time, ENA Video Connect can host up to eight different classrooms simultaneously in the same conference call. We support up to 1080p 60fps calling using the H.264 Scalable Video Coding (SVC) codec. SVC is designed to automatically detect network throughput, latency, dropped packets and other factors that may affect real-time video quality and automatically and continuously negotiate the best picture pixilation and frame rate between clients of the video call.

**Figure 28: Real-Time Distance Learning Using ENA Video Connect**

### Inviting Guests

In addition to calling other ENA Video users (or classrooms), ENA Video Connect also makes it possible to participate in video conferences with guests. Guests can be parents, teachers, or faculty members in

other schools not currently on ENA Video Connect. Guests are not required to sign up for any service. They simply click the custom URL included in the invitation to participate in an ENA Video call and they are prompted to automatically download the video client.

### Connecting to H.323 Legacy Equipment

Although ENA believes the future of video conferencing is on the desktop, we also understand many schools and education content providers have invested heavily in dedicated H.323 equipment from manufacturers such as Tandberg, Polycom and Lifesize. The ENA Video Connect service enables users to directly call H.323 equipment by dialing the equipment's IP address. We take care of all the SIP/H.264 to H.323 conversion automatically, and can enable video communication to legacy devices using either standard definition or high definition video.

### Sharing Desktops and Presentations

Beyond ENA Video's primary focus of delivering high quality real-time video communication to the desktop, it also supports the sharing of presentations and other desktop-based applications.

### Reservationless Conferencing

Unlike traditional, hardware-based video conferencing services and solutions which have limited ports available for multi-person calling, ENA Video Connect is designed to be available anytime, anywhere. Users are not required to reserve ports ahead of time for multi-person calls. To initiate or receive person-to-person or multi-person video calls, ENA Video Connect users simply have to log in to the ENA Video Connect portal.

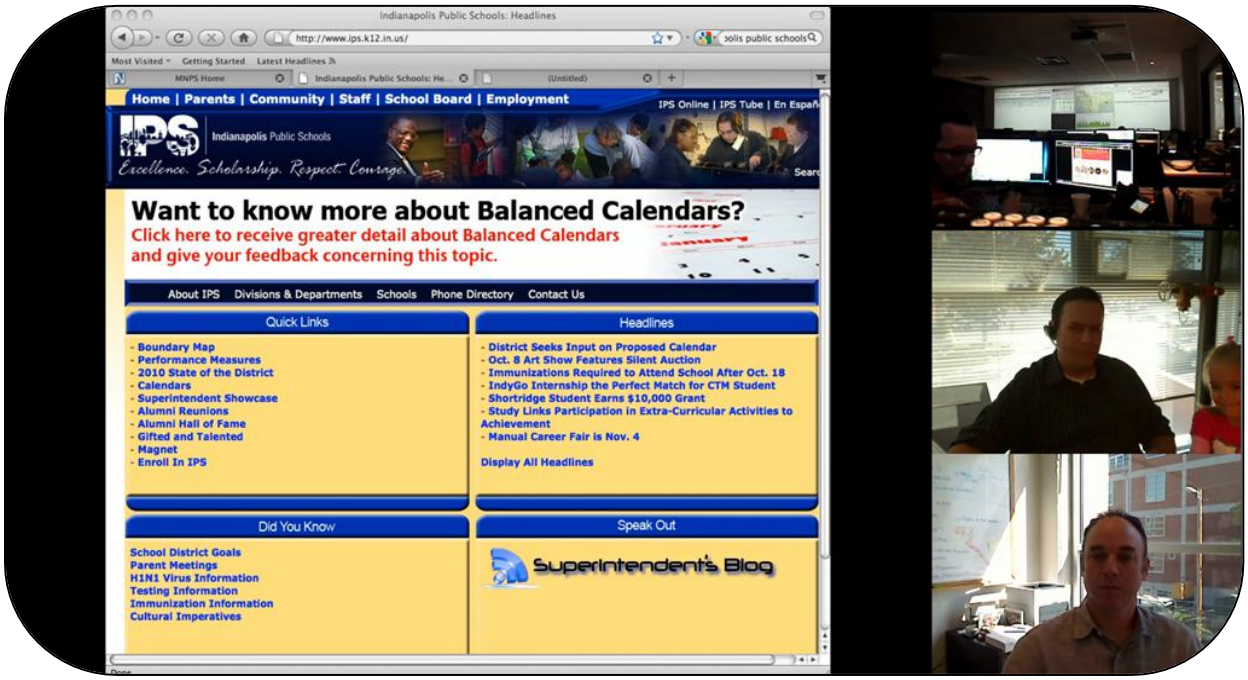


**Figure 29: H.323, Mac, and PC Sharing Content Using ENA Video Connect**

### H.323 Videoconference Bridging Services

For organizations that wish to bridge multiple H.323 units in a single video conference for distance learning or staff professional development, ENA provides traditional H.323 bridging, recording, and content serving services in addition to our ENA Video Connect service. ENA's H.323 Bridging capabilities include:

- 40 simultaneous HD (720p) connections from Tandberg, Polycom, Lifesize or other H.323 video codecs
- Up to 20 connections in a single video classroom
- Recording for up to 5 simultaneous conferences
- The ability to serve previously recorded conference content via the Video Content Server

### Tandberg Management and Monitoring

For Consortium members who have Tandberg VTC equipment in their schools and libraries, ENA can provide Tandberg Management and Monitoring services. Our TMS includes:

- Nightly configuration updates
- Software upgrades and updates pushed and installed on devices as available (devices have to be under warranty with manufacturer)
- Tier 1 Break/fix support as needed
- Basic guidance in terms of how to use the units for meetings and distance learning

## B. Professional Development and Interactive Video Content

In addition to ENA's videoconference service, ENA has entered into an agreement with the **Center for Interactive Learning and Collaboration** (CILC) that will enable ENA to provide the participating Consortium members with access to CILC's nationally recognized and comprehensive catalogue of interactive video content. CILC's Content Provider Program allows schools, libraries and other community organizations to participate in live, interactive video teleconferences with subject matter experts, historians, educators and librarians from all around the world.

CILC currently offers over 1,300 different interactive video content sessions from providers as diverse as the National Baseball Hall of Fame, the Seacoast Science Center, NASA, the Mt. Washington Observatory, and the Center for Puppetry Arts. **Through ENA's partnership with the CILC, ENA and Consortium members can work to schedule and cost-effectively provide rich, engaging video content** on topics ranging from the History of the Silk Road to the African Savannah, Exploring Coral Reefs, the Life of Jackie Robinson, and the Use of Decorative Masks.

**ENA will also be able to provide a number of different webinars and professional development programs focused on how schools and educators can most benefit from a fully integrated video service.** ENA, in collaboration with the CILC, will be offering a number of Professional Development packages to participating Consortium members, including *Videoconferencing 101*, *Engaging your Community with Interactive Video Conferencing*, and *Collaboration and Videoconferencing – Communicating Locally, Nationally and Globally*.

We look forward to working closely with the Consortium to further develop programs, content and video services that will meet and exceed the needs of Consortium educators and their students.

## *Your Partner in New Hampshire Education*

ENA believes that our role in support of New Hampshire's education initiatives extends beyond working with Consortium participants. In fact, our role begins with the recognition of how education needs to evolve to support 21st century learning and includes understanding educational policy issues at the local, state and national level and advocating for the changes that will be required to provide New Hampshire students with the educational opportunities they require and deserve.

ENA is highly engaged with education organizations and associations that have an impact on policy and practice. Our active engagement in these organizations and associations allow us to keep abreast of important education issues and initiatives and stay mindful of these as we support the Consortium's plans and initiatives. It also gives us an opportunity to communicate and promote the Consortium's plans and initiatives throughout these entities.

### State Education Affiliations

ENA is proud to be an active member and sponsor of many leading state education and community organizations and associations in the states where we have contracts serving statewide consortiums and large geographic regions. **If awarded a contract, ENA will establish relationships with New Hampshire education and community organizations and associations similar to other states.** We have provided our Indiana affiliations as an example.

### Indiana

Hoosier Educational Computer Coordinators (HECC)
Indiana Association of Public School Superintendents (IAPSS)
Indiana Association of School Business Officials (IASBO)
Indiana Cable Telecommunications Association (ICTA)
Indiana Chamber of Commerce
Indiana Computer Educators (ICE)
Indiana Library Federation (ILF)
Indiana School Boards Association (ISBA)
Indiana State Library (ISL)

## National Education Association Partnerships

ENA is also proud to be an active member and sponsor of many leading national education organizations and associations.


Figure 30: National Education Association Partnerships

## Appendices

1. SETDA Bandwidth Report: *High-Speed Broadband Access for All Kids: Breaking Through the Barriers*
2. Letters of Recommendation
3. Idaho Education Network Introduction Newsletter
4. *Get Connected: the ENA Network Community Journal*
5. Indiana Communication and Outreach Plan
6. New Hampshire Communication Plan Elements
7. ENA Voice Services Brochure
8. *Making the Connection* Full Line Service Brochure
9. ENA Customer Consortium Program Product Descriptions