RFP 23-72538

**TECHNICAL PROPOSAL**

**ATTACHMENT F**

Please supply ***all*** requested information ***in the yellow-shaded areas*** and indicate any attachments that have been included. Document all attachments and which section and question they pertain to.

**2.4.1 Mandatory Requirements**

**Please answer “Yes” or “No”. If any question under section 2.4.1 is answered “No”, then evaluation of the proposal will end, and the proposal will no longer be considered for award.**

**2.4.1.1** Is the respondent an eligible service provider as determined by FCC/E-rate regulations? Has the respondent been “red-lighted” by the FCC?

**Yes**. ENA has extensive experience with the E-rate program and is an eligible service provider as determined by the FCC. **No**, ENA has not been “red-lighted by the FCC, and we have provided our **Green Light Status** as **2.4.1.1 Exhibit**.

**2.4.1.2**  Does the respondent have the ability to provide service statewide to all locations listed in the Attachment D, as well as any other libraries that join the consortium throughout the life of the contract? Bidders must also consider libraries that may require a change of address or the addition of future library sites, throughout the life of the contract. Please note that a change of address or the addition of future library sites during the life of the contract will be rare.

**Yes**. As the current service provider to the ISL and the vast majority of Indiana’s public libraries and school corporations, ENA clearly has a **demonstrated** ability to provide service statewide.

**2.4.1.3** Does the respondent have demonstrated experience providing e-rate service on a statewide network?

**Yes**. ENA has been involved in the E-rate program since its inception and has over 26 years of successful experience.

**2.4.1.4** Does the respondent have experience providing network monitoring and support of a statewide network?

**Yes**. ENA has deployed a 24x7x365 monitoring and support platform that ensures uptime is optimized and ENA is engaged at the first sign of trouble. This monitoring platform is scalable and currently covers over 5700 customer locations across the country.

**2.4.1.5** Does the respondent agree to use Service Provider Invoice (SPI) method of reimbursement with invoicing to libraries for only the undiscounted portion of the bill (costs must include all charges to be invoiced to individual member libraries, including network access charges, any state and/or local access fees, Universal Service Fund fees, taxes, and any other fee in addition to the cost of the service to be invoiced to the library)?

**Yes**. ENA understands ISL prefers the SPI method of reimbursement, and we will comply.

**2.4.1.6** Does the respondent have demonstrated experience providing customer service success with centralized help desk as well as on-site support?

**Yes**. ENA currently provides a centralized helpdesk as well as on-site support for broadband connectivity, communications, and other ENA services to hundreds of library campuses throughout the state of Indiana.

**2.4.1.7** Does the respondent customer support provide easy-to-use reporting tools and annual consulting with libraries to review and analyze bandwidth usage?

**Yes**. ENA provides both easy-to-use reporting and support tools as well as annual consulting with libraries to review and analyze bandwidth utilization.

**2.4.1.8** Does the respondent have the ability to provide and update all necessary customer premises equipment at no cost to the libraries?

**Yes**. As an experienced operator of multiple statewide networks, ENA has extensive expertise in managing, monitoring, and updating customer premises equipment as part our bundled E-rate eligible solutions

**2.4.1.9** Does the respondent have the ability to provide continued service using libraries' existing IP addresses or to provide a detailed plan for changing IP addresses?

**Yes**. As a long-term partner of the ISL, we understand the complications with managing IP schemas across statewide infrastructure systems. To further aid ISL, ENA will continue to provide and manage services utilizing the existing IPv4 Class B block (208.119.0.0/16) that is owned by and registered to the ISL. This means that ISL will not need to procure new address space, provision a new IP schema, or reconfigure IP dependent services should ENA be selected to continue providing services to ISL consortium members.

**2.4.1.10** Does the respondent have, as part of a business proposal, their vision of technology changes applicable to these services during the next four years?

**Yes**. As we note in **Section 2.4.2.1**, ENA strongly believes that libraries serve as critical community anchor institutions, acting as centers for knowledge, community life, culture, and – as Sari Feldman, past president of the ALA, has indicated – transformational hubs for digital content creation and collaboration. The underlying network and technology infrastructures that enable libraries’ expanded mission have changed significantly over the last few years and will continue to change rapidly over the next four. Although the future is always hard to predict, particularly when it comes to telecommunications and the Internet, there are a few key areas where we anticipate significant change and are actively working to incorporate that change into new service offerings.

**2.4.1.11** Does the respondent provide optional services of firewall, filtering and bandwidth shaping?

**Yes**. ENA’s optional firewall, content filtering, bandwidth shaping, and DDoS mitigation and scrubbing services are described in **Section 2.4.4.4**. In addition, ENA provides other optional services as described in **Section 2.4.4.2** which are currently being utilized by many Indiana libraries.

**2.4.1.12** Does the respondent provide quality of service pricing for special library services, cross connect at platform level to statewide computer applications, and engineering support for statewide computer applications?

**Yes**. ENA does provide quality of service (QoS) pricing for special library services, cross connect at platform level to statewide computer applications, and engineering support for statewide computer applications as described in **Section 2.4.4.4.** ENA will preserve QoS traffic classification markings across all managed connections and will prioritize traffic in accordance with customer defined rules. Initial QoS configuration and changes are included within ENA’s standard pricing.

ENA currently provides QoS for Evergreen Indiana library management system.

**2.4.1.13** Does the respondent provide disaster recovery and backup site for statewide computer applications, PRI interface service solution at the platform for statewide computer applications and base pricing for WANs that are be priced separately?

**Yes**. ENA can provide disaster recovery and backup site for statewide computer applications, PRI interface service solution at the platform for statewide computer applications and base pricing for WANs that are be priced separately. See **Section 2.4.4.4** for more information and pricing.

**2.4.1.14** Does the respondent have a valid FCC SPIN and a current SPAC?

**Yes**. ENA does have a valid FCC SPIN and a current **SPAC** provided as **2.4.1.14 Exhibit**.

Our FCC registration numbers are as follows:

ENA Services, LLC SPIN – 143030857 FRN - 0015297245

**2.4.1.15** Does the respondent provide CIPA compliant filtering?

**Yes**. ENA provides CIPA compliant filtering as described in **Section 2.4.4.4.**

**2.4.1.16** Does the respondent have the ability to continue service where current network Quality of Service technology exists?

**Yes**. ENA has the ability to continue to provide a QoS policy in support of the Evergreen Indiana library management system.

**2.4.1.17** Does the respondent have the ability to continue service where fiber circuit technology is used?

**Yes**. ENA has the ability to continue service where fiber circuit technology is used.

**2.4.1.18** Does the respondent have the ability to provide Internet access for public libraries including connectivity from branch libraries to main library/library aggregation site and from main library/library aggregation site to Internet at download speeds ranging from a minimum of 5Mbps to a maximum of 10Gbps per site with the expectation that average sites may increase bandwidth over the life of the contract?

**Yes**. ENA has read and can comply with this requirement. Please see **Section 2.4.4.3** for our Internet Access and WAN Technical information.

**2.4.1.19** Does the respondent have the ability to meet the requirement that services may not contain monthly data caps or bandwidth speed reduction due to metered usage?

**Yes**. ENA has read and can comply with this requirement.

**2.4.2 Connectivity Vision and Experience**

**2.4.2.1** Describe respondent’s vision for connectivity for public libraries over the next four years.

As a partner to the Indiana State Library and its participating members since 2006, it is our vision to provide a robust, scalable, and cost-effective statewide connectivity network that continues to seamlessly evolve as the Internet access requirements for Indiana’s library patrons continue to grow. We envision gigabit speeds for all libraries and will endeavor to bring gigabit and beyond broadband service to all Indiana libraries.

**The Pivotal Role Libraries Play in Connecting Communities**

*"The future belongs to those who are connected to high-capacity broadband. Investing in broadband deployment to our nation’s community anchor institutions ensures that the benefits of the Internet are widely available to everyone, promoting equity for all.”- Schools, Health & Libraries Coalition,Community Anchor Institutions: A Vision of Our Future, 2016.*

When SHLB published this statement in 2016, it did not foresee how true these words would ring just four years later when the entire world was forced to go virtual. The COVID pandemic shined a light on the large digital gaps that still exist in our nation’s communities. During this extremely difficult time, Indiana’s public libraries heroically delivered connectivity and other resources in innovative ways to help meet the needs of their patrons.

Although it has been 2.5 years since the start of the pandemic, access to high-speed, reliable Internet access remains a critical priority for a large percentage of our nation’s citizens.

According to a September 2021 USA Today article, “in about half of Indiana’s counties – 47 of 92 – measured by a Federal Communications Commission study, broadband access is available to at least 79% of residents. Yet in about half of the state measured by Microsoft – 47 of 92 counties – no more than 22% of households actually have **high-speed access**, a USA TODAY analysis shows.”

As the pandemic spotlighted, there is a critical difference between access to the Internet and access to reliable, high-speed Internet. In many Indiana communities, libraries are depended upon to fill that gap and deliver the digital ecosystem required to facilitate remote work, online learning, telehealth sessions, and other activities. Having evolved far beyond traditional services, libraries promote equality and social inclusion by leveling the playing field and making information accessible to anyone seeking it, regardless of age, geography, demographics, and socioeconomic status.

**The Need for High-Capacity Broadband in Indiana’s Libraries**

As an active partner and advocate for libraries, ENA has seen high-speed broadband demand doubling year over year. Unfortunately, libraries have struggled to keep up with the burgeoning demand, either because of funding obstacles or lack of access to high-quality broadband service.

Recognizing that funding can be a major obstacle to increased connectivity, ENA has successfully lobbied the Indiana state legislature for increased funding for Internet access services for Indiana libraries and schools. It will be imperative for participating libraries to leverage every possible funding source, including identifying ways to become more efficient with E-rate funding to cover more of their rising costs and evaluate new and more effective approaches to achieving increased levels of connectivity. ENA helps to ensure Indiana libraries receive their fair share of the E-rate funding they deserve as well as endeavor to deliver the most cost-effective, high-quality broadband service.

In addition to our local Indiana efforts to support funding for increased connectivity services, ENA is an active member of the Schools, Health & Libraries Broadband Coalition (SHLB) which promotes gigabit broadband speeds for anchor institutions- especially libraries. ENA knows it is important that libraries reach the recommended level of capacity by the ALA, the FCC, and SHLB, and our efforts for Indiana libraries are in alignment with these benchmarks.

As a partner to the ISL and its participating members since 2006, one of the most important ways ENA can help Indiana Libraries continue to meet the 21st century needs of Indiana’s citizens is through our unyielding focus on providing a truly robust, scalable, and cost-effective statewide connectivity network. As mentioned above, ENA’s vision is to bring gigabit and beyond broadband service to all participating Indiana libraries over the next four years.

We have made successful strides to reach this goal leveraging fiber optic services. Fiber optic-based network service delivery is the most scalable, reliable, and cost-effective way to serve Indiana’s libraries. One way in which we intend to optimize fiber delivery is through our relationship with Zayo. Zayo’s expansive and diverse networks include extensive metro connectivity and lit and dark fiber solutions that enable libraries to leverage new technologies that demand low-latency, high bandwidth, scalability, and control.

While we intend to leverage the Zayo relationship to the full benefit of Indiana libraries, it is important to note that no single fiber plant infrastructure can serve all libraries in the state with high-quality broadband service. As such, ENA will continue to partner with other underlying providers such as Surf Internet, Comcast, Charter Spectrum, WOW, Crown Castle, Metronet, and other regional providers to create a single, comprehensive statewide network for the ISL and its participating members while still serving as the main point of contact. This strategic approach is unique to ENA and provides the ISL with many benefits including a cost-effective service delivery model, the ability to utilize a mix of local and national providers, personalized and dedicated local account service, and the ability to fully leverage E-rate funds.

**Beyond Broadband**

ENA’s vision for Indiana libraries expands beyond providing high-quality gigabit service. We will also bring innovative complementary services such as our DDoS mitigation and scrubbing service, ENA NetDefender, as well as other technology and service innovations to maximize the value and usefulness of the connectivity services we provide. Please see **Section 2.4.1.10** for more information about ENA’s vision for technology changes related to connectivity.

Not only will many of the infrastructure technologies discussed in this RFP continue to evolve, the very nature of how we as a people distribute and access information and communicate with each other will continue to evolve as well. Libraries will play a critical role in this ongoing evolution and social inclusion and ENA will be your trusted technology partner to support your technology plans.

**Simply stated, ENA’s vision is to get all Indiana public library system libraries connected to high-speed fiber optic services and meeting the service targets recommended by the ALA, the FCC, and SHLB.**

We look forward to the opportunity to continue to work with the ISL and its participating members for years to come as we jointly work to achieve this vision for the future.

**2.4.2.2** Describe respondent’s experience with statewide library consortia.

In addition to our experience serving the statewide library consortia in Indiana for the last 16 years, ENA has significant experience working with statewide library consortia and other statewide consortia, particularly those participating in the E-rate program. We currently hold more than ten (10) state contracts, all of which are to provide a variety of E-rate eligible services to libraries and schools. In January 2016, the Mississippi Library Commission (MLC) awarded ENA a contract to provide Managed Internal Broadband Services statewide and we have worked closely with MLC and the participating library systems to provide all the necessary information and assistance allowed to support the E-rate application process.

Working closely with ISL and all the public library systems throughout Indiana for the last 16 years, we have worked hard to support the technology needs of each consortium member. A dedicated account team is assigned to work with each library consortium member on an ongoing basis to understand their unique bandwidth and technology needs and challenges and then work hard to meet and exceed their expectations.

We take great pride in providing the best customer service to each consortium member, and that includes offering our E-rate assistance to the maximum amount allowable by a service provider to ensure Indiana’s libraries are not only securing but maximizing these critical funds.

As a leader in working with statewide consortium, school district, and library E-rate applications, we understand our role in providing guidance, while at the same time respecting the rules governing acceptable service provider/applicant interactions. Our support services include:

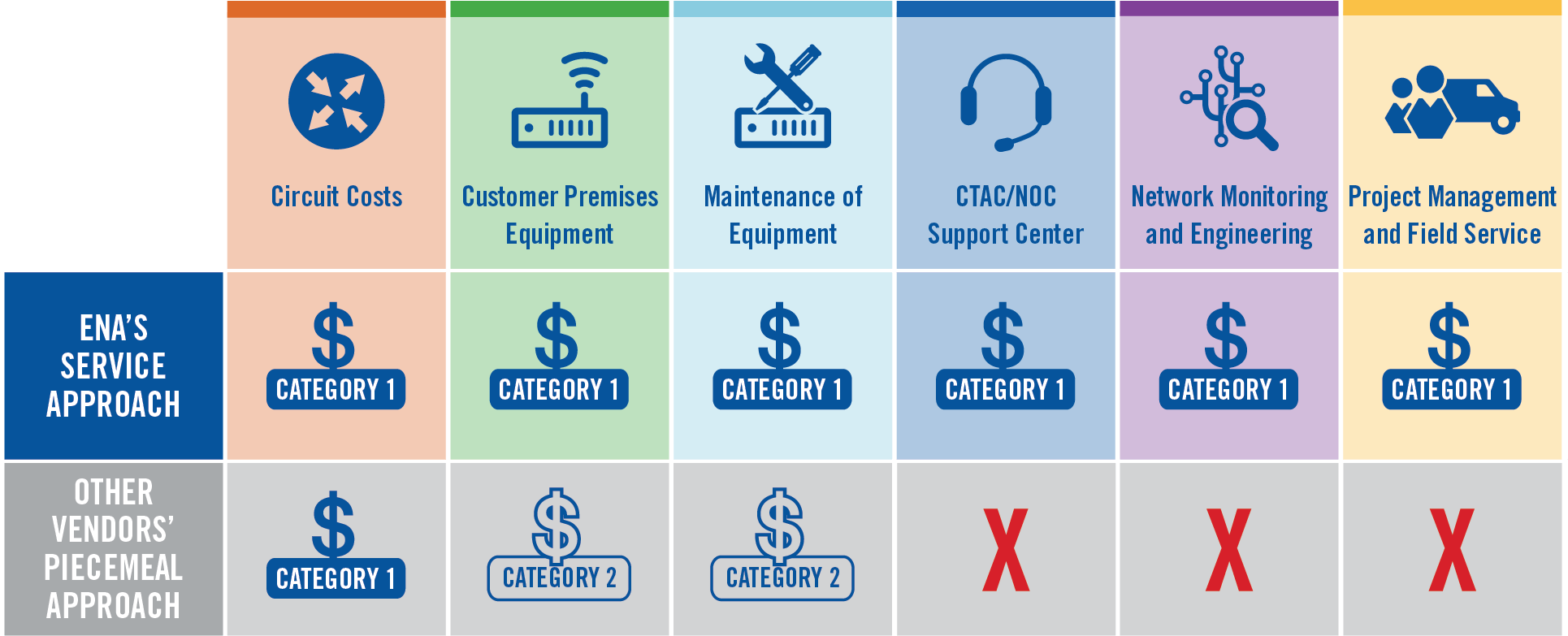
* Educating and reminding customers of deadlines, rule changes, and current issues.
* Reinforcing compliance on all E-rate program rules.
* Working with customers during the Form 471 process to ensure adequate filing amounts to cover E-rate eligible services.
* Preparation of Form 471 Item 21 Attachment information describing ENA’s specific services.
* Aiding customers in responding to Program Integrity Assurance (PIA) questions.
* Assistance with Form 486, start of service.
* Filing appeals/actions to gain funding.

**2.4.2.3** Describe the company’s respondent’s previous experience with the E-rate program.

ENA has been involved in the E-rate program since its inception and has over 26 years of successful E-rate experience working with a variety of schools and libraries. ENA considers active involvement with E-rate part of its role as a partner with its customers and has obtained approvals for more than $1 billion of critical E-rate funds for our customers

ENA's delivery model includes all equipment and support required to deliver the service, including the circuit, all necessary layer 3 networking equipment, maintenance, field engineering resources, and 24x7x365 network monitoring and support for all components over the life of the service. With ENA’s service approach, all services are bundled together to qualify for Category 1 E-rate funding which typically results in substantial cost savings for our customers.

The following graphic illustrates how ENA's broadband service delivery model fully utilizes E-rate funding to cover more overall costs versus a piecemeal approach of purchasing individual products and services.



ENA is a leader in maximizing the components that can be bundled and qualify as a Category 1 service. ENA played a key role in obtaining the landmark "Tennessee Decision" which established the eligibility of on-premises equipment as a Category 1 service many years ago. This decision validated ENA's service delivery model which is designed to maximize Category 1 funds and to deliver a service that is focused on easing the support burden on your technology staff.

ENA is a top-5 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 since the inception of the program in 1998. ENA has extensive knowledge and experience 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 external advisors, including E-rate legal specialists based in Washington, DC. This external team keeps ENA on the cutting edge of E-rate knowledge and policy changes.

**2.4.2.4** Describe the respondent’s installation/transition project management, implementation, and service delivery.

**Project Management and Implementation Plan**

**Project Management**

ENA currently provides many Indiana State Library consortium participants with Broadband service, so we are familiar with your technology infrastructure. Even so, ENA employs a robust standard project methodology that applies stringent project management processes and exacting disciplines for all new service installations and changes. We have included our traditional project management approach below as a reference.

ENA considers a contract with a customer a lifecycle project, and our processes, people, and skills are geared to that model. We set rigorous processes and disciplines to ensure successful deployment across the ENA services portfolio. This model scales effectively from small, single-site implementations to large, system-wide, or statewide service implementations.

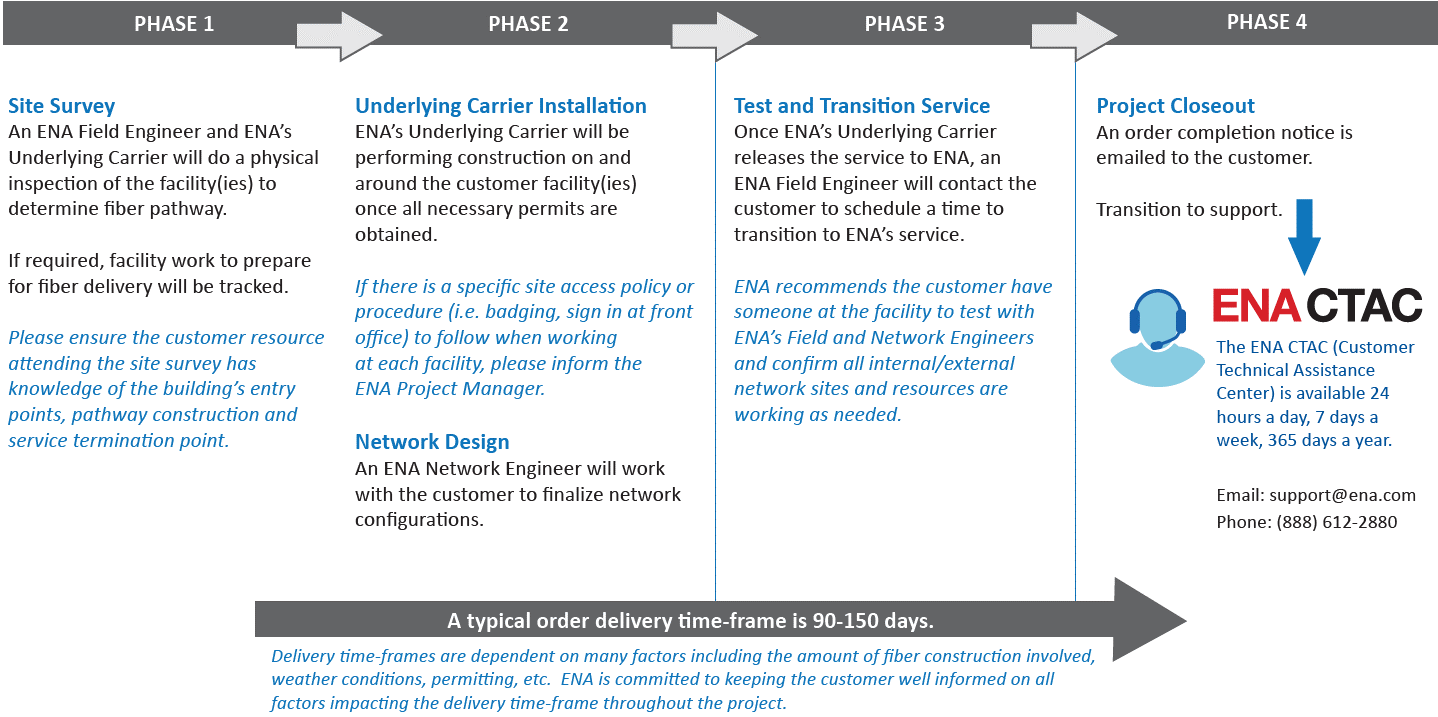
A highly skilled and experienced ENA project manager (PM) is assigned and dedicated to installing all-new and migrated ENA services. The PM has full authority to bring ENA skills, resources, and intellectual capital to bear to ensure project success. The PM will have the support and oversight of the ENA Manager, Project Management Office, and the Director, Project Management, for successful project execution. ENA PMs have provided oversight and management for deploying thousands of site connections. They have a full appreciation for the level of attention to detail and meticulous follow-up required to ensure on-time delivery and a smooth transition.

The process begins with a formal project kick-off meeting led by the ENA PM, during which several vital activities occur:

* Identify project team members along with roles and responsibilities
  + It is highly recommended that the customer name a project lead who will be the primary point of contact on your behalf with the ENA PM
* Validate the site(s), including physical address, site contacts, services required, and any unique requirements or restrictions
* Review overall architecture of the solution and initial logical and physical design documents detailing:
  + Site’s location and configuration
  + Handoff to customer’s Internet connection point(s)
  + Design for resiliency and scalability
* Request key information such as site drawings and customer policies regarding site visits
* Determine critical milestone dates and deliverables
* Define overall project communications strategy and protocol
  + Determine frequency, content, and participation in status update meetings
* Discuss requirements for change management policy and practice
* Agree upon escalation criteria and procedures
* Identify critical application(s) to be validated during the site turn up
* Agree on the criteria for a successful project completion

As an integral element of the plan, the ENA project team lays the foundation for ongoing reliable operations and the ability for the network to scale and evolve, as needed, to meet your future needs.

**Fiber Implementation Process**



The project plan is then baselined from information gathered and confirmed in the kick-off meeting. The program encompasses all activities required to ensure overall project success.

The project plan also includes planning for a seamless transition to ENA steady-state operations following initial implementation. In this program area, the customer and ENA engage in extensive discussion regarding incident and request procedures, change management policy, and coordination of the first point of contact (FPOC) functions between the customer and ENA, including cross-system ticketing for appropriate referential tracking and management.

Upon customer review and approval of the technical design and the project plan, ENA initiates circuit and equipment orders. All equipment necessary to deliver our IA and WAN services is ordered and tracked to receipt and installation. All device software and configurations are tested in the ENA lab and deployed initially in the pilot mode under a robust testing regimen in the field.

From the moment circuit orders are placed by ENA with the underlying supplier(s), the ENA PM will work with the underlying supplier(s) to ensure all necessary permits are obtained and surveys performed to enable timely completion of circuit delivery to each building on the project site list. ENA's project management methodology is predicated upon transparency relative to our underlying suppliers' key process milestones, which enables us to ensure we stay on track to meet our committed delivery timeframes.

Equipment installation, configuration, and testing are timed to coincide with the underlying circuit delivery. The individual circuits will be required to pass underlying supplier performance tests and then subjected to ENA performance tests before accepting the circuits and initiating site transition to the ENA-managed solution.

**Implementation Timeframe**

As the current service provider to the ISL, ENA is ready to deliver the requested services immediately with no disruptions. Should new services be requested, ENA’s standard timeframe to complete such request is 120 days. Should a library choose to upgrade existing services, if additional underlying capacity is required ENA’s standard timeframe to complete such request is 60 – 90 days. When capacity exists, this timeframe is reduced to 30 days, with critical requests typically requiring as little as 5 days.

Each implementation is unique, and ENA works with each customer to determine a mutually agreeable implementation timeframe. Timeframe estimates are based on ENA’s extensive experience. They are subject to change based on hardware availability and delivery lead times, permitting and construction requirements, customer site readiness (including completion of customer designated make-ready work), timely access to in-scope locations, and other circumstances beyond ENA’s control.

**2.4.2.5** Describe a detailed plan for changing IP addresses in the event libraries’ existing IP addresses must be changed as the result of this RFP.

As a long-term partner of the ISL, we understand the complications with managing IP schemas across statewide infrastructure systems. To further aid ISL, ENA will continue to provide and manage services utilizing the existing IPv4 Class B block (208.119.0.0/16) that is owned by and registered to the ISL. This means that ISL will not need to procure new address space, provision a new IP schema, or reconfigure IP dependent services should ENA be selected to continue providing services to ISL consortium members.

**2.4.3 Network Monitoring and Support**

**2.4.3.1** Describe customer support, including contact method(s) and availability.

ENA delivers the full value of a superior service approach through our comprehensive ENA customer support model described in this section. By utilizing industry best practice frameworks and tools, ENA offers a seamless support structure across the entire organization to deliver exemplary customer support.

**The ENA Customer Technical Assistance Center**

Since 1996, ENA’s U.S.-based, Customer Technical Assistance Center (CTAC) has operated as the single point of contact for customers to receive professional, exceptional support for all ENA service needs. We accomplish this by combining a comprehensive service and support center with an enhanced network operations center.

Providing a 24x7x365 coverage model, the CTAC team can be reached using the following methods:

* A single toll-free number – (888)612-2880
* Email – support@ena.com
* Online chat and our online ticketing system at <http://my.ena.com>

**Experienced and Certified Personnel for Superior Customer Service**

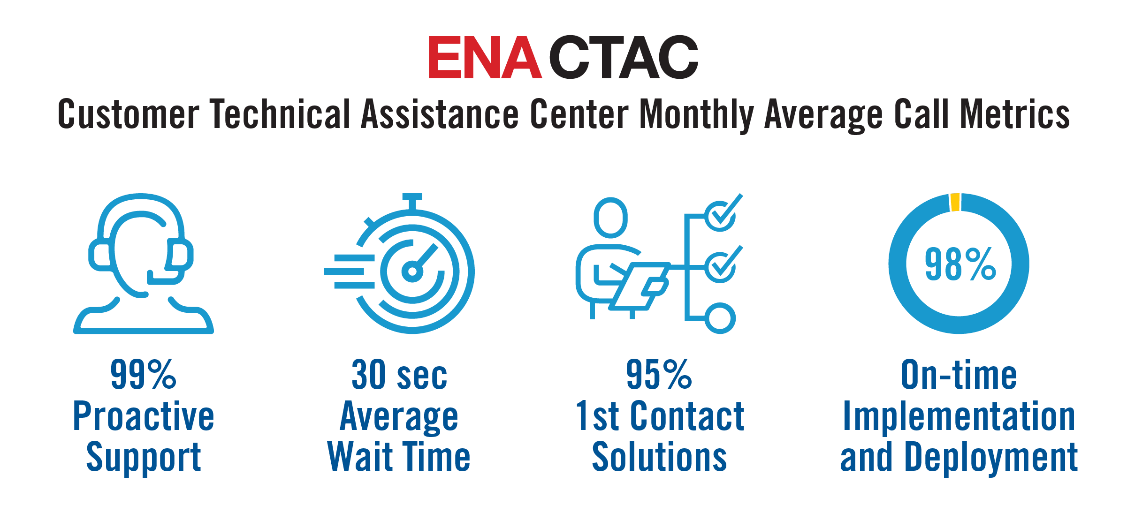
ENA invests in the ongoing professional development of our support staff, with a dual emphasis on technology skills and industry-recognized customer service processes. In addition to the focus on customer service, ENA’s CTAC Customer Support Engineers (CSEs) pursue specialized, industry-recognized technical certifications as well as many vendor-specific certifications. This allows CSEs to troubleshoot and support our full suite of services. Thanks to the experience and expertise of our CTAC CSEs, the most incidents are resolved quickly and without escalation—providing rapid resolution and better service to our customers.

ENA embraces the methodologies of the Information Technology Service Management (ITSM) principals and related frameworks to deliver our comprehensive customer support model. Using both an ITSM-based ticketing system and direct customer feedback surveys, our CTAC focuses on continuous improvement.

**Key Performance Indicator Metrics**

ENA’s ITSM ticketing and customer relationship management (CRM) system allows the support teams to stay in front of a customer and work towards swift problem resolution. Equally as important, these tools generate the key data elements that are necessary to both meet reporting requirements and to create a feedback loop that allows for continuous improvement.

In the following illustration, you will find summary statistics regarding a sampling of our average monthly CTAC KPI metrics. This information demonstrates our focus on highly responsive incident and request handling, and first point of contact resolution.



**2.4.3.2** Describe the experience for the customer using the centralized helpdesk including average resolution times.

**Seamless and Responsive Service and Escalation Procedure**

Focus on Customer Satisfaction

Fundamental to the overall ENA support model is ENA’s ownership and accountability to satisfy the customer’s need. Everyone on the ENA support team adheres to the principles of rapid response and continual communication to ensure our customers are always informed regarding progress of their request or incident. While the CTAC is the main focal point for all ongoing support, sometimes an escalation requires the engagement of either ENA specialized design engineers or management

Ongoing Customer Support Process and Escalations

The following section outlines the support process flow designed to ensure our customer needs are tracked through detailed documentation and ongoing follow up. While many other organizations staff their front-line team with clerical and/or referral support, the CTAC provides complete, engineering-level support with proactive monitoring for many ENA services. This process has proven to provide access to ENA’s full support resources for timely and responsive resolutions.

* When you contact the CTAC for assistance, a CSE will do the following:
  + Create a unique ticket specific to your location and classify it appropriately. This will generate an automated email to you with the ticket number for future reference.
  + The CSE will be inquisitive to assess your needs and access the devices used to deploy your service to determine if the issue(s) can be resolved remotely.
  + If additional research is required, the CTAC will continuously follow up with you throughout the duration of the investigation process.
  + In the event a customer need requires higher tier technical experience, the CTAC engages a Tech/Ops Engineer. The Tech/Ops Engineers have Design Engineer knowledge of a customer’s deployed ENA services.
* Local ENA Field Engineers or carrier resources are dispatched by the support teams to address any on-site problem that could not be resolved remotely.
  + ENA’s customer-focused Field Engineers and resources are geographically dispersed, to provide prompt on-site support. ENA Field Engineers pass all customer, municipal, and state screening security requirements for work on school or other public premises.
  + ENA’s Field Engineer who is coming on-site will work directly with you to schedule their on-site visit. You will be kept up to date on their status until they arrive.
  + Our Field Engineers carry ENA-owned equipment and necessary spare parts to directly fix a service during a dispatch, further reducing the time to resolve any service interruption. **Our policy for ENA-provided equipment is to keep, at minimum, five percent of the total number of deployed network devices and associated modules available to ENA personnel at all times in our depots throughout the country.**
* ENA’s specialized Design Engineers are engaged where a ticket cannot be resolved by the CTAC or field operations.
  + ENA Design Engineers specialize in the design, adaptation, and deployment of the technology solution installed at a customer’s location. Because of their involvement from the beginning of the solution design, ENA engineers are intimately familiar with each customer’s environment.
  + The Design Engineers will work directly with the customer to identify a permanent solution or temporary work around.
* Should the problem be beyond the scope of the ENA Design Engineer’s capabilities the ticket will be assigned to the ENA Architecture team.
* ENA will use either on-site or remote access to determine if we have resolved the reported need. Once we complete this validation and the ticket is resolved, you will be automatically notified by email of the resolution details.
* Before ENA closes the ticket, we will contact you to validate the resolution.
  + ENA can provide the customer with root cause analysis, on request, of any outages or other issues that affect our service.

These support policies and commitments have proven to ensure the highest levels of reliability and service satisfaction for our customers. While most of our support flows through this process, a customer can escalate their need at any time through our transparent support escalation process.

**Reliability of Broadband Service or Mean Time to Repair (MTTR)**

From January 1, 2021, to December 31, 2021, ENA’s mean time to repair (MTTR) during library hours, excluding customer site outages, was 02:46. Historically, ENA has consistently met MTTR requirements by utilizing strict Information Technology Service Management (ITSM) processes and policies internally and with underlying carriers.

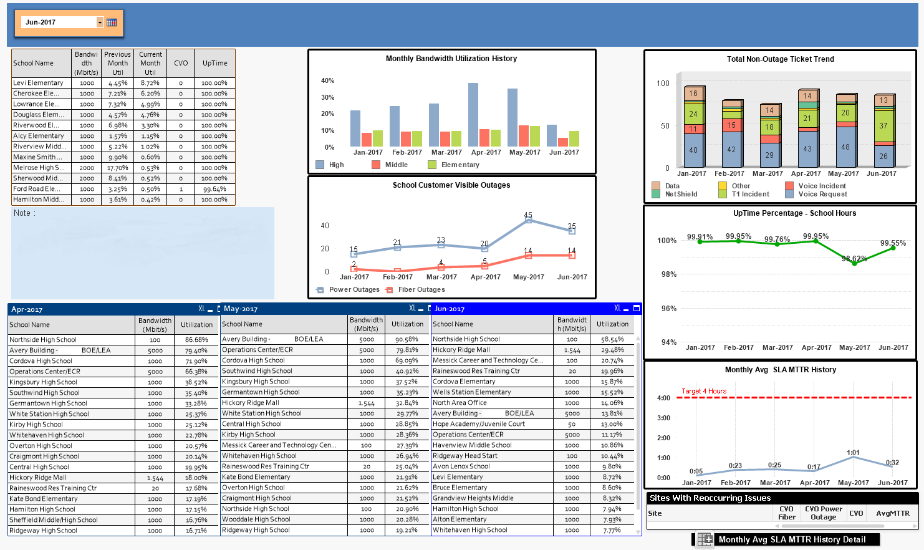
**2.4.3.3** Describe reporting tools and proposed plan for annual consultations with every library on the network.

**Personalized, Dedicated Account Service Throughout the Life of the Contract**

Every ENA customer is assigned an account services manager (ASM), throughout the life of the contract with ENA, who builds a trusted relationship with you and your team by working to maintain an understanding of your specific goals and needs.

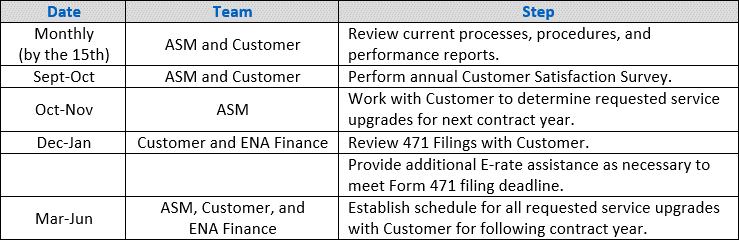
**Monthly Performance Dashboard Reports**

Beyond the self-service access customers have to key execution metrics, such as bandwidth delivered, ticket progress, and network device performance discussed above, ENA also provides monthly snapshots, via a **Performance Dashboard**, of key performance indicators that reflect ENA’s execution in support of the services we deliver. The dashboard reports can include but are not limited to responsiveness to incidents, attainment of SLA commitments, district bandwidth consumption trends, and other indicators of significance to the district. These dashboards can be customized to meet specific district needs. A sample **Performance Dashboard** is provided below.



**Annual Account Planning Process**

ENA provides extensive post-implementation support to our customers through our ongoing E-rate support and annual planning process. The following table is an example of our annual planning process that is conducted by the account service manager (ASM) and repeated yearly for the life of the contract:

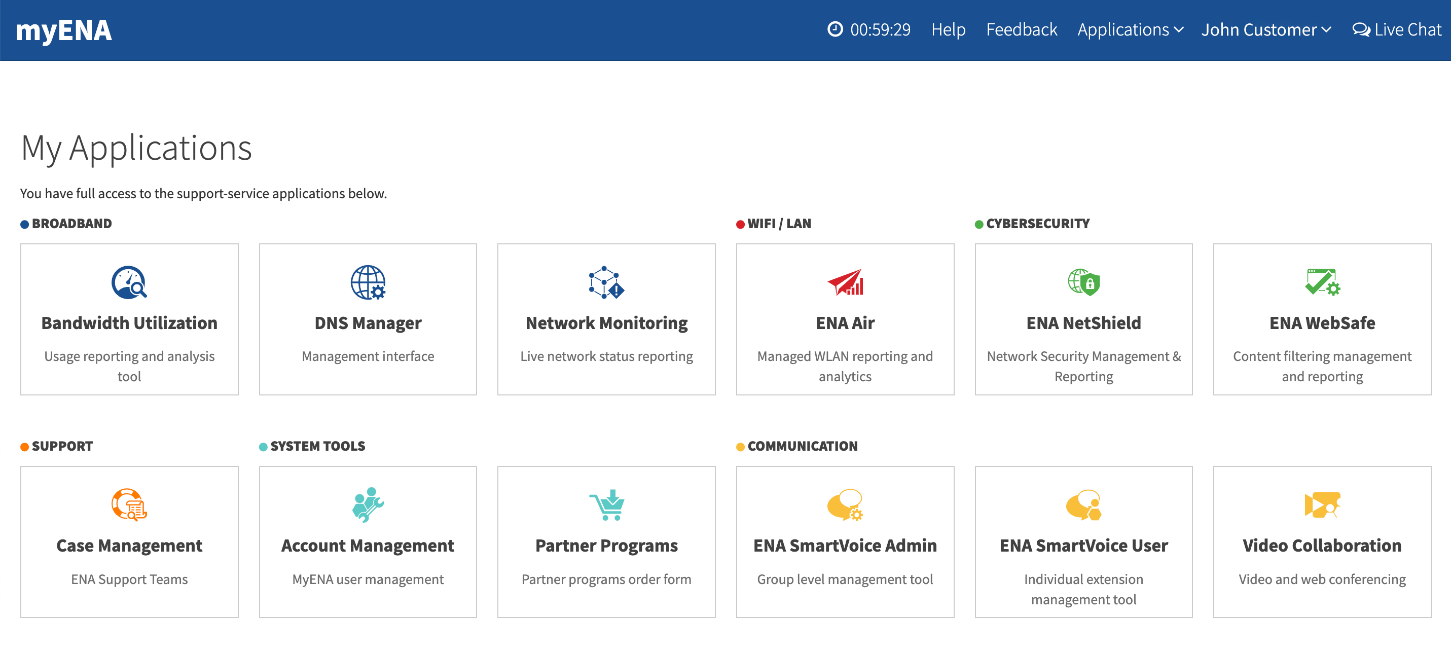


**2.4.3.4** Describe tools available for customer monitoring and incident reporting.

**ENA Service and Support Applications**

ENA takes pride in our ability to deliver seamless end-to-end managed Infrastructure as a Service solutions while simultaneously allowing our customers as much insight into the details of their service activity as we can provide. ENA’s sophisticated suite of web-based service and support applications includes ticketing and service reporting, network monitoring, bandwidth utilization, call quality monitoring, account and service management, service analytics, and a live customer chat tool. With the my.ENA portal (<https://www.ena.com/myena>), customers receive easy access to high-quality service and support applications and a 24x7x365 view of the status of their service and what is being done to correct any current incidents.

My.ENA Portal



**ENA Case Management**

ENA Case Management allows authorized administrators to create, view, and update support tickets online by collaborating directly with the engineer assigned to the ticket. You can review the status of the reported service, including the documentation and assignment of the ticket, within Case Management. Information is presented in an easy-to-read format, allowing you to stay up to date on the status of your documented need.

**ENA Network Monitoring and Bandwidth Utilization**

Employing our own internal systems using industry reporting standards, ENA actively monitors all network traffic in aggregate. We have the capability to drill down to specific IP addresses to monitor and manage network abuse, virus outbreaks, and unusual network traffic as well as to ensure packet prioritization based on pre-set rules. The tools outlined below are available to provide data for each individual end site.

**ENA Network Monitoring**

Just like the CTAC’s monitoring tools, ENA’s Network Monitoring tool utilizes the same checks to poll devices installed within the customers premises every five minutes. If a check fails or performs outside expected boundaries, the tool will alert you of the failure in order to take corrective action or to prepare you for ENA’s call, enabling the device to return to service as soon as possible. The ENA Network Monitoring tool displays real-time status of the network, allowing insight into the health of the network at any time, from any place with an Internet connection.

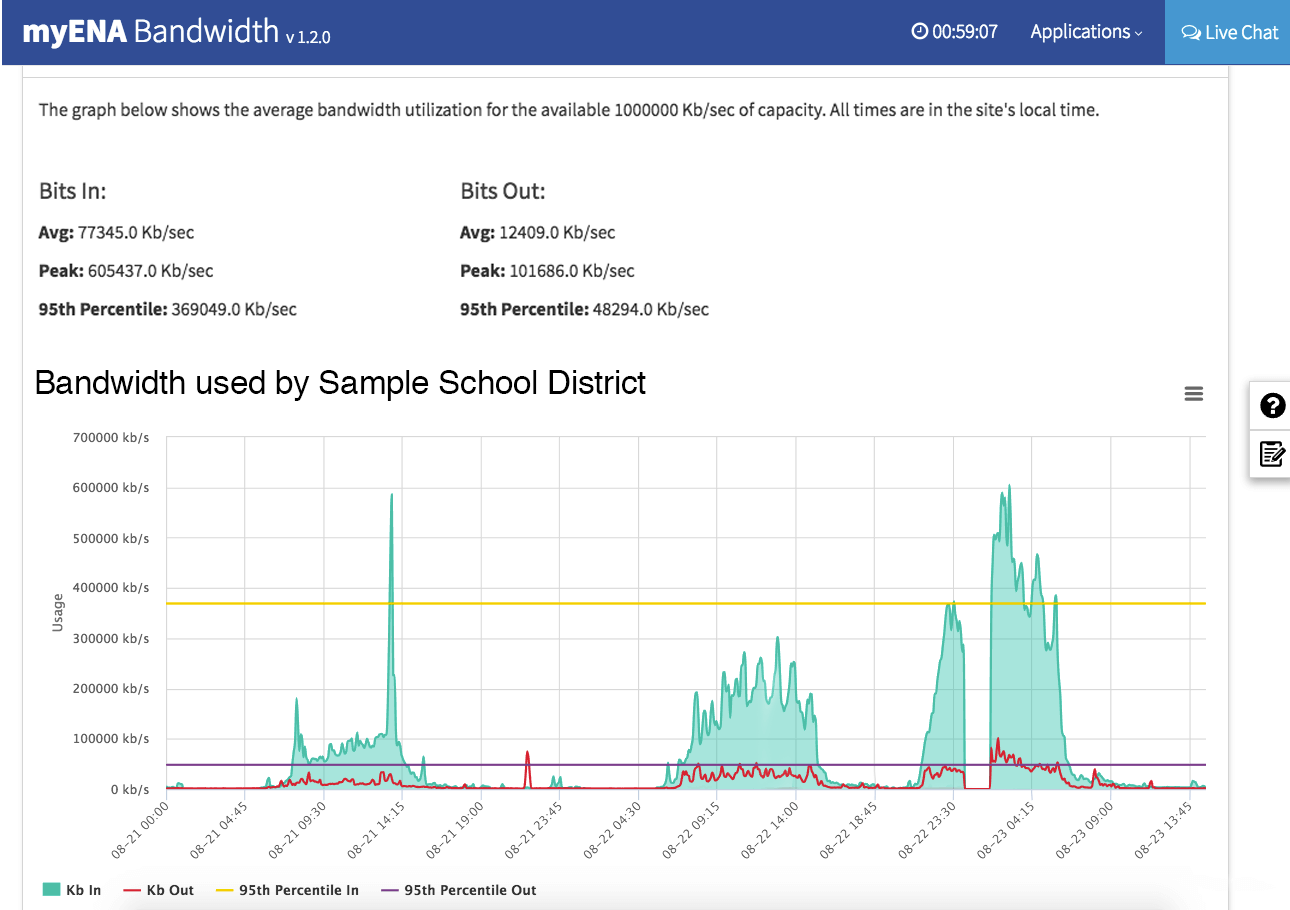
At a glance, all customer administrators can determine:

* If a service interruption has occurred at a site
* Length of the interruption
* If the interruption is acknowledged by ENA

**ENA Bandwidth Utilization**

The ENA Bandwidth Utilization tool allows customers to track and monitor aggregate bandwidth usage by site using industry-standard metrics. This tool provides customizable and granular bandwidth usage documentation by providing ad hoc reports on an hourly, daily, weekly, and monthly basis. With the ability to pull the same time duration on multiple days, you can see down to a five-minute interval, the peak usage, 95th percentile, and overall average for the reporting duration. This information assists in troubleshooting, planning future capacity requirements, and tracking usage spikes.

ENA Bandwidth Utilization Tool



**2.4.3.5** Describe service-impacting notifications, including incident escalation and notification type.

**Service Impacting Notifications**

Maintenance notifications are sent a minimum of 48 hours prior to the work being performed. For outages, ENA strives to notify the customer within 15 minutes of a monitored outage alert and will update the customer on the status of the repair on an hourly basis until service is restored.

**Escalation Matrix**

ENA understands that earning and keeping the trust of our customers depends on our ability to quickly achieve service restoration and problem resolution. We recognize that any loss of service can greatly impact the end user, and our escalation priority levels and procedures are designed to ensure impact durations are kept as short as possible. This is a result of our keen focus on customer service and the superior talent, experience, and commitment of our team combined with our technical approach.

We utilize an escalation system based on and customized for the needs of our end users. The following chart outlines the ENA escalation protocol based on incident priority. This protocol ensures the right level of visibility and resource commitment for each incident so that service is restored in the shortest timeframe possible in the event of a service impacting incident.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PRIORITY LEVEL** | IMMEDIATE | 15 Minutes | 1 Hour | 2 Hours | 8 Hours | 12 Hours |
|  | CTAC Managers | Sr. Director of Customer Experience | Chief Operating Officer | - | - | - |
|  | CTAC Managers | CTAC  Managers | Sr. Director of Customer Experience | Chief Operating Officer | Sr. Director of Customer Experience & Chief Operating Officer; Escalate to Critical | - |
|  | Customer Support Engineers | Customer Support Engineers | CTAC  Managers | Sr. Director of Customer Experience | Sr. Director of Customer Experience | Escalated to Major; Chief Operating Officer |
|  | CTAC | All requests are reviewed by the CTAC team and are escalated based upon the urgency of the customer request. Move/Add/Change/Delete actions are included within request handling and are escalated upon the urgency of the customer’s need for the service change. | | | | |

**Management Engagement**

ENA believes in a transparent management escalation path with timetables driven by incident priority. However, we also 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 happen, customers may contact the CTAC or anyone listed in the Customer Service Escalation Path chart below to request escalation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Customer Service Escalation Path** | | | |
| **First Contact** | **Customer Technical Assistance Center (CTAC)**  ENA Network Operations Center | support@ena.com | (888) 612-2880 |
| **Escalation One** | **CTAC Managers**  Chris Newgaard and Quinton Dorris | ctacmanagers@ena.com | (615) 312-6093 |
| **Escalation Two** | **Sr. Director of Customer Experience** Dana Briggs | [dbriggs@ena.com](mailto:dbriggs@ena.com) | (615) 312-6025 |
| **Escalation Three** | **Chief Operating Officer** Matthew Turner | [mturner@ena.com](mailto:mturner@ena.com) | (615) 312-6042 |

**2.4.3.6** Describe incident report resolution, including average response time and resolution rate.

ENA’s ITSM based ticketing system is designed to notify all customers via e-mail when a ticket is moved into a resolution status. This notification will include a synopsis of the ticket and why the ticket was moved into a resolved state. Upon this step, ENA will begin to contact the customer via phone and e-mail four times over the course of four business days before moving the ticket to closure.

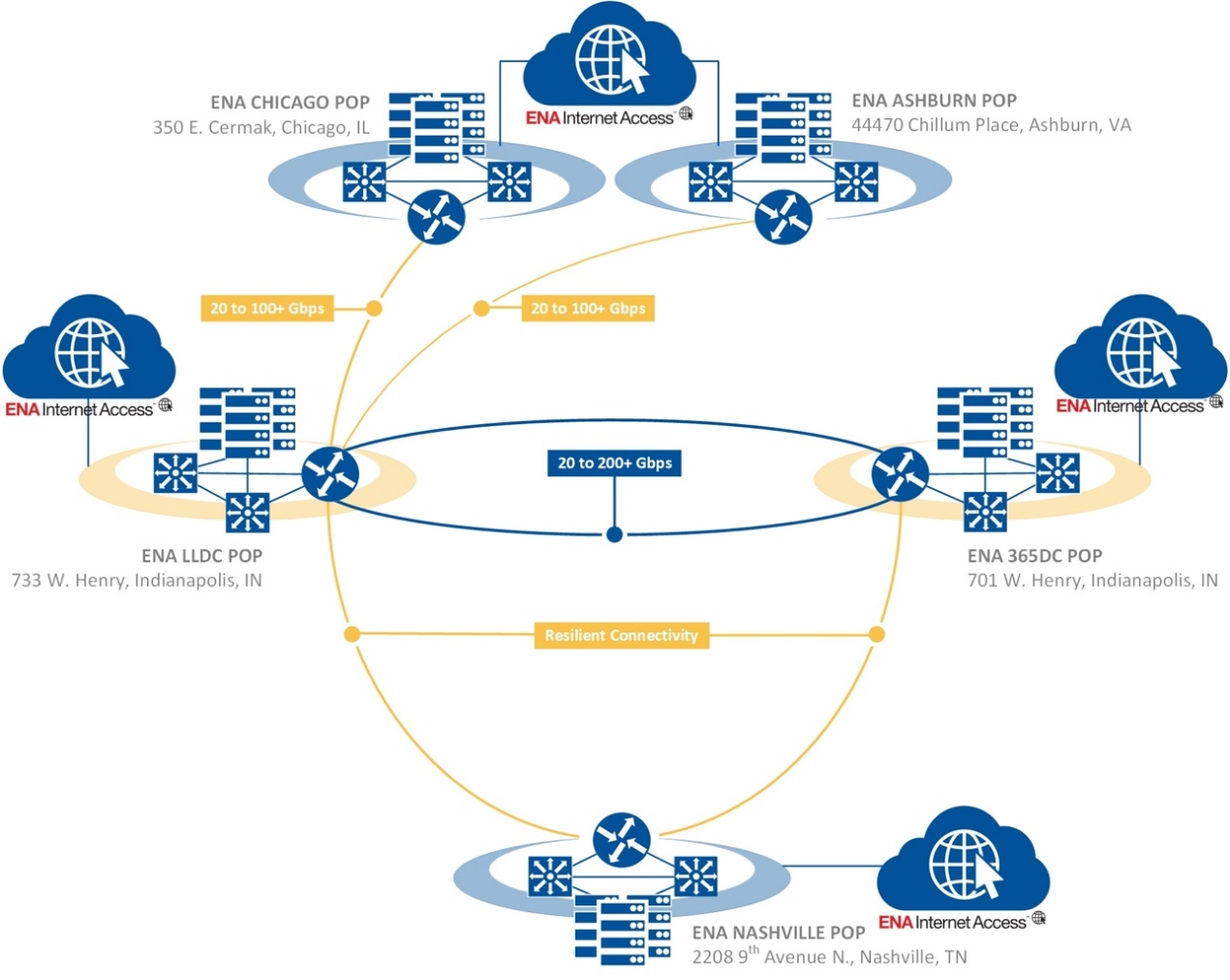
Upon ENA resolving any case, an email of the resolution steps will be automatically sent to the proper customer technical contacts. If more detail is required, the customer can respond and request a full Root Cause Analysis of the event, including any corrective actions that may have been identified by ENA to prevent future repeats of the situation.

ENA’s average response time when called is 30 seconds, and the average resolution rate is 95% on first contact.

**2.4.4 Other Services**

**2.4.4.1** Describe disaster recovery plan for the network.

ENA understands that ISL seeks a provider that can provide a disaster recovery plan for the network in the case of a catastrophic event or just a simple outage. ISL’s focus is to have a reliable network for its staff and patrons that is always available with continuous uptime. As you have already experienced with ENA, we enjoy working closely with our customers and understanding the details and specific needs that you have. ENA has worked with each member to provide a highly resilient network, and we are constantly researching and testing ways to further mitigate risk and reduce recovery time. As part of our effort to create a highly resilient network to serve the ISL, ENA has invested significantly in network and Internet connectivity in Indianapolis, leading to it becoming a key cornerstone to ENA’s network that serves our customers nationally. A depiction of our current network and Internet connectivity has been inserted below for your convenience:



Our disaster recovery plan as it relates to ISL and its members incorporates five areas: incident prevention, incident detection, incident response, incident recovery, and incident restoration.

**Incident Prevention**

ENA understands that building robust data networks is key to incident prevention. The ENA national network includes significant redundancy and resiliency for all of our proposed services. Each ISL member location will be directly connected with the best available transport technology to the ENA national network through our POP in Indianapolis. Our Indianapolis POP is directly connected to other ENA national network POPs in Nashville, Chicago, and Ashburn. ENA maintains significant external connectivity to peering and transit partners in Indianapolis, however, our Internet access service for ISL will leverage our entire portfolio of connections beyond Indianapolis. This means that, in the event that we have an interruption of connectivity or service within our Indianapolis POP, ISL will be immediately and transparently able to take advantage of connectivity we maintain outside of Indianapolis, ensuring that local conditions in the state of Indiana will not impact service for ISL and its members.

**Incident Detection**

Detecting an incident is critical to ENA, and we are constantly developing our personnel and systems to ensure this step of the process is not delayed. Utilizing ENA’s robust monitoring platform, the CTAC and on‐call engineers are immediately notified of any incident that arises with our ENA network and associated infrastructure platforms. Our systems automatically notify ENA personnel of any service interruption and are quickly correlated to customers that utilize ENA’s services ensuring each customer issue is given immediate, high‐priority status.

**Incident Response**

For any incident that is detected, ENA’s rapid response reduces the mitigation time of the incident. The first level of response is the ENA CTAC which is your single point of contact and accountability for ENA provided hardware and services. The CTAC provides 24x7x365 monitoring and notification. All calls to our CTAC are answered by a live person in the U.S. with the knowledge, experience, and capability to resolve your issue now or immediately escalate to the appropriate teams – not just open a new service ticket. With our proactive monitoring tools, ENA is able to contact our customers in advance of their call to alert them of a service-impacting issue over 99 percent of the time.

**Incident Recovery**

Having developed a resilient and, in some cases, redundant network, ENA has reduced the chances that an incident will impact our customers. In the event an incident does affect our customers, the CTAC has the resources at its disposal to immediately begin recovery. In addition to the CTAC staff, ENA also has product-specific engineering teams and field engineering personnel that can be deployed locally. These teams not only maintain the equipment but are also deployed on-site to test, troubleshoot, and replace equipment if needed. ENA also spares critical hardware components throughout our network. This spare hardware allows us to quickly recover in the event of a physical hardware failure by simply swapping out the affected device. In addition to our internal staff, ENA also contracts “remote hands” at all of our POP facilities, permitting us to respond to an incident without waiting to dispatch field staff or hardware.

**Incident Restoration**

Committed to creating a better experience for the customer, ENA works both internally and with customers after an incident to not only restore the network, but to find methods and means of mitigating future incidents.

**2.4.4.2** Provide details, including pricing, for any other optional services included in this proposal.

Please see **2.4.4.2 Exhibit** for Optional Services Pricing.

**1. ENA NetShield UTM** – Unified Threat Management Features

ENA NetShield UTM is a comprehensive suite of unified threat management features that meet the unique security requirements of education and library institutions. Our managed security solution keeps your organization’s network safe by blocking malicious traffic and attacks. Leveraging a platform rated in the Gartner Leader Quadrant, ENA NetShield UTM features deliver industry-leading protection to your organization while allowing for bandwidth upgrades associated with increased usage. ENA provides all service, installation, maintenance, and equipment replacement on behalf of the customer. Additionally, ENA NetShield UTM includes a co-management portal for your staff and dedicated, 24x7x365 one-call support and monitoring from the ENA Customer Technical Assistance Center (CTAC). Learn more about ENA NetShield UTM at <https://www.ena.com/solutions/security/ena-netshield-utm/>.

**2. ENA Air** – Managed Wi-Fi Networking Services

ENA Air leverages ENA’s proven Infrastructure as a Service (IaaS) solution model to provide comprehensive wireless services, including industry-leading management along with the local control and expansive scalability you need. As a complete, turnkey solution,ENA Air includes all necessary site surveys, design, cabling, installation, engineering, hosted management and monitoring services, and post-activation heat mapping to verify your ENA Air Wi-Fi service will meet and exceed your expectations. In addition, ENA offers multiple hardware options as part of your ENA Air solution. By extending our customer-centric approach to Wi-Fi networking, we provide superior end-to-end visibility, reliability, and support for Wi-Fi services. Learn more about ENA Air at <https://www.ena.com/solutions/connectivity/ena-air/>.

**3. ENA Beacon** – Private LTE Network

With a private LTE (PLTE) network, school districts, higher education, healthcare, tribal nations, and local governments can cost-effectively expand wireless coverage by combining the control and fixed costs of a dedicated network with the flexibility and security of a cellular network. ENA’s PLTE solutions enable organizations to take advantage of the license-free CBRS spectrum to deliver sustainable, secure, and high-performance wireless connectivity across their community. Learn more about ENA Beacon at <https://www.ena.com/solutions/connectivity/ena-beacon/.\>

**4. Security Assessment Services** – Comprehensive Security Solutions

ENA’s security assessment services deliver enterprise-level cybersecurity services to organizations. These services offer a comprehensive assessment of your organization’s current security posture, vulnerability identification, remediation recommendations, and tailored reporting. ENA’s security assessment service options include vulnerability scanning, penetration testing, policy and procedure reviews, wireless security testing, web application testing, and custom assessment services. Learn more about ENA security assessment services at <https://www.ena.com/solutions/security/security-assessment-services/>.

**5. SentinelOne** – Autonomous Endpoint Protection

ENA partners with SentinelOne to help our customers keep their endpoints protected and data secured. SentinelOne allows you to prevent, detect, respond, and hunt threats to your network with one autonomous platform. SentinelOne is the leader in endpoint security, as demonstrated by their exemplary performance on the recent MITRE ATT&CK evaluation. Learn more about SentinelOne at <https://www.ena.com/solutions/marketplace/sentinelone/>.

**6. Video Collaboration Powered by Zoom** – Video Conferencing Services

Video Collaboration Powered by Zoom is a video conferencing, web conferencing, and collaboration service designed to easily and cost-effectively promote and enable face-to-face distance learning, professional development, meetings, and collaboration by using the computing power already present in most desktop and laptop computers, tablets, and mobile devices. It does not require the use of expensive, dedicated video conferencing hardware. Instead, it uses a combination of cloud-based services from a downloadable software client and web browser access to enable robust high-definition (HD) video conferencing on MAC OS X, Windows, iPads, iPhones, and Android devices. Learn more about Video Collaboration powered by Zoom at <https://www.ena.com/solutions/communication/video-collaboration-powered-by-zoom/>.

**7. Kajeet Wireless Solutions**

Kajeet provides the foundation for secure, efficient, mobile, and flexible connectivity. Its wireless networks, software, and data-driven insights improve the daily lives of organizations and communities. ENA partners with Kajeet to support the connectivity needs of school districts and healthcare organizations through a variety of mobile hotspot options and Connected Health packages. Learn more at <https://www.ena.com/solutions/marketplace/kajeet/>.

**2.4.4.3** Describe and price Category One Internet access and WAN Connectivity Services or specify if the service is included as part of the package price if the respondent can provide such service.

**The ENA Difference**

Our proposed Internet access and wide area network (WAN) solutions leverage ENA’s experience and service in successfully delivering high-quality, reliable, secure, and scalable broadband solutions. We focus on creating a solid network foundation and providing services to accelerate and optimize your organization's efficient use of technology while augmenting your technical team with ENA’s support staff, who possess a deep understanding of your specialized technologies and unique needs.

**A core benefit of ENA’s turnkey IaaS broadband (Internet access and WAN) offering is that it includes everything required to deliver the service, including network design, the circuit, all necessary layer 3 networking equipment, maintenance, security, performance evaluation, field engineering resources, and 24x7x365 network monitoring and support for all components over the life of the service.** This comprehensive approach allows customers to fully leverage our skilled resources and industry-leading equipment to receive enhanced broadband services.

ENA's IaaS approach also fully utilizes E-rate funding to cover more overall costs versus a piecemeal approach of purchasing individual products and services. Please see our **E-rate Experience and Expertise** section for more information on how our full service qualifies for Category 1 E-rate funding which typically results in substantial cost savings for our customers.

It is important to note three additional key differentiators of ENA’s IaaS broadband solutions:

* ENA’s broadband (Internet access and WAN) services deliver symmetric bandwidth at the level of connectivity purchased. This means our customers receive the total usage capacity of the circuit purchased in both upload and download directions. ENA uses dedicated circuits to connect each end site to the ENA National Network, where we provide access to our extensive Internet peering. Our National Network is monitored and managed to ensure adequate reserve capacity at all times to support the level of connectivity purchased by our customers.
* ENA leverages connectivity to your location from a variety of last-mile providers to extend the reach of our National Network. Such flexibility allows us to offer better and more economical alternatives over the life of the service. As new technologies become available and are implemented in the ENA network, they can be integrated into our service delivery options.
* ENA works with leading communications, technology, security, and software companies to create customer-driven, cost-effective, and technology-enabled connectivity solutions that keep you ahead of the technology curve.

We have provided our **ENA Internet Access brochure** and **ENA WAN brochure**. as **Exhibits 2.4.4.3a** and **2.4.4.3b.**

**Internet Access Project Understanding and Proposed Technical Solution**

ENA’s Internet access solution is more than traditional broadband. With our Infrastructure as a Service (IaaS) approach and our experience deploying similar solutions for hundreds of education and library customers, we can design a service to support your objectives and goals. Considering rapid technology change and exponential bandwidth growth, our ability to scale quickly and continuously means you can be assured of an Internet access service that is virtually future-proof.

**You can enhance your Internet access service, improve performance, and ensure solution success with ENA’s standard features as described below:**

* Content
  + Direct access to education-focused Internet content and sites for better performance - including on-net access to Internet2 (where available)
* Security
  + DNS Blackhole service providing an institution-focused blacklist limiting access to malicious sites
  + Responsive distributed denial of service (DDoS) mitigation designed to limit and stop attacks within the ENA core
* Support
  + Account service manager (ASM) customer support
  + Engineering team focused on network border security and supporting the overall health of the ENA network
  + 24x7x365 Customer Technical Assistance Center (CTAC) support
  + Online training documentation designed to provide answers to commonly asked questions

**The ENA National Network**

ENA’s National Network backbone is an integral part of our service. To ensure overall network performance and resiliency, ENA built an MPLS-based, carrier-grade fiber IP backbone infrastructure comprised of multiple fault-tolerant links between geographically diverse points of presence (POPs) within hardened data center facilities. **Our network includes core peering POPs in major Internet exchange facilities across the United States, ensuring every Internet request uses an optimum path to reach its destination.** ENA connects to the global Internet using diverse providers via numerous high-bandwidth connections providing reliable Internet access even when one link or provider has trouble. We know the critical importance of highly available network services to our customers, so exceptional resilience and the ability to recover quickly from outages and disasters are essential components to ENA’s network design, implementation, operational management, and ongoing technology testing.

Being solely focused on education and library customers led us to develop a top-tier Internet access solution utilizing our national backbone connectivity and other high-capacity top-tier providers. By providing direct access to content delivery networks (CDNs), ENA’s Internet access solution provides a content-rich experience with the lowest latency and fewest hops possible. ENA continues to establish peering relationships with the nation’s top online content providers, positioning the content your users demand closer to your network, thereby providing the best online experience possible. Through our nationwide network and peering strategy, the most popular online content resides within the ENA network core, often just a single hop from the provided premises equipment installed as part of our managed service.



ENA National Network

**ENA Internet Access Standard Services and Benefits**

ENA understands the demands of your ever-expanding Internet access traffic and uses. We continually enhance our value-added services to leverage your infrastructure as part of our service offering. The following advanced services enable you to cost-effectively remain at the forefront of technology with ENA as your trusted partner.

**Bundled Distributed Denial of Service Security**

ENA is aware of the impact a denial-of-service (DoS) or distributed denial-of-service (DDoS) attack can have in today’s digital schools, libraries, and institutions. As an inherent, bundled component of our Internet access service, ENA provides several DDoS prevention features that partner with our customers. These features include:

* Ongoing monitoring of potential DDoS attacks using ENA’s custom volumetric network monitoring tools.
* Upon detecting a potential attack, working in collaboration with our customer’s network team, ENA will null route (“black hole”) all traffic to the specified destination IP address or the range of IP addresses affected by the attack. This rerouting helps limit the effects of the attack. It enables ongoing network utilization for the rest of your address range by removing the malicious traffic from your Internet access service.
* Coordinating with our Internet peers to remotely trigger filtering of traffic destined to the victim IP address, using a method known as Remotely Triggered Blackhole Filtering (RTBH), as described in RFC 5635.
* Working with the affected customer’s network staff to re-enable connectivity to the affected site or IP address by manipulating NAT or other IP network management techniques as appropriate.
* Ongoing, ENA network-wide filtering to limit all ENA’s Internet access customers’ exposure to network time protocol (NTP) amplification, domain name system (DNS) amplification, simple service discovery protocol (SSDP) amplification, character generator protocol (CHARGEN) floods, and user datagram protocol (UDP) fragment overflow.
* Proactive notification of malicious activity originating from your LAN, suspected host involvement, or exposure to potential hijacking attempts. Additionally, ENA alerts our customers of appliances that may be involved in amplification attacks, potentially due to an applied configuration that is incorrect. ENA sends notifications to our customers to help verify and resolve any issues with hosts which may impact customer connectivity or the health of the Internet.

ENA also offers an optional advanced DDoS mitigation service, ENA NetDefender. Please see the information on ENA NetDefender service below.

**ENA NetDefender Automated DDOS Mitigation and Scrubbing Service**

ENA NetDefender, our automated DDoS mitigation and scrubbing service, provides education and library institutions with the peace of mind and confidence that their network security is in trusted and experienced hands. ENA NetDefender is a 24x7x365 advanced DDoS mitigation service that activates scrubbing upon detection or notification of an attack, minimizing customer latency and downtime.

Please see **section 2.4.5.6** for our more information on ENA NetDefender.

**IP Assignments and DNS**

ENA provisions static public IP addresses with an overall strategy that provides participants with an appropriate IP addressing schema while at the same time following the American Registry for Internet Numbers (ARIN) guidelines. ENA works with each customer to determine the number of static IP addresses needed. Our managed service provides a /28 block of IP addresses consisting of 13 assignable IP addresses. Additional IP addresses can be acquired by completing ENA’s IP justification worksheet. Additionally, the geographic assignment of IP addresses allows ENA to summarize routes at our points of presence (POPs), thus providing faster Internet connectivity. ENA is registered with ARIN to use its IPv4 and IPv6 blocks and, as such, will maintain reverse (or PTR) DNS entries for those IP blocks. We work with customers to verify and modify any reverse entries you may need to operate applications and services appropriately. As an optional service upon request, ENA will host your DNS forwarding zone(s), facilitating easy management and support of all your Internet access needs.

IPv6 is the next-generation protocol designated by the Internet Engineering Task Force (IETF) to replace IPv4 due to a growing shortage. All proposed ENA network-layer hardware supports the IPv6 technical requirements in addition to the current IPv4. While migration to IPv6 addresses is not required to maintain connectivity through ENA, we encourage orderly migration over time for all our customers. This migration is part of the ongoing innovation and technology refresh that are crucial benefits of ENA's IaaS solution. We work closely with each customer to make any migration as easy as possible.

Please see **ENA IaaS Broadband Standard Services and Benefits Section below** for additional services provided for our Internet access and WAN solutions.

**WAN Project Understanding and Proposed Technical Solution**

Using ENA's Infrastructure as a Service (IaaS) wide area network (WAN) solution is like hiring a general contractor to build your house and, once that job’s done, having that expert stay and maintain your home, keeping everything running smoothly and reliably. We are the single service provider responsible for delivering reliable WAN service in support of the various applications, tools, and technologies used in your environment.

**You can enhance your WAN service, improve performance, and ensure solution success with ENA’s standard features as described below:**

* Customer Premises Equipment
  + Managed customer premises equipment (CPE) provided, installed, maintained, monitored, and upgraded to support ENA-provided bandwidth as needed throughout the life of our service contract at no additional charge
* Flexibility
  + Focusing on fiber Ethernet connectivity permits us to deliver highly flexible, scalable, and interoperable WAN services
* Support
  + Account service manager (ASM) customer support
  + Engineering team focused on network border security and supporting the overall health of the ENA network
  + 24x7x365 Customer Technical Assistance Center (CTAC) support
  + Online training documentation designed to provide answers to commonly asked questions

**ENA IaaS Broadband Standard Services and Benefits**

ENA's Infrastructure as a Service (IaaS), our signature service approach, ensures your infrastructure remains future-ready. As your requirements develop, ENA quickly adjusts equipment, tools, and service needs most cost-effectively and efficiently. ENA’s standard IaaS broadband services and benefits are outlined below:

* As a vendor-neutral network service provider, we can choose the equipment that best fits your needs and optimizes your network.
* If you increase your ENA-provided bandwidth over time, ENA upgrades or changes our equipment, delivering the service, so you always have the right equipment for your expanding network requirements.
* Capital expenditures for network equipment are eliminated or significantly reduced.
* You do not have to purchase ongoing service agreements or extended warranties on equipment, thus achieving greater cost efficiencies.
* All ENA equipment is managed and monitored with the local site and customer requirements.

**Broadband Network Security**

We understand network security is critical to a safe, productive environment, especially when education and library institutions are leveraging and relying on broadband networks for virtually every aspect of their instructional and organizational operations. To safeguard our enhanced service and provide valuable support to our customers, **we use several security measures for multilayer protection, including those listed below:**

* Implementation of access controls that 1) support carrier best practices to filter spoofed traffic at the provider edge and 2) limit unwanted protocols used in well-known attack vectors.
* Utilization of private telecommunications topologies as defined by the Metro Ethernet Forum carrier design best practices for customer traffic segmentation and protection of private data.
* ENA managed devices are hardened for secure remote and local access, authentication, and authorization to protect against unwanted access from unauthorized networks or users.
* Access control on all equipment local ports, including serial access for local vulnerability restriction and prevention.
* Daily engineering audits and software validations to ensure approved code trains and configurations are employed, alleviating bug exploitation and configuration vulnerabilities.
* Proactive network monitoring and notification via real-time monitoring of key performance metrics for all edge equipment on ENA’s National Network, including site mapping to compare inclement weather against regional power availability.
* Comprehensive, centrally hosted firewall service via ENA NetShield, is an optional solution that includes all hardware, software, and support. ENA NetShield provides an IaaS solution leveraging resilient data center infrastructure and ENA's long-term experience supporting education and library customers with security solutions.

**Scalability**

Like the traffic limitations experienced on one-lane streets, some data transport media prohibit data from traversing the network at high speeds or in the most efficient manner possible. ENA designs each customer network using the best available underlying transport medium. As a result, the network is better equipped to support the needs of institutions today and long into the future. Our flexible configuration and scalable WAN design afford you the ability to scale your network and keep pace with your organization’s ever-growing needs.

**Flexible Network Configuration**

ENA’s IaaS network solution provides maximum network design flexibility because we are not limited to a specific transport technology or delivery method. Some service providers build their solutions based on a particular transport technology, thereby limiting the flexibility of the network. ENA recognizes that new technologies will become viable over this project while other technologies may become obsolete. Our flexible approach accommodates these changes and ensures a best-of-breed network infrastructure throughout the life of the contract.

**Order and Change Management**

ENA's process for receiving requests for new orders and changes to existing orders is very flexible. Orders can be submitted via ENA's web-based customer service case management, email, fax, calling the ENA Customer Technical Assistance Center (CTAC), or speaking with your account service manager (ASM). ENA’s web-based interface is designed for relatively option-free services. It does not require detailed knowledge of environmental factors and customer preferences that are difficult to capture without having a detailed conversation. Because we focus on providing the highest level of customer service and meeting customer expectations, we recommend that most orders be communicated directly to your assigned, dedicated ASM to ensure the right services are recommended, ordered, and delivered by ENA.

**Pricing** for these services has been provided in **Attachment D Cost Proposal**.

**2.4.4.4** Describe the price the following services which may or may not be eligible for E-rate as separate optional services, if the respondent can provide such services, or specify if the service is included as part of the package price (value-added).

• Bandwidth shaping

• Quality of Service pricing for special state library services

• Cross connect at platform level to current and future state library services

• Engineering support for current and future state library services

• Disaster Recovery and backup site for current and future state library services

* PRI interface service solution at the platform for current and future state library services

• web hosting

• basic firewall services

• filtering

• VoIP

• Email hosting

• LAN diagnostics

Please see **2.4.4.4 Exhibit** for Optional Services Pricing.

**1. Bandwidth Shaping** – **ENA NetShield UTM** provides bandwidth shaping capabilities and is an optional component of the **ENA IA** service. Please see **2.4.4.2** for pricing details for **ENA NetShield UTM**.

**2. Quality of Service** – QoS configuration and implementation on ENA managed IA or WAN circuits is an included, value-added component of our service.

**3. Cross connect at platform level** – ENA currently provides cross-connect services to Indiana State Library as a value-add.

**4. Engineering support** – Engineering support is a value-added component of all ENA managed services.

**5. PRI interface service solution** ENA can provide voice paths to future voice services with **ENA SmartLink**, which offers both PRI and SIP interface options. The **ENA SmartLink** service is non-E-rate eligible. See item 10 in this section for more information.

**6. Basic Firewall Services - ENA NetShield**

ENA NetShield keeps your organization’s network safe by blocking malicious traffic and attacks. ENA NetShield is cloud-based and delivered directly through your ENA Internet Access service, eliminating the need for additional hardware or equipment. ENA NetShield is engineered for resiliency and deployed in a hardened facility to keep your network protected. ENA NetShield maintains uptime and service by leveraging our MPLS backbone, even if your power fails. Should your organization utilize virtual private networking (VPN), ENA offers ENA NetShield VPN that can be used with our ENA NetShield service. ENA NetShield VPN’s versatile, managed service can deliver a static VPN connection between two network locations or dynamic remote user access with optional multi-factor authentication capabilities. ENA NetShield and ENA NetShield VPN include our signature one-call service support for rule changes and configuration modifications. Learn more about ENA NetShield at <https://www.ena.com/solutions/security/ena-netshield/>.

**7. Content Filtering Services – ENA WebSafe**

Developed exclusively for education and library environments, ENA WebSafe is a centralized content filtering solution that protects children and enhances the education relevancy of Internet content while providing maximum flexibility. ENA WebSafe 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). The service has a mobile service option for robust content filtering when you are on the go. ENA WebSafe is fully managed, supported by ENA, and does not require your organization to purchase or maintain any of your own hardware or software. Learn more about ENA WebSafe at <https://www.ena.com/solutions/security/ena-websafe/>.

**8. VoIP Services – ENA SmartVoice and ENA SmartLink**

ENA SmartVoice, a highly resilient hosted phone system and VoIP service, combines the local and long-distance calling capabilities of traditional dial tone telephone service with the next-generation phone features of a brand-new IP PBX. ENA SmartVoice helps eliminate the high capital expenditures associated with purchasing, upgrading, managing, and maintaining on-premises telephony servers and equipment.

ENA delivers integrated unified communications through our ENA SmartUC mobile and desktop application, which enables seamless mobile calling, chat, text messaging, and video conferencing. With enterprise-class features and functionality, ENA SmartVoice and ENA SmartUC deliver the reliable, future-ready cloud phone and UCaaS system that gives staff the freedom to connect how and where they want. Learn more at <https://www.ena.com/solutions/communication/ena-smartvoice/> and <https://www.ena.com/solutions/communication/ena-smartuc/>.

ENA SmartLink, an IP trunking solution, provides inbound and outbound calling for customers who already have their own installed PBX or phone systems. ENA SmartLink offers an extensive set of features and a variety of different interconnection methods to meet current and future needs for a single, cost-effective monthly fee. Learn more about ENA SmartLink at <https://www.ena.com/solutions/communication/ena-smartlink/>.

**9**. **Technology Services/ LAN Diagnostics –** **ENA Ally**

Having implemented hundreds of internal broadband networks across the country, ENA Ally Technology Services provides customers with a suite of comprehensive services from which you can customize the solution that’s right for you. ENA Ally’s Professional Services menu, powered by our world class engineering teams, includes design, installation, configuration, assessment, remediation, documentation, hourly services, and consulting engagements. Additionally, ENA Ally’s long-term management services enable customers to engage ENA’s expert engineers to manage, troubleshoot, and optimize network systems with optional, dedicated on-site support staff. Learn more about ENA Ally at <https://www.ena.com/solutions/technology-services/ena-ally/>.

**2.4.5 Service Level Agreement**

**2.4.5.1** Describe how respondent will ensure 99.99% network availability of each circuit anywhere within the consortium.

**Service Level Agreement (SLA)**

This Service Level Agreement (“SLA”) is provided to Indiana State Library (“Customer”), who may purchase managed network, voice, and/or security services from ENA Services, LLC (“ENA”).

**General Conditions:**

* ENA will endeavor to resolve all troubles within 4 Service Hours.
* ENA’s target network availability rate is 99.99%.
  + Packet latency objective is 20 milliseconds
  + Packet loss target shall not exceed 0.5%
* For any outages lasting for more than 4 hours, ENA agrees to credit Customer’s account by the percentage of time where service was interrupted based on ENA’s records multiplied by the total monthly charges associated with the service interrupted at the site of the trouble as liquidated damages and not as a penalty.
* ENA will provide a web-based, real-time view into ENA’s trouble ticket system and into ENA’s event notification system for verification of troubles.
* ENA will make available a monthly report on all incident activity consistent with the reporting proposed in this response for the procured services by one week after the end of the month

**Network Measurements**

Packet Latency (20 milliseconds [ms]) – Ethernet endpoint to Ethernet endpoint

ENA’s packet latency SLA is based on an average round trip time of 20 ms. Network latency is measured between the ENA demarcation point (Ethernet port) at the Customer premises and the ENA demarcation point at the network aggregation point within the Customer network.

Packet Loss (0.5%) – Ethernet endpoint to Ethernet endpoint

ENA’s monthly average packet loss between ENA equipment on Customer premises and the connected ENA IP/MPLS Backbone access point shall not exceed 0.5%. Packet loss shall be calculated based on the arithmetic mean of monthly measurements between the ENA demarcation point at the network aggregation point within the Customer network and each Customer endpoint. Target packet delivery rate is 99.99%.

**Jitter**

ENA’s network is designed to reduce latency and minimize jitter. ENA’s network jitter SLA is based on an average jitter of 5 ms. Network jitter is measured between the ENA demarcation point (Ethernet port) at the Customer premises and the ENA demarcation point at the network aggregation point within the Customer Network.

ENA has a proven 26-year track-record of delivering high-speed network services above industry-standards that provide an exceptional platform to support voice and video transmissions in near real-time quality for the best possible communications experience.

**Service Incident Definitions & Response Times**

ENA defines incidents and will respond according to the following:

**Standard Service Level Tiers**

| **Level** | **Target Response Time\*** | **Target Max Resolution Time\*\*** | **Centralized Component\*\*\*** | **Single Component\*\*\*\*** |
| --- | --- | --- | --- | --- |
| **Critical Incident**  **(Priority 1)** | 2 hours | 4 hours | **Definition**   * Service is hard down (not available) * Critical impact to customer business operation * Problem or outage identified via ENA monitoring or management system not due to issues with customer provided network or utilities | |
| **Impact**   * District wide failure: Service outage affects all sites within customer footprint * All users are unable to utilize the service | **Impact**   * Entire core site or end site is offline * On-premises or upstream components providing the service are unavailable |
| **Major Incident**  **(Priority 2)** | 4 hours | 12 hours | **Definition**   * Service is severely degraded * Significant impact to customer business operation * Service limited to a significant group of users | |
| **Impact**   * Unable to access the majority of the service consistently * Multiple sites are offline | **Impact**   * Customer end site has services offline * A major component delivering service to a region of a site is offline reducing service availability to a significant group of users in a single location |
| **Minor Incident**  **(Priority 3/4)** | 16 hours | 30 hours or within next maintenance window | **Definition**   * Service is degraded but available * Functionally impaired * Business operations are not impacted | |
| **Impact**   * Single feature unavailable but full service is still available * Single site | **Impact**   * Single onsite component is offline, however service is still available via other components * Affects a single feature but full service is still available * Affects one or a few users in a single location |

\*Response Time is defined as trouble isolation with communication back to the customer and appropriate dispatch as required.

\*\*Resolution Time designates the timeframe in Service Hours in which the underlying problem is fixed. In some cases, this may require a hardware or software vendor to develop and provide a permanent fix which can be applied to resolve the problem; and could exceed expected Resolution Time.

\*\*\*Internet access is an example of a centralized component.

\*\*\*\*WAN connection is an example of a single component.

**Catastrophic Incident Response Times**

In the event of a catastrophic incident, ENA will respond within four hours of cessation of the event with a situation assessment and service restoration plan. This plan may include efforts to restore partial or alternate services according to conditions, as well as new or upgraded services at alternate locations as dictated by the situation.

**Additional Conditions:**

* ENA’s standard maintenance windows are Tuesdays and Thursdays from 11:00 PM local time to 5:00 AM local time.
* All time intervals in this document are expressed in Service Hours (7:00 AM – 5:00 PM local time, Monday through Friday). These time intervals exclude nationally recognized holidays or times where a site may be closed for other reasons that will limit ENA’s ability to access a site to restore services.
* Affected Site is defined as the single site at which each unique trouble event begins; in a multi-site, single incident trouble only one site will be designated the Affected Site and penalties shall apply to only that site, not all end sites that are affected by the single incident.
* Service availability measures do not apply in the event that ENA is unable to perform any of its obligations due to lack of access to Customer facilities or Customer personnel, failure of Customer equipment, damage to ENA equipment or facilities due to act of Customer, its personnel or third parties, failure or interruption of utilities or services provided by either Customer or third parties, which are not the fault of ENA or other force majeure events.
* During implementation, Customer must provide access to all sites where service has been requested from 7:00 AM to 5:00 PM local time, Monday through Friday, excluding holidays.
* If Customer is entitled to multiple credits under this section, such credits shall not be cumulative beyond a total of credits for one (1) calendar month’s service cost in any one (1) calendar month in any event at the affected site. Customer must notify ENA within seven (7) calendar days from the time Customer becomes eligible for a credit or within fifteen (15) calendar days after ENA delivers monthly performance reports to Customer. Failure to comply with this requirement will forfeit Customer’s right to receive a credit.
* Credits do not apply to failure to meet targeted response times, only to service interruptions.
* Credits shall apply to the site of the original service interruption, not at all affected sites.
* Customer’s sole and exclusive remedy for any failure by ENA to provide adequate service levels, including but not limited to any outages or ENA network congestion is detailed herein. Customer agrees to not use ENA’s services for unlawful purposes. In such case, ENA reserves the right to suspend or modify service after notification to Customer. Such suspension or modification shall not be deemed to be a failure of ENA to provide adequate service levels under this Contract. In no event shall Customer be entitled to any credit if it violates the terms of service or ENA’s then-current Acceptable Use Policy (posted at <http://www.ena.com/aup>).
* Credits will be applied to the total monthly service cost. If Customer site has requested E-rate funding for the service at the affected site, then credits will be applied to the service before calculating the Customer’s non-discountable liability.

**2.4.5.2** Describe how respondent will conduct trainings for libraries.

ENA is committed to ensuring that all members of the ISL have the knowledge and skills needed to successfully use all the features of ENA solutions and services to their fullest. While virtually all of the members of the ISL Consortium have already attended training sessions or received guides on how to use ENA tools and network applications, ENA will continue to offer these resources to train new libraries that join the ISL Consortium and new library personnel as well as to serve as a refresher or update for all ISL Consortium members. **ENA will work with the ISL to develop an ongoing plan and customized schedule for trainings that meets the needs of the ISL.**

ENA provides optional remote live training to onboard customers to the ongoing support processes for all ENA’s services. Through this training, ENA’s CTAC leadership will take technology staff through the ENA support model, tools, and a live demo of the my.ENA portal and the applications customers can use to manage and view their network.

In addition to the live remote training, ENA provides comprehensive help documentation, user guides, tutorials, and help videos for all our solutions and services. At <help.ena.com>, customers can access recorded training and tutorials on all customer-accessible reporting, monitoring, and management tools. ENA’s CTAC is always available to answer questions, but if needed, ENA can facilitate interactive webinars to answer specific questions regarding any tool or service we offer.

**2.4.5.3** Indicate the standard of frame/packet loss.

Packet Loss (0.5%) – Ethernet endpoint to Ethernet endpoint

ENA’s monthly average packet loss between ENA equipment on Customer premises and the connected ENA IP/MPLS Backbone access point shall not exceed 0.5%. Packet loss shall be calculated based on the arithmetic mean of monthly measurements between the ENA demarcation point at the network aggregation point within the Customer network and each Customer endpoint. Target packet delivery rate is 99.99%.

**2.4.5.4** Indicate the standard of network latency.

Packet Latency (20 milliseconds [ms]) – Ethernet endpoint to Ethernet endpoint

ENA’s packet latency SLA is based on an average round trip time of 20 ms. Network latency is measured between the ENA demarcation point (Ethernet port) at the Customer premises and the ENA demarcation point at the network aggregation point within the Customer network.

**2.4.5.5** Indicate the standard network jitter commitments.

ENA’s network is designed to reduce latency and minimize jitter. ENA’s network jitter SLA is based on an average jitter of 5 ms. Network jitter is measured between the ENA demarcation point (Ethernet port) at the Customer premises and the ENA demarcation point at the network aggregation point within the Customer Network.

ENA has a proven 26-year track-record of delivering high-speed network services above industry-standards that provide an exceptional platform to support voice and video transmissions in near real-time quality for the best possible communications experience.

**2.4.5.6** Describe how respondent will achieve resiliency or DDoS protection.

**Resiliency**

ENA’s National Network backbone is an integral part of our service. To ensure overall network performance and resiliency, ENA built an MPLS-based, carrier-grade fiber IP backbone infrastructure comprised of multiple fault-tolerant links between geographically diverse points of presence (POPs) within hardened data center facilities. **Our network includes core peering POPs in major Internet exchange facilities across the United States, ensuring every Internet request uses an optimum path to reach its destination.** ENA connects to the global Internet using diverse providers via numerous high-bandwidth connections providing reliable Internet access even when one link or provider has trouble. We know the critical importance of highly available network services to our customers, so exceptional resilience and the ability to recover quickly from outages and disasters are essential components to ENA’s network design, implementation, operational management, and ongoing technology testing.

**Bundled DDos Mitigation**

ENA is aware of the impact a denial-of-service (DoS) or distributed denial-of-service (DDoS) attack can have in today’s digital schools, libraries, and institutions. As an inherent, bundled component of our Internet access service, ENA provides several DDoS prevention features that partner with our customers. These features include:

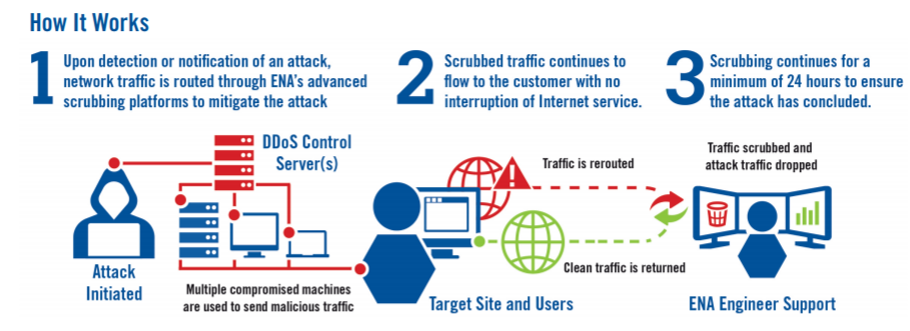
* Ongoing monitoring of potential DDoS attacks using ENA’s custom volumetric network monitoring tools.
* Upon detecting a potential attack, working in collaboration with our customer’s network team, ENA will null route (“black hole”) all traffic to the specified destination IP address or the range of IP addresses affected by the attack. This rerouting helps limit the effects of the attack. It enables ongoing network utilization for the rest of your address range by removing the malicious traffic from your Internet access service.
* Coordinating with our Internet peers to remotely trigger filtering of traffic destined to the victim IP address, using a method known as Remotely Triggered Blackhole Filtering (RTBH), as described in RFC 5635.
* Working with the affected customer’s network staff to re-enable connectivity to the affected site or IP address by manipulating NAT or other IP network management techniques as appropriate.
* Ongoing, ENA network-wide filtering to limit all ENA’s Internet access customers’ exposure to network time protocol (NTP) amplification, domain name system (DNS) amplification, simple service discovery protocol (SSDP) amplification, character generator protocol (CHARGEN) floods, and user datagram protocol (UDP) fragment overflow.
* Proactive notification of malicious activity originating from your LAN, suspected host involvement, or exposure to potential hijacking attempts. Additionally, ENA alerts our customers of appliances that may be involved in amplification attacks, potentially due to an applied configuration that is incorrect. ENA sends notifications to our customers to help verify and resolve any issues with hosts which may impact customer connectivity or the health of the Internet.

ENA also offers an optional advanced DDoS mitigation service, ENA NetDefender. Please see the information on ENA NetDefender service below.

**Optional ENA NetDefender Automatic DDOS Mitigation and Scrubbing Service**

ENA NetDefender, our automatic DDoS mitigation and scrubbing service, provides education and library institutions with the peace of mind and confidence that their network security is in trusted and experienced hands. ENA NetDefender is a 24x7x365 advanced DDoS mitigation service that activates scrubbing upon detection or notification of an attack, minimizing customer latency and downtime.

The following graphic illustrates the ENA NetDefender DDoS mitigation and scrubbing process.



ENA NetDefender Benefits

* **Real-time Scrubbing of Your Network Traffic**
  + ENA NetDefender scrubs only the malicious traffic destined to your network upon detection of a DDoS attack. ENA NetDefender does not require the null routing of any traffic and does not require you to change IP addresses or NAT pools.
* **A Trusted and Experienced Partner in Network Security**
  + ENA’s engineering teams are continually testing and developing new methods of discovering and mitigating threats in today’s ever-changing network security landscape. Through sophisticated traffic pattern analysis and strategically placed active policies designed to deny known attack vectors, ENA can significantly limit attack traffic from hitting your Internet access.
* **ENA Expert Engineering and Exemplary Customer Support**
  + ENA NetDefender includes the expert engineering assistance and excellent customer support ENA is known for. Our engineers partner with you to understand and define your unique security needs and challenges. They will work with you throughout the life of the service to successfully implement, maintain, and support our managed service.

Please see **2.4.5.6** **Exhibit** for our **ENA NetDefender brochure**.

* + 1. **Project Schedule Management**

**2.4.6.1** Provide an example of a high-level project schedule for this project. This should include your company’s tasks, sub-contractor owned tasks (if applicable), and State-owned tasks in an integrated fashion. Include key tasks as part of development, testing, training, data conversion, other key areas of the project.

Please see **2.4.6.1 Exhibit** for ENA’s detailed **project schedule**.

**2.4.6.2** Describe your company’s method of creating the schedule and the method and frequency of maintaining the schedule throughout the project.

During project initiation, the ENA Project Manager (PM) works with all project stakeholders to develop a realistic implementation schedule designed to meet the customer's project goals. The schedule considers the number of locations receiving services, the type of services requested, network capacity needs, construction requirements and other factors that may affect the overall schedule. With this information, the ENA PM develops a master schedule for each location as well as key milestones for the project as a whole. ENA’s project management software enables robust tracking and reporting throughout the project lifecycle.

The ENA PM maintains the schedule, including making any necessary changes and status updates, on a weekly basis. ENA PMs utilize a combination of project management techniques as well as functional product knowledge to successfully implement ENA services and ensure timely delivery. The PM is responsible for driving all aspects – including all participants – of the project to on-time completion and all personnel operate under the coordinated leadership of the PM. In addition to their leadership capabilities, ENA PMs have core product knowledge that allows them to intelligently interact with project resources, efficiently manage unforeseen issues, and effectively resolve disputes to ensure a project remains on track.

**2.4.6.3** Identify and describe the tool(s) your company uses to create and manage the schedule.

ENA tracks all orders within Microsoft Dynamics 365. For each service ordered, a project is created and tasks are assigned to the appropriate resources to drive each service order to completion. This tool ensures that all necessary data needed to configure, implement, invoice, and support our services is maintained in a consistent format.

For a project of this size and scope, ENA also utilizes Smartsheet to develop a master project tracker and status dashboard. This tool allows ENA to track important milestones for each location in a format that is easily reportable and can be shared directly with the customer. This information is fully customizable and can be formatted to meet the needs of each customer.

* + 1. **Requirement Validation and Management**

**2.4.7.1** How will your company define, review, confirm, validate, elaborate, and understand the State’s requirements?

Requirements gathering is a key step in project initiation and is led by the ENA project manager. Upon award, ENA begins the requirement gathering process with a project kickoff meeting. During this meeting, key aspects of the requirements gathering process are completed, including:

* Stakeholder identification
* Review of project goals and objectives
* Initial schedule planning
* Communication plan review
* Technical requirements review
* Post-implementation support review

Decisions made during this meeting establish the project cadence going forward. Additionally, action items and follow up discussions are documented and scheduled to continue the elaboration process until all requirements are identified, documented, and tracked within the project.

**2.4.7.2** Include examples of required documents generated for similar projects.

Please see **2.4.7.2 Exhibit** for our sample **Project Kickoff Meeting Agenda**.

**2.4.7.3** Identify and describe the tool(s) used to capture, track, and manage requirements throughout the project.

ENA utilizes two primary tools to capture, track, and manage requirements throughout the project. Microsoft Dynamics 365 is used for order management and drives the process for each individual circuit installation and/or upgrade requested. All requirements that are integral to the service itself, such as bandwidth requested, account information, design details, underlying circuit information, contract information, and key dates are tracked and managed within Microsoft Dynamics 365.

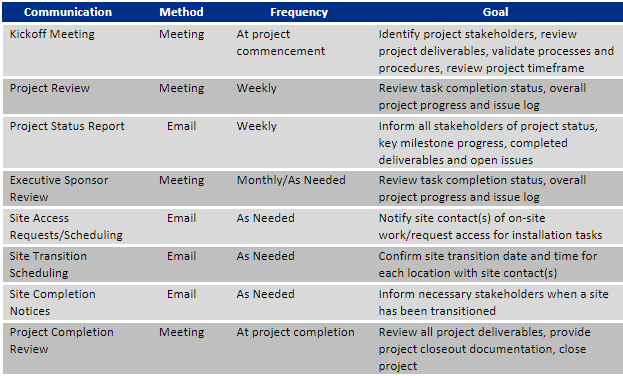
All other project requirements are tracked and managed within Smartsheet. These requirements include the overall project schedule and project status information, action items, current issues, stakeholder information, and any other project deliverables defined and agreed upon during project initiation.

* + 1. **Communication**

**2.4.8.1** Describe your company’s communication strategy for this project.

Communication is a critical component to the success of any project. ENA utilizes both standardized and tailored communications to ensure all stakeholders are updated and informed in an appropriate manner throughout the implementation process. As part of the planning phase of the project, ENA will work with ISL personnel to finalize a communications plan that satisfies all personnel and project needs. A sample communications plan has been provided below.

**2.4.8.2** Provide an example of the communication plan for this project to include roles responsibilities, communication types, methods of delivery, audiences to receive, timing, etc.



All communication is driven through the ENA Project Manager. The ENA PM will coordinate all necessary documentation and status reporting content to meet the needs of the project stakeholders.

* + - 1. How will your company monitor and confirm communications are working and adjust as needed?

The ENA Project Manager constantly reviews the effectiveness of communication methods for each aspect of the project. ENA does not subscribe to a “one size fits all” approach, so communication is fluid and flexible. If the initially agreed upon communication plan is not meeting expectations, the ENA PM will review the issues with the appropriate project stakeholders and make the necessary adjustments to ensure all project communications are effective and efficient.

* + 1. **Status Reporting**
       1. Describe your company’s status reporting processes.

For a project of this size and scope, ENA utilizes Smartsheet to aggregate all site-specific project information into an easily consumable dashboard. The project status dashboard is customizable and provides a high-level overview of key milestones for each in-scope location. The information on this dashboard is fed directly from the project tracking data, so it is frequently updated and available to view at any time.

In addition to the project status dashboard, the ENA Project Manager sends a project summary email each week recapping key milestones, open issues, and other pertinent information to ensure stakeholders stay informed with the most relevant information.

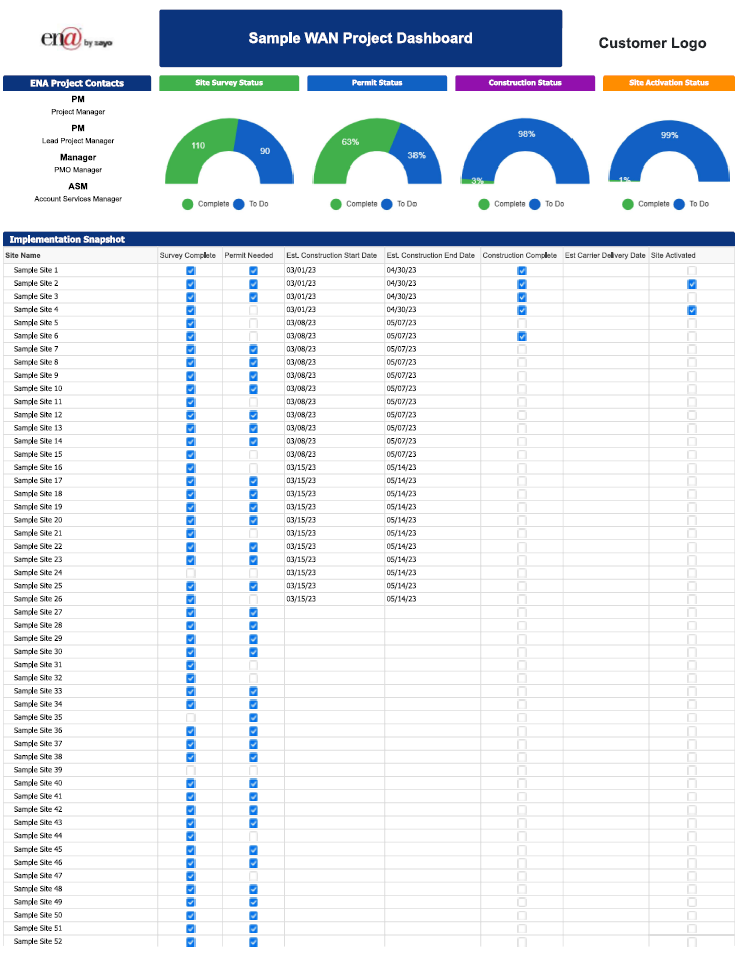
* + - 1. What type of status reports are produced and at what frequency?

ENA maintains a project status dashboard which is available real-time and is constantly updated. This dashboard identifies overall status and health of the project and key milestone status per location, as well as current action items and open issues. Additionally, ENA hosts a weekly or bi-weekly status update meeting with key stakeholders and provides a weekly email summarizing the overall status of the project.

* + - 1. How are status reports distributed and to whom?

Status reports are typically distributed via email to all stakeholders defined during project initiation. ENA will work with the ISL to determine the preferred method of distribution and to identify the necessary recipients.

**2.4.9.4** Provide an example of status reports that the State can expect for this project.



* + 1. **Milestones**

**2.4.10.1** Identify the deliverables / milestones that your company would include in this project.

ENA tracks several milestones depending on the need on a site-by-site basis. The typical milestones for a project of this size and scope would include the following:

New Circuit Installations:

* Site Survey Status
* Permit Status
* Construction Status
* Circuit Completion Status
* Activation Status

Existing Circuit Upgrade:

* Underlying Capacity Status
* Circuit Upgrade Status
* Activation Status

In addition to tracking these milestones for each in scope location, ENA tracks projected and actual key dates surrounding each of these milestones. All information is available within the project status dashboard and project status tracker. Upon award, ENA will work with the ISL to determine the mutually agreed upon milestones to report against to ensure all stakeholders have the visibility needed to fully understand the current project status.

* + 1. **Training**

**2.4.11.1** Describe your company’s high-level training strategy / plan.

As part of our IaaS approach, ENA includes live remote training, as well as on-demand user guides, tutorials, and videos for all ENA solutions and services. ENA strives to provide our customers with the tools they need to make informed decisions about their network, to troubleshoot issues quickly, and to continuously improve their technology environment and strategy. Our role is to provide excellent training, through a variety of learning modes, to ensure customers are empowered to do just that.

Training for users is provided during an implementation project, typically via remote sessions with identified customer users. From there, customers may consult ENA’s on-demand user guides, tutorials, and videos via help.ena.com. For additional needs, ENA will work with customers to provide additional remote training as needed and/or to provide live or in-person training on a case-by-case basis.

**2.4.11.2** Will application user training be provided and in what delivery method (e.g., instructor led on-site, instructor led remote, web-based, Computer Based Training modules, and reference materials)?

ENA provides optional remote, live onboarding training for the ongoing support processes for all ENA’s services. Through this training, ENA’s CTAC leadership will take technology staff through the ENA support model, tools, and a live demo of the my.ENA portal and the applications customers can use to manage and view their network

In addition to the live remote training, ENA provides comprehensive help documentation, user guides, tutorials, and help videos for all our solutions and services. At <help.ena.com>, customers can access recorded training and tutorials on all customer-accessible reporting, monitoring, and management tools. ENA’s CTAC is always available to answer questions, but if needed, ENA can facilitate interactive webinars to answer specific questions regarding any tool or service we offer.

**2.4.11.3** What training model will be used for application users if instructor-led training is chosen (respondent trained, train-the-trainer, combination)?

ENA's live training is designed for all technology staff and can be customized to meet your needs.