

Spectrum Enterprise

Ethernet Service Proposal for Application Number: 180024228

Presented To:
City of San Antonio
Senior Accountant for IT Dept.
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Presented BY:
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Thursday, March 8, 2018

Ms. Amanda Sandoval
Senior Accountant for IT Dept.
City of San Antonio
515 S Frio St
San Antonio, Texas 78207
erate@sanantonio.gov

Dear Ms. Sandoval:

Charter Communications™* (Spectrum) is pleased to submit the enclosed proposal in response to your Form 470 (Form 470). Our response demonstrates Spectrum's ability to provide network solutions that will enable City of San Antonio to meet its technology needs.

Spectrum is committed to providing City of San Antonio with broadband services necessary to meet its current and future technology needs. Spectrum provides advanced broadband services to more than one million business customers across 41 states, and we are one of the largest Ethernet providers in the country and the largest provider in the major US cities we serve.

Partnering with Spectrum provides the foundation to open opportunity, drive innovation and deliver exceptional experiences. Spectrum's advanced technology and product innovations address customer's growing demands for increased bandwidth, scalability, reliability and mobility. Spectrum' is committed to delivering industry-leading client service and support.

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Thank you for the opportunity to submit this response to your Form 470. We look forward to the opportunity to review our proposal with you in detail and to implement the recommendations we are making.

Please do not hesitate to call if you have further questions or if there is anything else you need at this time. I look forward to speaking with you soon!

Sincerely,

Mark Tran

Mark Tran

* Spectrum Enterprise is the commercial brand of Charter Communications, Inc. The legal entity proposing hereunder is Charter Communications Operating, LLC - 143050436, a subsidiary of Charter Communications, Inc.

LEGAL DISCLAIMER AND SUMMARY

This proposal shall not be considered an acceptance of any offer by City of San Antonio or otherwise create a binding contract between City of San Antonio and Spectrum. This proposal is submitted with the express understanding that the specific, comprehensive terms under which Spectrum and City of San Antonio may enter into a binding contract are understood to be subject to negotiation between the parties hereafter. The terms of this proposal are confidential and should not be disclosed directly or indirectly to any third party, except as may be required by law.

This proposal may assume a certain minimum level of acceptance of our bid. Therefore, in the event only a portion of Spectrum's proposal is accepted, our offer may be affected, and thus, Spectrum requests to review any such partial acceptance before final acceptance.

DEFINITIONS OF ABBREVIATED TERMS

Technology evolves at a rapid pace and Spectrum stays on the cutting edge of that evolution. The names of specific technologies or services are sometimes cumbersome and become abbreviated for colloquial use. We have provided a list of the terms used throughout this proposal and have defined them for your convenience.

MULTI-LOCATION TERMS	ABBREVIATION
CARRIER ETHERNET	CE
METRO ETHERNET FORUM	MEF
WIDE AREA NETWORK	WAN
SERVICE PROPOSAL TERMS	ABBREVIATION
FIRM ORDER COMMITMENT	FOC
PRIVATE BRANCH EXCHANGE	PBX
MONTHLY RECURRING CHARGE	MRC
NON-RECURRING CHARGE	NRC
QUANTITY	QTY
SERVICE CAPACITY	SVC. CAP.
INTERNET PROTOCOL	IP
DIRECT INWARD DIAL	DID
MINUTES OF USE	MOU
ETHERNET SERVICES TERMS	ABBREVIATION
CARRIER ETHERNET	CE
CUSTOMER PREMISE EQUIPMENT	CPE
ETHERNET PRIVATE LINE	EPL
ETHERNET PRIVATE LOCAL AREA NETWORK	EP-LAN
ETHERNET VIRTUAL CONNECTION	EVC
ETHERNET VIRTUAL PRIVATE LINE	EVPL
METRO ETHERNET FORUM	MEF
TIME-DIVISION MULTIPLEXING	TDM
USER-TO-NETWORK INTERFACE	UNI
WIDE AREA NETWORK	WAN
FIA TERMS	ABBREVIATION
FIBER INTERNET ACCESS	FIA
LOCAL AREA NETWORK	LAN
NETWORK OPERATIONS CENTER	NOC
SERVICE LEVEL AGREEMENT	SLA

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EXECUTIVE SUMMARY

Spectrum Enterprise (“Spectrum”), the commercial brand of Charter Communications, is pleased to provide this response illustrating our ability to provide City of San Antonio with communications services. We take pride in being an innovative resource for businesses and communities. Our reliable and economical service is a natural fit with your mission.

Bring Advanced and Affordable Technology to Your Schools

Advanced communications services and computing technologies in the classroom have become vital to education. Unfortunately, today’s challenging economic environment has put education and technology budgets under tremendous pressure. It is a challenge for schools to get access to technologies that help drive greater student achievements.

The Federal Government created the E-rate Program to help with the need for communications services and budgeting problems. Funded by the Universal Service Administrative Company (USAC), this program offers 20-90 percent off standard retail rates on eligible communications services to eligible schools, libraries, and their districts. Federally funded E-rate discounts have made today’s technology more affordable.

Spectrum’s Solution

Since 1998, Spectrum has worked with thousands of E-rate accounts. We understand the E-rate program and how best to benefit from it. Our experience in this area will provide E-rate specialists who understand:

- ▶ rules and regulations to participate in the program
- ▶ billing and standard discounts

Technology and education have converged, and your communications needs are growing rapidly.

Get Powerful Services with the Financial Benefits of E-rate

Research shows that technology use is a top-five indicator of better discipline, better attendance, and increases in college enrollment. Educational organizations are leveraging E-rate by partnering with Spectrum to reduce cost and implement technology for greater student achievement. We have invested the time and effort to ensure our sales and support teams have the expertise to help you get the best services through the E-rate program.

Unsurpassed Expertise and Customer Support

A network of specially trained, industry experts supports Spectrum. We have around-the-clock, U.S.-based business support centers and knowledgeable, locally based technicians who are specifically trained to help with your unique needs. Our dedicated work ethic, shared knowledge, and proprietary systems allow us to ensure that the solutions we are quoting City of San Antonio will match your specific and discrete needs.

When you collaborate with Spectrum for communications services, we assign a dedicated account team who will support your services:

- ▶ **Accounts Executive:** a dedicated, local market expert who is available for your consultation needs
- ▶ **Sales Engineering:** trained technical experts who customize designs based on your needs.
- ▶ **E-rate Specialists:** experienced with E-rate rules and regulations and are billing and standard discounts experts
- ▶ **Project Management:** customer focused experts who manage your build and communicate with you every step of the way
- ▶ **Account Manager:** your point of contact; responsible for providing you with accurate billing and consultation on future growth needs
- ▶ **Network Operations Center:** Spectrum staff that continuously monitors the network

Renewal Plan

As your incumbent provider, we have developed this proposal with the benefit of our experience, and have based it on our knowledgeable understanding of your requirements. Our combination of technology services and proposed cost, based on actual experience with City of San Antonio, provides an incredible value. By choosing once again to collaborate with Spectrum, you will be choosing a vendor with the proven infrastructure and experienced team currently in place to support the program. It is Spectrum's objective to continue our partnership with you while continuing to focus on responsiveness, transparency, and continuity of services. It is with that focus we have developed our proposal response to the Form 470.

ABOUT US

Acquisition of Time Warner Cable and Bright House Networks

Charter Communications (NASDAQ: [CHTR](#)) has completed the merger transactions with Time Warner Cable and Bright House Networks. Spectrum, a division of Charter Communications, is a national provider of scalable, fiber-based technology solutions serving many of America's largest businesses and communications service providers. Spectrum's broad portfolio includes Internet access, Ethernet access and networks, Voice, and TV solutions and extends to Managed IT solutions including Application, Cloud Infrastructure and Managed Hosting Services offered by its affiliate, Navisite. Our industry-leading team of experts work closely with clients to achieve greater business success by providing these right fit solutions designed to meet their evolving needs. For more information, visit enterprise.spectrum.com.

Much of our growth has been achieved through acquisitions of cable properties and the subsequent increase of customers in those communities, as well as development and launch of new products and services. Standing at the intersection of technology and entertainment, we facilitate essential communications that connect more than 25 million residential and business customers in 41 states. Our commitment to serving customers and exceeding their expectations is the foundation of our business strategy and this philosophy that guides our 90,000 employees.

All of our services are delivered over our state-of-the-art network and we back them up with professional customer service and support from local technicians. We are dedicated to bringing our clients innovative, reliable services, and responsible care.

Additional financial information about Spectrum, including annual and quarterly reports, may be found at our [Investor Relations](#) portal.

For more information about Charter, visit the [Charter Communications Newsroom](#).

CONNECTING YOUR CAMPUS WITH ADVANCED LEARNING

Deliver the connectivity that equips teachers, empowers students, and seamlessly helps staff, students, and visitors collaborate and connect. A smart technology partner helps you bring the promise of education to life.

Supporting Digital Learning for K-12 with E-rate

Helping You Enrich 21st-Century Learning with E-rate Services

Dwindling budgets and increasing regulations present a challenge to many schools in acquiring the technologies needed to fuel today's digital learning environments. The E-rate program is an invaluable resource for K-12 schools and libraries to obtain affordable access to advanced telecommunication services, and Spectrum Enterprise offers a suite of E-rate-eligible services—and local, dedicated education representatives—to help you navigate the program and attain a rich and secure digital infrastructure.

What Is the E-rate Program?

As part of the Federal Telecommunications Act of 1996, the E-rate program was created to provide eligible K-12 schools and libraries with discounts of up to 90 percent on select telecommunications services to meet their growing connectivity needs. This federal program is administered by the Schools and Libraries Division (SLD) of the [Universal Service Administrative Company \(USAC\)](#).

How We Can Help

Spectrum Enterprise provides a complete solution for the K-12 marketplace, with services that enable students and educators to access digital learning via a secure infrastructure, whether it is using instructional course materials, interacting with classmates or taking exams on a mobile device.

We became a compliant E-rate service provider in 1998, and we take pride in being one of the largest E-rate service providers today, working with hundreds of school districts nationwide and delivering service to more than 10,000 locations and millions of students.

Our team of Education professionals can help you access information to achieve maximum E-rate funding. We stay up to date on the latest FCC provisions and rules and can help you navigate the E-rate application process to transition your learning environment to the ever-changing digital world. For assistance, contact a local, dedicated Spectrum Enterprise Education representative.

E-rate Eligible Services¹

CATEGORY 1

(Includes INTERNET and VOICE)

¹ Eligibility of products and services for E-rate funding is determined by the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC) and/or the Federal Communications Commission (FCC).

INTERNET

- ▶ Spectrum Business Internet
- ▶ Fiber Internet Access
- ▶ Ethernet Services

VOICE²

- ▶ PRI
- ▶ SIP Trunking
- ▶ Spectrum Business Voice

CATEGORY 2

(Includes NETWORK SERVICES)

NETWORK SERVICES

- ▶ Managed WiFi
- ▶ Managed Router Service for Internet
- ▶ Managed Router Service for Ethernet

Powerful E-rate Solutions with Local Support Fuel Student Success

Green Dot Public Schools (Green Dot) in Los Angeles excels at helping students turn adversity into success. It operates both startup and “turnaround” charter schools that set the bar for transformation in education. Green Dot is the only charter organization in the country to lead a school turnaround—marked by dramatically improved student outcomes—of more than 3,000 students. With graduation and college-going rates soaring high above neighboring schools, Green Dot attributes much of its charter high school success to its powerful technology partnership.

[Full Case Study](#): Fiber Technology Helps Green Dot Public Schools Transform Schools—and Students’ Lives

Skyrocketing bandwidth demands mean that Green Dot needs to ensure fast, reliable sharing of digital resources within and between schools. High-quality fiber access points throughout schools support online testing and classroom collaboration and empower students to become fluent with technology. Teachers need reliable networks with minimal disruptions to ensure effective classroom instruction, and to close achievement gaps.

Another essential requirement for Green Dot: a technology partner that understands its unique challenges. Green Dot administrators need to keep the focus on classroom innovation while simultaneously navigating the complex E-rate funding program. A trusted partner and reliable product and account support enable Green Dot to pursue maximum funding with confidence.

² The E-rate program reduced its funding for voice service in FY2015, and will continue phasing out funding for voice services until it is eliminated entirely by FY2019.

“Having Time Warner Cable Business Class (TWCBC is now Spectrum Enterprise) as a partner who understands how to navigate that [E-rate] system has been vital to our success.”

— Dr. Kevin Keelan, CIO, Green Dot Public Schools

That is why Green Dot chose Spectrum Enterprise. Green Dot credits Spectrum Enterprise solutions—including local, dedicated product and account support and E-rate expertise—with helping ensure more than 11,000 students graduate from high school each year prepared for college, leadership, and life.

Powerful, Simplified, Intelligent: E-rate Solutions

Established E-rate Experience Thousands of Schools Strong

Benefit from our many years of experience delivering state of the art broadband products to thousands of schools through the E-rate program—and focus on what you are best at - making students successful.

Simplified E-rate Guidance and Local Account Support

Our local, dedicated Education Account Executives are up to date on the latest FCC rules applicable to E-rate service providers —and we are always ready to help with product and account management support.

Advanced Technology for Higher Education Makerspaces

From Stanford’s FabLab to Georgia Tech’s Invention Studio, a growing number of colleges, universities, and communities are embracing collaborative learning spaces, or “makerspaces.” Makerspaces—also known as invention labs, creation stations, hackerspaces, and tech spaces—empower “learning through making.” They foster discovery, building, design, and innovation using art, science, engineering, and technology.

A mindset of collaboration and creation, plus shared resources and tools, marks higher education and community makerspaces. They often take root in classrooms, storage spaces, or libraries. Audio and video equipment, computers, electronics, metalwork, woodwork, robotics, 3D printers, and laser cutters are common features of these labs.

The high-tech and bandwidth-intensive nature of some maker initiatives make a strong, scalable technology strategy vital to a thriving creator culture. As campuses increasingly embrace these progressive spaces, the need for a flexible, innovative technology partner becomes clear.

Spectrum Enterprise offers reliable, cost-effective, fiber-rich solutions that help higher education institutions inspire makers to build the future. We customize cloud, network, voice, television, and Internet services to fit your campus or university, to help your makers make their best impact.

School Districts Succeed With Dedicated Fiber Solutions

Reliable and Resilient Fiber Power

Give your campus reliable, fast access to makerspace and digital learning resources on an advanced fiber-based network infrastructure.

Scalable, On-Demand Bandwidth

Easily scale bandwidth to meet growing educational data demands. Our Dedicated Internet Access can seamlessly scale to meet the campus needs of today and tomorrow.

Strong Service Level Agreements

Protect your network with strong service level agreements (SLAs). Our SLAs set performance benchmarks for reliability and responsiveness for repair and restoration.

Local, Dedicated Account Service and Support

Back your higher education solutions with 24/7 proactive monitoring and local, dedicated account support teams.

Bundled Solutions for Your Budget

Discover where you can create efficiencies and bundle cloud, network, voice, television, and Internet services for exceptional value.

Advanced Technology Helps Higher Education Elevate Learning

With the most technology-savvy students in history, higher education institutions are under mounting pressure to elevate both students and their campus networks. The average college student uses bandwidth-hungry laptops, smartphones, tablets, game consoles, and MP3 players constantly, for life and learning. A majority of institutions employ bring-your-own-device (BYOD) policies, encouraging students to connect their gadgets to campus networks. Today's students cite the quality of campus technology as a major factor in enrollment.

To meet the needs of these "digital natives," fast and reliable Internet access throughout campus is fundamental. Keeping students connected anytime, anywhere—residences, campus common areas, academic and administrative spaces, and dining facilities—is essential.

***“Education institutions are constantly challenged to ensure
24/7 network availability.”***

— Diana Noelcke, Assistant Vice President of Enterprise Shared Services, University of Cincinnati

The explosion of online education options, as a supplement or replacement for classroom learning, is also driving a need for stellar connectivity and high-capacity bandwidth. Many students are blending or complementing classroom studies with video learning, online content, Massive Open Online Courses (MOOCs), e-textbooks, and digital content downloads.

Spectrum Enterprise provides fast, reliable fiber that supports both digital learning and blended and scalable bandwidth to ensure you can meet your digital education needs far into the future. Strong service level agreements and local, dedicated account service and support give staff, faculty, students, and visitors everything they need to share and learn, anywhere, anytime easily.

[Full Case Study](#): Enabling Innovation and Advancing Learning in Higher Education

Higher Ed Benefits with Smart Network Technology

[Anytime, Anywhere Access to Digital and Blended Education](#)

Support students and teachers with anytime, anywhere access to advanced digital connectivity. Fast, reliable fiber supports online learning, MOOCs, video-enhanced learning, and more.

[Scalable Bandwidth, Today and Tomorrow](#)

Easily adjust bandwidth as your needs change. Our scalable, advanced network ensures you can meet growing bandwidth needs, today and tomorrow.

[Connected Students, Educators, and Visitors](#)

Keep students, educators, administrators, and visitors completely connected. Reliable, responsive, resilient connectivity gives quick, easy access to the Internet, for life and learning.

[Strong Service Level Agreements \(SLAs\)](#)

Ensure your data is protected by strong service level agreements (SLAs). Our SLAs set performance benchmarks for reliability and responsiveness for repair and restoration.

IT SOLUTIONS FOR MULTI-LOCATION BUSINESSES

No location is an island

Organizations with multiple locations have unique and challenging communications and connectivity needs. Sometimes these special requirements create opportunities for creating efficiencies and reduced costs by using technologies that provide opportunities to consolidate services. In other cases, complex network architecture may be required. Whether you are trying to provide voice, data, Internet, or video services for a multi-location business, the best approach is to consider the needs of your organization as a whole.

Your organizational needs, combined with our knowledge of technology and experience

The needs of an organization with a few locations within a metropolitan area versus one with hundreds of locations spanning multiple time zones are entirely different. It is essential to collaborate with a partner that not only provides the technologies you need, but that can also work with your unique business requirements. Bring your needs and knowledge, and we will combine them with our experience and technological skills to help you construct a solution that meets your unique needs. Our solutions include reliable, high-bandwidth, fiber Internet, traditional and IP voice, WAN (including MEF CE 2.0 Ethernet services), and commercial video.

With Spectrum, you can:

- ▶ Drive success by supporting high-speed, reliable, and secure data exchange across your operation
- ▶ Reach all of your locations through our fiber, coaxial, and partnering solutions
- ▶ Reduce vendor complexity by enabling connectivity solutions to meet your enterprise's unique needs
- ▶ Enjoy savings with volume discount pricing

Seamlessly Integrate Your Company's Locations

Create better product and services, improve customer service and lower costs

Ask any business leaders what their objectives are, and you will get very similar responses: create better goods and services; improve customer service; or lower operational costs. Your goals are probably similar, and the IT challenge that presents itself is to enable communication and collaboration from geographically dispersed locations. In an ever-increasing competitive environment, how do you set your business apart from the rest? The answer is simple. Do the same thing, but do it better.

Let the innovation flow by seamlessly integrating your office locations

When it comes to creating better products and services, improving customer service or lowering costs, businesses consistently turn to technology to deliver the improvements they need to meet these goals. Today, this innovation happens in the cloud, in data centers, and sometimes via our various mobile devices. The key to doing this better

lies in how well you enable information to flow between these sources of innovation throughout your organization locations.

Seamless cloud connectivity, big data, and mobility

Setting up an effective network to link all of your sites and resources together in the most efficient way requires an understanding of your operations and technical knowledge. Just as your business is unique, there is no single right answer. If your innovation is coming from the cloud, then high-speed Internet access will be critical. However, if mining Big Data is what drives your business, then a high-performance WAN between your data centers is essential. Alternatively, perhaps the application of video or the enablement of a mobile workforce with a reliable fiber connection is what enables you.

Connecting the sources of innovation together in a better way requires more than the use of the right type of network technology. Your network needs to be reliable, offer high performance for a competitive advantage, and be supported by a team you can trust so that you can focus on your goals.

SPECTRUM ETHERNET SERVICES

Link multiple locations, leverage bandwidth-intensive applications, and fortify your business continuity plans with Spectrum Ethernet services. Take advantage of cost-effective, customized network solutions, which can power your Wide Area Network infrastructure for seamless and secure collaboration. Moreover, Spectrum holds a Metro Ethernet Forum Carrier Ethernet 2.0 (MEF CE 2.0) certification with 645 Certified Professionals, the greatest number of any current provider. Your evolving business can depend on Ethernet services from an industry leader with a reliable, fiber-rich network.

Ethernet Private Line overview

EPL provides point-to-point Ethernet connectivity for businesses with two locations. A cost-effective, high-capacity solution, EPL reliably connects Customer Premises Equipment with a lower-cost User-to-Network Interface (UNI). EPL is a smart replacement for traditional Time-division Multiplexing (TDM) private line service.

EPL quickly and privately transmit mission-critical data at bandwidth options from 10 Mbps to 10 Gbps. Moreover, EPL's dedicated point-to-point connectivity supports metro and national business applications including online backup, storage area networking, and data center connectivity.

EPL product highlights

- ▶ **Privacy:** All data travels within the secure domain of a Layer 2, dedicated, high-capacity, point-to-point connection, at native Ethernet speeds
- ▶ **Availability:** Easily link business locations in geographically dispersed areas
- ▶ **Cost Savings:** You can connect your business's CPE with a lower-cost Ethernet interface
- ▶ **Standards-Based:** Depend on EPL with our MEF CE 2.0 Certifications

Ethernet Virtual Private Line overview

EVPL provides essential, high-speed point-to-multipoint solutions for companies with a central office and satellite locations. EVPL helps multi-location companies streamline network management with configuration options to support your offices.

EVPL provides an Ethernet Virtual Connection (EVC) between three or more locations, similar to EPL service. EVPL also permits multiplexing multiple EVC services on a single User-to-Network Interface (UNI) at your hub or aggregation site.

EVPL benefits

- ▶ **Privacy:** All data travels within the secure domain of a Layer 2, dedicated, high capacity, and point-to-point connection at native Ethernet speeds
- ▶ **Single Interconnection:** A hub aggregates all data traffic on a single network between one central location, or data center, and smaller locations
- ▶ **Standards-Based:** Depend on EVPL with our MEF CE 2.0 Certifications
- ▶ **Traffic Separation:** maintain discrete pathways when you consolidate previously separate domains for specific applications or departments onto a single network
- ▶ **Cost Savings:** a single handoff reduces network equipment and management costs

Spectrum's Ethernet Experience

Spectrum has provided Wide Area Network (WAN) services for over 19 years, with a long-standing record of accomplishment, providing Optical Ethernet services to K-12 schools, colleges/universities, hospital systems, and small-to-large enterprises. In recent years, we have added Long-Haul links utilizing our national backbone, which allows us to provide better service to our multi-state customers.

Our experience includes a tradition of customized WAN solutions to meet our customers' specific design parameters. Design standards include physical and logical network designs that provide flexibility to change and grow. This means that you can implement a design suitable to your current needs and evolve that design for the future.

Service Overview

Spectrum's Optical Ethernet service is a scalable fiber-optic solution, providing bandwidth options ranging from 10 Mbps to 10 Gbps. Our Ethernet is available in three service types:

- ▶ **EPL** – Ethernet Private Line
- ▶ **EVPL** – Ethernet Virtual Private Line
- ▶ **EP-LAN** – Ethernet Local Area Network

Spectrum is Metro-Ethernet Forum (MEF) compliant. We have obtained CE 1.0 (MEF 9 & MEF 14) and CE 2.0 MEF certifications on all service types.

We design each network to provide a high level of availability and automatic failover in the event of failure of a component in the network. Our head-ends are physically and environmentally secured, have equipment that includes multiple paths, automatic failover, dual power supplies, and backup power to the facility.

Network Designs

We consider needs for diversity or redundancy while designing the physical plant. We will engage you to determine the optimal design. Final network design includes recommendations, coupled with your agreement on physical and logical network design factors:

- ▶ The physical plant consists of construction/installation of fibers from City of San Antonio's facility to the nearest splice point terminating at a Spectrum head-end. All provisioning is managed on the core gear.
- ▶ The logical design includes decisions on the implementation of the Ethernet services such as: Layer 2 vs. Layer 3, connectivity options (Point-to-Point, MultiPoint-to-Multipoint, and Point-to-MultiPoint or fully meshed), whether Border Gateway Protocol (BGP) routing is needed for failover of multiple internet connections, and connections to City of San Antonio's routing equipment.

Operational Support

Critical to the success of any WAN is the ongoing operational support that City of San Antonio can expect.

Spectrum's support includes:

- ▶ **Technical Support, Monitoring, and Maintenance**

We provide 24/7/365 proactive monitoring of the service via the Spectrum and Strategic Markets Network Operations Center (ESM NOC). Reported troubles escalate within the ESM NOC and to local network maintenance and repair technicians, as necessary. On-site technicians are typically Spectrum employees who reside locally to provide the quickest turnaround possible.

We provide customers with a list of escalation contacts after the test and turn-up process. This also includes one number to call for fiber support (866) 603-3199 and details on how to engage support when needed.

- ▶ **Preventative Network Maintenance**

We conduct proactive network maintenance between the hours of midnight and 6:00 a.m. local time. Spectrum will typically provide at least ten days' notice before conducting preventative maintenance.

- ▶ **Emergency Network Maintenance**

Emergency network maintenance is work that is not reasonably anticipated but requires immediate action to address an issue that is likely to cause a material service outage. We will typically provide notice to the customer of emergency network maintenance as soon as is practical and will do so in advance of such maintenance when reasonable.

SPECTRUM FIBER INTERNET ACCESS

Build your business on high-performance, dedicated connection

Fiber Internet Access overview

Spectrum delivers our Fiber Internet Access (FIA) service across our wholly owned and redundant, national, fiber network. FIA delivers mission-critical client experience, cloud-based and data-intensive applications, backup, video conferencing and provides continuous, protected connectivity between your Local Area Network (LAN) and the Internet. Businesses that require high-bandwidth upload capability will benefit from FIA's symmetrical connectivity.

Our U.S.-based, dedicated Enterprise Network Operations Center (ENOC) proactively monitors your Internet service 24/7 to verify uptime and availability. Our stringent service level agreements ensure optimal network performance and enterprise-grade reliability with dedicated support.

Standard Fiber Internet Access features:

- ▶ FIA delivers an ultra-reliable and highly scalable service to help your organization meet its current and future demand for bandwidth
- ▶ Symmetrical bandwidth options for consistently reliable upload and download speeds
- ▶ Spectrum offers various security features to be paired with FIA

Fast & Dedicated	Guaranteed Availability	Available & Affordable
	<p>99.99% End to End 4 Hours to Restore</p>	<p>In our footprint, we will get you connected at a competitive price</p>
<p>Scalable bandwidth from 25 Mbps up to 10 Gbps</p>	<p>Unparalleled SLAs, pro-active monitoring and support</p>	<p>Whether or not construction is required</p>

Protect & secure with Managed Router, Firewall for unified threat management (UTM), distributed denial of service (DDOS) protection

SPECTRUM SERVICE PROPOSAL

These prices will remain in effect throughout the initial Service Period, subject to the following contingencies:

- ▶ final engineering, design and site visits; and
- ▶ complete Terms & Conditions as provided in our service contract

Investment for Spectrum Services based on a 36 month term

LOCATION	PROPOSED PRODUCTS	PROPOSED TIER/SPEED	TERM (Months)	MRC (per circuit)	NRC (per circuit)
5230 EISENHAUER ROAD SAN ANTONIO, TX 78218	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
3635 MEDICAL DRIVE SAN ANTONIO, TX 78229	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
7031 S. New Braunfeis SAN ANTONIO, TX 78223	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
1235 W OLD US HWY 90 SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
2200 W COMMERCE SAN ANTONIO, TX 78207	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
530 HEIMER RD SAN ANTONIO, TX 78232	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
3350 E COMMERCE ST SAN ANTONIO, TX 78220	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
11441 VANCE JACKSON RD SAN ANTONIO, TX 78230	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
200 N PARK BLVD SAN ANTONIO, TX 78204	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
2803 HUNTER ST SAN ANTONIO, TX 78224	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
5245 INGRAM RD SAN ANTONIO, TX 78228	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
10255 DOVER RIDGE SAN ANTONIO, TX 78250	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
7700 WEST MILITARY DRIVE SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
201 W MARKET SAN ANTONIO, TX 78205	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
6307 SUN VALLEY DR SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
15060 JUDSON ROAD SAN ANTONIO, TX 78247	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
233 BUSHNELL AVE SAN ANTONIO, TX 78212	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
911 CASTROVILLE RD SAN ANTONIO, TX 78237	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
8700 MYSTIC PARK SAN ANTONIO, TX 78254	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
1023 ADA ST SAN ANTONIO, TX 78223	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
3222 CULEBRA RD SAN ANTONIO, TX 78228	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
3100 ROOSEVELT AVENUE SAN ANTONIO, TX 78214	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
5110 WALZEM ROAD SAN ANTONIO, TX 78218	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
4134 HARRY WURZBACH RD SAN ANTONIO, TX 78209	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00

1122 W PYRON AVE SAN ANTONIO, TX 78221	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
20735 WILDERNESS OAK SAN ANTONIO, TX 78258	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
8765 TX 151 Access Rd SAN ANTONIO, TX 78251	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
1315 SAN PEDRO AVE SAN ANTONIO, TX 78212	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
6322 US Hwy. 87 SAN ANTONIO, TX 78222	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
13330 KYLE SEALE PARKWAY SAN ANTONIO, TX 78249	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
4618 THOUSAND OAKS DR SAN ANTONIO, TX 78233	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
6111 ROSEDALE CT SAN ANTONIO, TX 78201	ELINE/EPL/EVPL	1G	36	\$736.00	\$250.00
5230 EISENHAUER ROAD SAN ANTONIO, TX 78218	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
3635 MEDICAL DRIVE SAN ANTONIO, TX 78229	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
7031 S. New Braunfeis SAN ANTONIO, TX 78223	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
1235 W OLD US HWY 90 SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
2200 W COMMERCE SAN ANTONIO, TX 78207	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
530 HEIMER RD SAN ANTONIO, TX 78232	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
3350 E COMMERCE ST SAN ANTONIO, TX 78220	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
11441 VANCE JACKSON RD SAN ANTONIO, TX 78230	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
200 N PARK BLVD SAN ANTONIO, TX 78204	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
2803 HUNTER ST SAN ANTONIO, TX 78224	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
5245 INGRAM RD SAN ANTONIO, TX 78228	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
10255 DOVER RIDGE SAN ANTONIO, TX 78250	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
7700 WEST MILITARY DRIVE SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
201 W MARKET SAN ANTONIO, TX 78205	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
6307 SUN VALLEY DR SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
15060 JUDSON ROAD SAN ANTONIO, TX 78247	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
233 BUSHNELL AVE SAN ANTONIO, TX 78212	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
911 CASTROVILLE RD SAN ANTONIO, TX 78237	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
8700 MYSTIC PARK SAN ANTONIO, TX 78254	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
1023 ADA ST SAN ANTONIO, TX 78223	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
3222 CULEBRA RD SAN ANTONIO, TX 78228	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
3100 ROOSEVELT AVENUE SAN ANTONIO, TX 78214	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
5110 WALZEM ROAD SAN ANTONIO, TX 78218	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00

4134 HARRY WURZBACH RD SAN ANTONIO, TX 78209	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
1122 W PYRON AVE SAN ANTONIO, TX 78221	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
20735 WILDERNESS OAK SAN ANTONIO, TX 78258	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
8765 TX 151 Access Rd SAN ANTONIO, TX 78251	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
1315 SAN PEDRO AVE SAN ANTONIO, TX 78212	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
6322 US Hwy. 87 SAN ANTONIO, TX 78222	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
13330 KYLE SEALE PARKWAY SAN ANTONIO, TX 78249	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
4618 THOUSAND OAKS DR SAN ANTONIO, TX 78233	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
6111 ROSEDALE CT SAN ANTONIO, TX 78201	ELINE/EPL/EVPL	2G	36	\$1,030.00	\$250.00
5230 EISENHAUER ROAD SAN ANTONIO, TX 78218	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
3635 MEDICAL DRIVE SAN ANTONIO, TX 78229	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
7031 S. New Braunfeis SAN ANTONIO, TX 78223	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
1235 W OLD US HWY 90 SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
2200 W COMMERCE SAN ANTONIO, TX 78207	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
530 HEIMER RD SAN ANTONIO, TX 78232	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
3350 E COMMERCE ST SAN ANTONIO, TX 78220	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
11441 VANCE JACKSON RD SAN ANTONIO, TX 78230	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
200 N PARK BLVD SAN ANTONIO, TX 78204	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
2803 HUNTER ST SAN ANTONIO, TX 78224	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
5245 INGRAM RD SAN ANTONIO, TX 78228	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
10255 DOVER RIDGE SAN ANTONIO, TX 78250	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
7700 WEST MILITARY DRIVE SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
201 W MARKET SAN ANTONIO, TX 78205	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
6307 SUN VALLEY DR SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
15060 JUDSON ROAD SAN ANTONIO, TX 78247	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
233 BUSHNELL AVE SAN ANTONIO, TX 78212	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
911 CASTROVILLE RD SAN ANTONIO, TX 78237	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
8700 MYSTIC PARK SAN ANTONIO, TX 78254	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
1023 ADA ST SAN ANTONIO, TX 78223	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
3222 CULEBRA RD SAN ANTONIO, TX 78228	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
3100 ROOSEVELT AVENUE SAN ANTONIO, TX 78214	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00

5110 WALZEM ROAD SAN ANTONIO, TX 78218	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
4134 HARRY WURZBACH RD SAN ANTONIO, TX 78209	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
1122 W PYRON AVE SAN ANTONIO, TX 78221	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
20735 WILDERNESS OAK SAN ANTONIO, TX 78258	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
8765 TX 151 Access Rd SAN ANTONIO, TX 78251	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
1315 SAN PEDRO AVE SAN ANTONIO, TX 78212	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
6322 US Hwy. 87 SAN ANTONIO, TX 78222	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
13330 KYLE SEALE PARKWAY SAN ANTONIO, TX 78249	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
4618 THOUSAND OAKS DR SAN ANTONIO, TX 78233	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
6111 ROSEDALE CT SAN ANTONIO, TX 78201	ELINE/EPL/EVPL	5G	36	\$1,200.00	\$250.00
5230 EISENHAUER ROAD SAN ANTONIO, TX 78218	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
3635 MEDICAL DRIVE SAN ANTONIO, TX 78229	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
7031 S. New Braunfeis SAN ANTONIO, TX 78223	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
1235 W OLD US HWY 90 SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
2200 W COMMERCE SAN ANTONIO, TX 78207	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
530 HEIMER RD SAN ANTONIO, TX 78232	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
3350 E COMMERCE ST SAN ANTONIO, TX 78220	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
11441 VANCE JACKSON RD SAN ANTONIO, TX 78230	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
200 N PARK BLVD SAN ANTONIO, TX 78204	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
2803 HUNTER ST SAN ANTONIO, TX 78224	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
5245 INGRAM RD SAN ANTONIO, TX 78228	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
10255 DOVER RIDGE SAN ANTONIO, TX 78250	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
7700 WEST MILITARY DRIVE SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
201 W MARKET SAN ANTONIO, TX 78205	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
6307 SUN VALLEY DR SAN ANTONIO, TX 78227	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
15060 JUDSON ROAD SAN ANTONIO, TX 78247	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
233 BUSHNELL AVE SAN ANTONIO, TX 78212	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
911 CASTROVILLE RD SAN ANTONIO, TX 78237	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
8700 MYSTIC PARK SAN ANTONIO, TX 78254	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
1023 ADA ST SAN ANTONIO, TX 78223	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
3222 CULEBRA RD SAN ANTONIO, TX 78228	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00

3100 ROOSEVELT AVENUE SAN ANTONIO, TX 78214	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
5110 WALZEM ROAD SAN ANTONIO, TX 78218	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
4134 HARRY WURZBACH RD SAN ANTONIO, TX 78209	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
1122 W PYRON AVE SAN ANTONIO, TX 78221	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
20735 WILDERNESS OAK SAN ANTONIO, TX 78258	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
8765 TX 151 Access Rd SAN ANTONIO, TX 78251	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
1315 SAN PEDRO AVE SAN ANTONIO, TX 78212	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
6322 US Hwy. 87 SAN ANTONIO, TX 78222	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
13330 KYLE SEALE PARKWAY SAN ANTONIO, TX 78249	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
4618 THOUSAND OAKS DR SAN ANTONIO, TX 78233	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
6111 ROSEDALE CT SAN ANTONIO, TX 78201	ELINE/EPL/EVPL	10G	36	\$2,090.00	\$250.00
600 Soledad, San Antonio, TX 78205	FIA	1G	36	\$1,299.00	\$250.00
600 Soledad, San Antonio, TX 78205	FIA	2G	36	\$2,454.00	\$250.00
600 Soledad, San Antonio, TX 78205	FIA	5G	36	\$5,053.00	\$250.00
600 Soledad, San Antonio, TX 78205	FIA	10G	36	\$6,500.00	\$250.00
600 Soledad, San Antonio, TX 78205	FIA	20G (2x10G)	36	\$12,200.00	\$250.00

Spectrum's Taxes, Surcharges, and Fees provision is as follows:

Taxes, Surcharges, and Fees. MRCs and OTCs do not include taxes, fees or surcharges that Customer must pay, including but not limited to applicable sales, use, property, excise or other taxes, franchise fees, and governmental charges (excluding income taxes) arising under this Service Agreement, in addition to any surcharges that may be imposed as may be permitted under and consistent with applicable law. If a Customer wishes to claim tax-exempt status, then Customer must supply Spectrum with a copy of Customer's tax exemption document within 15 days of installation of applicable Services. If Customer supplies such documentation after that time, Spectrum will apply it to Customer's account on a prospective basis, allowing Spectrum at least 30 days for processing. To the extent such documentation is held invalid for any reason, Customer agrees to reimburse Spectrum for any tax or fee liability including without limitation related interest and penalties arising from such invalid documentation.

Tax-exempt status shall not relieve Customer of its obligation to pay applicable franchise fees or other non-tax fees and surcharges. Spectrum reserves the right, from time to time, to change the surcharges for Services under this Service Agreement to reflect incurred costs, charges, or obligations imposed on Spectrum to the extent permitted, required, or otherwise not prohibited under applicable law (e.g., universal service fund ("USF") charges, etc.).

Furthermore, Spectrum shall have the right to recover from Customer the amount of any state or local fees or taxes arising as a result of this Service Agreement, which are imposed on Spectrum or its services, or otherwise assessed or calculated based on Spectrum's receipts from Customer.

To the extent that a dispute arises under this Service Agreement as to which Party to this Service Agreement is liable for fees or taxes based on such Party's net income, Customer shall bear the burden of proof in showing that the fee or tax is imposed upon Spectrum's net income. This burden may be satisfied by Customer producing written documentation from the jurisdiction imposing the fee or tax indicating that the fee or tax is based on Spectrum's net income.

Customer acknowledges that currently, and from time to time, there is uncertainty about the regulatory classification of some of the Services Spectrum provides and, consequently, uncertainty about what fees, taxes and surcharges are due from Spectrum and/or its customers. Customer agrees that Spectrum has the right to determine, in its sole discretion, what fees, taxes and surcharges are due and to collect and remit them to the relevant governmental authorities, and/or to pay and pass them through to Customer. Customer hereby waives any claims it may have regarding Spectrum's collection or remittance of such fees, taxes and surcharges.

SPECTRUM'S RESPONSE TO CITY OF SAN ANTONIO

Spectrum is pleased to submit this formal proposal for Ethernet Service to City of San Antonio. On the pages to follow, Spectrum has responded to your Form 470 and addressed each requirement to demonstrate that we can provide you with the best, most timely, cost effective solution to meet your needs. We based our responses on an understanding of your needs from both a technical and a business perspective. Whenever possible, we linked our responses back to your needs to show you not only what we offer, but also why it matters to you. We also provided evidence of our competence to deliver solutions in a professional manner, and have indicated the value of our recommendations for you.

As the second largest cable operator in the United States, Spectrum can provide customized solutions in several marketplaces that are unified, powerful, cost-effective, easily managed, and perhaps most importantly, reliable.

Spectrum owns and operates our network from end-to-end and offers one phone number to call after installation for all support and service inquiries. There is never any question as to how to get help, or who will be supporting you should you ever need assistance.

- ▶ **Service and Savings:** Owning our network allows us to not only manage and monitor your services, but also pass cost savings on to our end customers with highly competitive rates
- ▶ **Reliable connectivity:** With dedicated connectivity up to 10 Gbps, Spectrum can offer the newest technology and services
- ▶ **Adaptability:** Spectrum offers future-proof solutions that are scalable and flexible to adapt to our customers changing requirements
- ▶ **Service:** We serve all of our customers with a dedicated team of Account Executives with supporting teams that understand complex requirements for acquiring, funding and installing solutions like yours

We understand that not all businesses have the same needs and are committed to working with our clients to move past limitations, integrating the most valuable solutions, and achieving greater success together. We invite you to review the following response and discover how Spectrum can provide a solution for you. Our customers value our knowledge and understanding of their challenges, objectives, operating environments, and rely on our accumulation of best practices from the industry. We realize that your initiatives can often create more ways to use our services than was originally anticipated, so you need to be able to adapt quickly, as demand increases. Since we design solutions that solve your specific needs and anticipate future growth needs, we know that you will achieve the results that you expect from your communications partner now, and into the future.

SPECTRUM ENTERPRISE FIBER INTERNET ACCESS SERVICE LEVEL AGREEMENT

This document outlines the Service Level Agreement (“SLA”) for Fiber Internet Access (“FIA”) fiber-based service (the “Service”).

This SLA is a part of, and hereby incorporated by reference into the Spectrum Enterprise Service Agreement (including the terms and conditions, attachments, and Service Orders described therein, the “Agreement”). To the extent any provision of this SLA conflicts with the Agreement, this SLA shall control. This SLA document applies only to services provided over Spectrum Enterprise’s own network (“On-Net”) and not any portion that is provided by a third party. All SLA Targets in the table below are measured at the individual circuit or service level, and any applicable credits are issued only for the affected On-Net circuit or service (the “Affected Service”). Capitalized words used, but not defined herein, shall have the meanings given to them in the Agreement.

I. SLA Targets for On-Net Services:

Service Availability	Mean Time To Restore (“MTTR”)	Latency / Frame Delay (Roundtrip)	Jitter / Frame Delay Variation	Packet Loss / Frame Loss
End to End: 99.99%	Priority 1 Outages within 4 hours	45ms	<2ms	<0.1%

II. Priority Classification:

A “Service Disruption” is defined as an outage, disruption, or severe degradation, other than an Excluded Disruption, that interferes with the ability of a Spectrum Enterprise network hub to: (i) transmit and receive network traffic on Customer’s dedicated access port at the Spectrum Enterprise network hub; and (ii) exchange network traffic with another Spectrum Enterprise network hub. The Service Disruption period begins when Customer reports a Service Disruption using Spectrum Enterprise’s trouble ticketing system by contacting Customer Care, Spectrum Enterprise acknowledges receipt of such trouble ticket, Spectrum Enterprise validates that the Service is affected, and Customer releases the Service for testing. The Service Disruption ends when the affected Service has been restored.

“Service Degradation” means a degradation of the Service that is not a Service Disruption or a result of an Excluded Disruption, such as failure of the Service to achieve the SLA Targets for Latency / Frame Delay, Jitter / Frame Delay Variation, or Packet / Frame Loss.

“Excluded Disruptions” means (i) planned outages, (ii) routine or urgent maintenance, (iii) time when Spectrum Enterprise is unable to gain access to Customer’s premises, if necessary, (iv) service issues arising from acts of omissions of Customer or Customer’s representatives or agents, (v) Customer equipment failures, (vi) Customer is not prepared to release the Service for testing, and (vii) Force Majeure Events.

Spectrum Enterprise will classify Service problems as follows:

Priority	Criteria
Priority 1	Each a "Priority 1 Outage": <ul style="list-style-type: none"> • Service Disruption resulting in a total loss of Service; or • Service Degradation to the point where Customer is unable to use the Service and is prepared to release it for immediate testing
Priority 2	<ul style="list-style-type: none"> • Service Degradation where Customer is able to use the Service and is not prepared to release it for immediate testing.
Priority 3	<ul style="list-style-type: none"> • A service problem that does not impact the Service; or • A single non-circuit specific quality of Service inquiry.

III. Service Availability

"Service Availability" is calculated as the total number of minutes in a calendar month less the number of minutes that the On-Net Service is unavailable due to a Priority 1 Outage ("Downtime"), divided by the total number of minutes in a calendar month.

The following table contains examples of the percentage of Service Availability translated into minutes of Downtime for the 99.99% Service Availability Target:

Percentage by Days Per	Total Minutes / Month	Downtime
99.99% for 31 Days	44,640	4.5
99.99% for 30 Days	43,200	4.3
99.99% for 29 Days	41,760	4.2
99.99% for 28 Days	40,320	4

IV. Mean Time to Restore ("MTTR")

The MTTR measurement for Priority 1 Outages is the average time to restore Priority 1 Outages during a calendar month calculated as the cumulative length of time it takes Spectrum Enterprise to restore an On-Net Service following a Priority 1 Outage in a calendar month divided by the corresponding number of trouble tickets for Priority 1 Outages opened during the calendar month for the On-Net Service.

MTTR per calendar month is calculated as follows:

$\frac{\text{Cumulative length of time to restore Priority 1 Outage(s) per On-Net Service}}{\text{Total number of Priority 1 Outage trouble tickets per On-Net Service}}$

V. Latency / Frame Delay

Latency or Frame Delay is the average roundtrip network delay, measured every 5 minutes during a calendar month, unless measurement is not possible as a result of an Excluded Disruption, to adequately determine a consistent average monthly performance level for frame delay for each On-Net Service. The roundtrip delay is expressed in milliseconds (ms). Spectrum Enterprise measures frame delay on an end-to-end basis using a standard 64 byte ping from the Customer dedicated access port at the Customer premise to the Spectrum Enterprise Internet access router in a roundtrip fashion.

Latency is calculated as follows:

$$\text{Latency/Frame Delay} = \frac{\text{Sum of the roundtrip delay measurements for an On-Net Service}}{\text{Total \# of measurements for an On-Net Service}}$$

VI. Packet Loss / Frame Loss Ratio

Packet Loss or Frame Loss Ratio is defined as the percentage of frames that are not successfully received compared to the total frames that are sent in a calendar month, except where any packet or frame loss is the result of an Excluded Disruption. The percentage calculation is based on frames that are transmitted from a network origination point and received at a network destination point (Spectrum Enterprise network hub to Customer dedicated access port at the Customer premise).

Packet Loss / Frame Loss Ratio is calculated as follows:

$$\text{Packet Loss / Frame Loss (\%)} = 100 (\%) - \text{Frames Received (\%)}$$

VII. Jitter / Frame Delay Variation

Jitter or Frame Delay Variation is defined as the variation in delay for two consecutive frames that are transmitted (one-way) from a network origination point and received at a network destination point (Spectrum Enterprise network hub to Customer dedicated access port at the Customer premise). Spectrum Enterprise measures a sample set of frames every 5 minutes during a calendar month, unless measurement is not possible as a result of an Excluded Disruption, and determines the average delay between consecutive frames within each sample set. The monthly Jitter / Frame Delay Variation is calculated as the average of all of the frame delay variation measurements during such calendar month and is expressed in milliseconds (ms).

$$\text{Jitter/Frame Delay} = \frac{\text{Sum of the roundtrip delay measurements for an On-Net Service}}{\text{Total \# of measurements for an On-Net Service}}$$

VIII. Network Maintenance

Maintenance Notice:

Customer understands that from time to time, Spectrum Enterprise will perform network maintenance for network improvements and preventive maintenance. In some cases, Spectrum Enterprise will need to perform urgent network maintenance, which will usually be conducted within the routine maintenance windows. Spectrum Enterprise will use reasonable efforts to provide advance notice of the approximate time, duration, and reason for any urgent maintenance outside of the routine maintenance windows.

Maintenance Windows:

Routine maintenance may be performed Monday – Friday 12 a.m. – 6 a.m. Local Time.

IX. Remedies

Service Credits:

If the actual performance of an On-Net Service during any calendar month is less than the SLA Targets and Customer is in compliance with the terms of the Agreement and this SLA, then Customer may request credit equal to the corresponding percentage of monthly Service Charges for the Affected Service as set forth in the table below. Any credit to be applied will be off-set against amounts due from Customer to Spectrum Enterprise in the billing cycle following the date Spectrum Enterprise makes its credit determination. Credit

requests must be submitted to Spectrum Enterprise within 30 days of the calendar month in which the SLA Target was missed. Spectrum Enterprise will exercise commercially reasonable efforts to respond to such Service Credit requests within thirty (30) days of receipt thereof.

Service Availability	Mean Time to Repair (MTTR)		Latency/Frame Delay (Roundtrip)	Jitter/Frame Delay Variation	Packet Loss/Frame Loss
30%	>4 hours ≤ 7:59:59 Hours	4%	5%	5%	5%
	> 8 hours	10%			

All SLA Targets are monthly measurements, and Customer may request only one credit per SLA Target per month for the Affected Service. Should one event impact more than one SLA hereunder, Customer shall receive the single highest of the qualifying credits only. Except as set forth below, the credits described in this SLA shall constitute Customer's sole and exclusive remedy, and Spectrum Enterprise's sole and exclusive liability, with respect to any missed SLA Targets. Service Credits hereunder shall not be cumulative per Service.

Chronic Priority 1 Outages:

If Customer experiences and reports three (3) separate Priority 1 Outages where the Downtime exceeds four (4) hours during each Priority 1 Outage within three (3) consecutive calendar months, then Customer may terminate the Affected Service without charge or liability by providing at least thirty (30) days written notice to Spectrum Enterprise; provided, however, that (i) Customer may only terminate the Affected Service; (ii) Customer must exercise its right to terminate the Affected Service by providing written notice to Spectrum Enterprise within thirty (30) days after the event giving rise to Customer's termination right; (iii) Customer shall have paid Spectrum Enterprise all amounts due at the time of such termination for all Services provided by Spectrum Enterprise pursuant to the Agreement, and (iv) the foregoing termination right provides the sole and exclusive remedy of Customer and the sole and exclusive liability of Spectrum Enterprise for chronic Priority 1 Outages and Customer shall not be eligible for any additional credits. Termination will be effective forty-five (45) days after Spectrum Enterprise's receipt of such written notice of termination.

SPECTRUM ENTERPRISE ETHERNET SERVICE LEVEL AGREEMENT

This document outlines the Service Level Agreement (“SLA”) for Ethernet fiber-based service (the “Service”).

This SLA is a part of, and hereby incorporated by reference into the Spectrum Enterprise Service Agreement (including the terms and conditions, attachments, and Service Orders described therein, the “Agreement”). To the extent any provision of this SLA conflicts with the Agreement, this SLA shall control. This SLA document applies only to services provided over Spectrum Enterprise’s own network (“On-Net”) and not any portion that is provided by a third party. All SLA Targets in the table below are measured at the individual circuit or service level, and any applicable credits are issued only for the affected On-Net circuit or service (the “Affected Service”). Capitalized words used, but not defined herein, shall have the meanings given to them in the Agreement.

I. SLA Targets for On-Net Services:

Spectrum Enterprise Ethernet Services SLAs			
Performance Tier	Metro	Regional	National
Miles	0 - 155	156 - 746	> 746
Kilometers	0 - 250	251 - 1200	> 1200
Latency	≤ 10ms	≤ 25ms	≤ 125ms
Jitter	≤ 2ms	≤ 4ms	≤ 8ms
Frame Loss	< 0.01%	< 0.01%	< 0.01%
Availability	> 99.99%	> 99.99%	> 99.99%
MTTR	4 hrs.	4 hrs.	4 hrs.

II. Priority Classification:

A “Service Disruption” is defined as an outage, disruption, or severe degradation, other than an Excluded Disruption, that interferes with the ability of a Spectrum Enterprise network hub to transmit and receive network traffic between Customer’s A and Z Locations. The Service Disruption period begins when Customer reports a Service Disruption using Spectrum Enterprise’s trouble ticketing system by contacting Customer Care, Spectrum Enterprise acknowledges receipt of such trouble ticket, Spectrum Enterprise validates that the Service is affected, and Customer releases the Service for testing. The Service Disruption ends when the affected Service has been restored.

“Service Degradation” means a degradation of the Service that is not a Service Disruption or a result of an Excluded Disruption, such as failure of the Service to achieve the SLA Targets for Latency / Frame Delay, Jitter / Frame Delay Variation, or Packet / Frame.

“Excluded Disruptions” means (i) planned outages, (ii) routine or urgent maintenance, (iii) time when Spectrum Enterprise is unable to gain access to Customer’s premises to troubleshoot, repair or replace equipment or the Service, (iv) service problems resulting from acts of omissions of Customer or Customer’s representatives or agents, (v) Customer equipment failures, (vi) Customer is not prepared to release the Service for testing, and (vii) Force Majeure Events.

Spectrum Enterprise will classify Service problems as follows:

Priority	Criteria
Priority 1	<ul style="list-style-type: none"> Service Disruption resulting in a total loss of Service; or Service Degradation to the point where Customer is unable to use the Service and is prepared to release it for immediate testing (each a "Priority 1 Outage").
Priority 2	<ul style="list-style-type: none"> Service Degradation where Customer is able to use the Service and is not prepared to release it for immediate testing.
Priority 3	<ul style="list-style-type: none"> A service problem that does not impact the Service; or A single non-circuit specific quality of Service inquiry.

III. Service Availability

"Service Availability" is calculated as the total number of minutes in a calendar month less the number of minutes that the On-Net Service is unavailable due to a Priority 1 Outage ("Downtime"), divided by the total number of minutes in a calendar month.

The following table contains examples of the percentage of Service Availability translated into minutes of Downtime for the 99.99% Service Availability Target:

Percentage by Days Per Month	Total Minutes / Month	Downtime Minutes
99.99% for 31 Days	44,640	4.5
99.99% for 30 Days	43,200	4.3
99.99% for 29 Days	41,760	4.2
99.99% for 28 Days	40,320	4

IV. Mean Time to Restore ("MTTR")

The MTTR measurement for Priority 1 Outages is the average time to restore Priority 1 Outages during a calendar month calculated as the cumulative length of time it takes Spectrum Enterprise to restore an On-Net Service following a Priority 1 Outage in a calendar month divided by the corresponding number of trouble tickets for Priority 1 Outages opened during the calendar month for the On-Net Service.

MTTR per calendar month is calculated as follows:

$$\frac{\text{Cumulative length of time to restore Priority 1 Outage(s) per On-Net Service}}{\text{Total number of Priority 1 Outage trouble tickets per On-Net Service}}$$

V. Latency / Frame Delay

Latency or Frame Delay is the average roundtrip network delay, measured every 5 minutes during a calendar month, unless measurement is not possible as a result of an Excluded Disruption, to adequately determine a consistent average monthly performance level for frame delay for each On-Net Service. The roundtrip

delay is expressed in milliseconds (ms). Spectrum Enterprise measures frame delay using a standard 64 byte ping between the closest Spectrum Enterprise network hubs to corresponding Customer A and Z locations in a roundtrip fashion.

Latency / Frame Delay is calculated as follows:

Latency / Frame Delay=	$\frac{\text{Sum of the roundtrip delay measurements for an On-Net Service}}{\text{Total \# of measurements for an On-Net Service}}$
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VI. Packet Loss / Frame Loss Ratio

Packet Loss or Frame Loss Ratio is defined as the percentage of frames that are not successfully received compared to the total frames that are sent in a calendar month, except where any packet or frame loss is the result of an Excluded Disruption. The percentage calculation is based on frames that are transmitted from a network origination point and received at a network destination point (Spectrum Enterprise network hub to Spectrum Enterprise network hub).

Packet Loss / Frame Loss Ratio is calculated as follows:

$\text{Packet Loss / Frame Loss (\%)} = 100 (\%) - \frac{\text{Frames Received}}{\text{Total \# of measurements for an On-Net Service}}$
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VII. Jitter / Frame Delay Variation

Jitter or Frame Delay Variation is defined as the variation in delay for two consecutive frames that are transmitted (one-way) from a network origination point and received at a network destination point (Spectrum Enterprise network hub to Spectrum Enterprise network hub). Spectrum Enterprise measures a sample set of frames every 5 minutes during a calendar month, unless measurement is not possible as a result of an Excluded Disruption, and determines the average delay between consecutive frames within each sample set. The monthly Jitter / Frame Delay Variation is calculated as the average of all of the frame delay variation measurements during such calendar month and is expressed in milliseconds (ms).

Jitter/Frame Delay Variation =	$\frac{\text{Sum of the Frame Delay Variation measurements for an On-Net Service}}{\text{Total \# of measurements for an On-Net Service}}$
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VIII. Network Maintenance

Maintenance Notice:

Customer understands that from time to time, Spectrum Enterprise will perform network maintenance for network improvements and preventive maintenance. In some cases, Spectrum Enterprise will need to perform urgent network maintenance, which will usually be conducted within the routine maintenance windows. Spectrum Enterprise will use reasonable efforts to provide advance notice of the approximate time, duration, and reason for any urgent maintenance outside of the routine maintenance windows.

Maintenance Windows:

Routine maintenance may be performed Monday – Friday 12 a.m. – 6 a.m. Local Time.

IX. Remedies Service Credit:

If the actual performance of an On-Net Service during any calendar month is less than the SLA Targets, and Customer has complied with the requirements in this SLA, then Customer may request credit(s) equal to the percentage(s) of the monthly Service Charges for only the Affected Service as set forth in the table below.

Any credits will be applied as an off-set against any amounts due from Customer to Spectrum Enterprise. All credits must be: (i) requested by the Customer within 30 days of a Service Disruption or Service Degradation by calling the Customer Care Center and opening a trouble ticket, and (ii) confirmed by Spectrum Enterprise engineering support teams as associated with a trouble ticket and as failing to meet the applicable SLA Targets.

Service Availability	Mean Time to Repair (MTTR)		Latency/Frame Delay (Roundtrip)	Jitter/Frame Delay Variation	Packet Loss/Frame Loss
30%	>4 hours ≤ 7:59:59 Hours	4%	5%	5%	5%
	> 8 hours	10%			

Except as set forth below, the credits described in this SLA shall constitute Customer's sole and exclusive remedy, and Spectrum Enterprise's sole and exclusive liability, with respect to Spectrum Enterprise's failure to meet any SLA Targets. All SLA Targets are monthly measurements and Customer may request only one credit per SLA Target per month up to a maximum of 40% of the monthly Service Charges for the Affected Service. Customer shall not be eligible for credits exceeding four (4) months of Customer's applicable monthly Service Charges during any calendar year.

Chronic Priority 1 Outages:

If Customer experiences and reports three (3) separate Priority 1 Outages where the Downtime exceeds four (4) hours during each Priority 1 Outage within three (3) consecutive calendar months, then Customer may terminate the Affected Service without charge or liability by providing at least thirty (30) days written notice to Spectrum Enterprise; provided, however, that (i) Customer may only terminate the Affected Service; (ii) Customer must exercise its right to terminate the Affected Service by providing written notice to Spectrum Enterprise within thirty (30) days after the event giving rise to Customer's termination right; (iii) Customer shall have paid Spectrum Enterprise all amounts due at the time of such termination for all Services provided by Spectrum Enterprise pursuant to the Agreement, and (iv) the foregoing termination right provides the sole and exclusive remedy of Customer and the sole and exclusive liability of Spectrum Enterprise for chronic Priority 1 Outages and Customer shall not be eligible for any additional credits. Termination will be effective forty-five (45) days after Spectrum Enterprise's receipt of such written notice of termination.

SPECTRUM'S TERMS AND CONDITIONS

Please click here for a copy of our Terms and Conditions:

<https://enterprise.spectrum.com/legal/se-terms-and-conditions.html>