

VENDOR NAME: FRONTIER

SERVICE/PRODUCT NAME: FRONTIER Switched Ethernet Service

SERVICE/PRODUCT DESCRIPTION:

FRONTIER Switched Ethernet Service is a transport service that enables you to use Ethernet Virtual Local Area Network (VLAN) technology to transport traffic among two or more disparate metro locations as if they were part of the same LAN. FRONTIER Switched Ethernet Service uses industry-standard native interfaces for Ethernet- and IP-based networks, so you can transport data without protocol conversion or special equipment. FRONTIER Switched Ethernet Service provides scalable bandwidth, which means that you can select from numerous increments to match your bandwidth requirements.

The service uses a new Multiprotocol Label Switching (MPLS) network that we designed exclusively for Ethernet traffic. This carrier-grade network makes the FRONTIER Switched Ethernet Service highly reliable; in fact, the service provides network availability and data performance Service Level Agreements (SLAs).

We offer FRONTIER Switched Ethernet Service in speeds from 2 Mbps to 10 Gbps, with options for redundancy as well as real-time Class of Service (CoS) and other CoS network performance choices. In addition, the service includes flexible configuration options to meet various network needs.

The service integrates with the award-winning FRONTIER BusinessDirect® portal. This portal gives you network management functions such as eMap (electronic mapping), SLA management, global performance reporting, and eMaintenance.

FRONTIER Switched Ethernet Service provides Ethernet transport via fiber, copper, and a switched Ethernet core network. You choose from three configurations: point-to-point (between two ports), point-to-multipoint (hub-and-spoke design with virtual connections to remote sites), and multipoint-to-multipoint (three or more ports in any-to-any connectivity). Port connections are available at 100 Mbps, 1,000 Mbps (1 Gbps), and 10,000 Mbps (10 Gbps). For these speeds, we offer various Committed Information Rates (CIRs) to meet your bandwidth needs. After we connect your ports to our switched Ethernet network, we can link them via point-to-point Ethernet Virtual Connection (EVC) or, for three or more ports, use a multipoint arrangement. You can order each port in a port- or Virtual Local Area Network (VLAN)-based configuration. Port-based service sends data to EVC ports regardless of VLAN tags, while VLAN-based service routes Ethernet frames according to VLAN instructions.

The solution offers many features and benefits.

FRONTIER Switched Ethernet Service gives you these features:

- **Any-to-Any Connections**—Ethernet Virtual Connections (EVCs) let you configure any port so that it connects to any other port in your network. As a result, a single Ethernet connection can provide your locations with various remote resources, such as virtual connections to a primary and backup data host.
- **Five Classes of Service (CoS) with Service Level Agreements (SLAs)**—CoS with SLAs let you tune an Ethernet connection to each application's specific needs, such as the real-time and interactive requirements of delay-sensitive voice, video, and financial transactions. This capability enables your high-bandwidth network to efficiently and reliably transport interactive voice and video, which helps ensure that your employees can successfully communicate and collaborate.
- **Bandwidth Speeds from 2 Mbps to 10 Gbps**—You can choose from three physical port speeds and 20 logical channel Committed Information Rates (CIRs) for your switched Ethernet service. This feature helps you meet your current network needs and lets you easily increase your network's speed and capacity in the future. So, instead of losing time because of slow network response, you can help ensure that vital information is available when and where you need it.

The solution includes several components.

FRONTIER Switched Ethernet Service uses these components:

- **Customer Port Connection**—provides your physical access to FRONTIER Switched Ethernet Service. You order the port according to the physical connection that you must align with your equipment and/or the maximum bandwidth speed that you need. Options include a 100 Mbps port (with a 100 BaseT interface), a 1,000 Mbps port (1,000 BaseT, 1 Gbps LX/LH, and SX), and a 10,000 Mbps port (10 Gbps Base-SR/SW and 10 Gbps BASE-LR/LW).
- **Committed Information Rate (CIR)**—specifies the bandwidth available on your port connection and serves as the port's logical channel. CIRs, which cannot exceed port speed, are available per customer port connection in increments from 2 to 10,000 Mbps.
- **Class of Service (CoS)**—lets you select the performance priority for each port. CoS establishes the network performance characteristics that are suitable for certain applications. These characteristics include Real-Time, Interactive, Business Critical High, Business Critical-Medium, and Non-Critical High.
- **Ethernet Virtual Circuit**—establishes a logical connection that enables Ethernet traffic to flow between ports that you designate in point-to-point and multipoint configurations.

The solution gives you several options.

The following options are available with FRONTIER Switched Ethernet Service:

- **Additional Media Access Control (MAC) Addresses**—increases MAC address limits (applicable only to multipoint Ethernet Virtual Circuits [EVCs]) from 50 to 100 MACs per multipoint EVC on each port.
- **Regenerator**—detects and re-transmits Ethernet signals on port connections that we provide over long distances. We use regenerating technology when the fiber facility distance between central offices exceeds our network design limits.
- **FRONTIER BusinessDirect®**—provides you with a network management feature without an additional charge. BusinessDirect functions include a network inventory map, alarm surveillance, Service Level Agreement (SLA) reporting, performance reporting, maintenance trouble reporting and status updates, and the capability to request credit for SLA conditions.
- **Alternate Serving Switch**—lets you order a port that we serve from a FRONTIER Switched Ethernet Service switch that is different from the switch that would normally serve your premises. This arrangement supports designs that must meet certain redundancy requirements.

SERVICE Levels:

This document provides information regarding FRONTIER Switched Ethernet Service and its comprehensive service level agreements and objectives as described in the FRONTIER Interstate Access Guidebook.

Introduction

The following sections summarize the Service Level Agreements (SLAs) applicable to standard FRONTIER Switched Ethernet configurations only. SLAs provide customers with end-to-end performance objectives that are backed by service credits if minimum performance standards are not met by FRONTIER. SLAs are subject to change and FRONTIER will notify the State and negotiate mutually acceptable revisions if necessary.

1. Overall Service

FRONTIER Switched Ethernet Service will be offered with throughput thresholds based on the service configuration provided to the customer. Service availability and performance is subject to technical limitations and available facilities. All service designs will be verified prior to order to help ensure correct provisioning and maintenance.

2. Allowance for Interruption

In case of an interruption to service, if not due to the negligence of the customer or the customer's end user or other causes beyond FRONTIER's reasonable control, the customer may be eligible for credit as summarized below.

Service is considered to be interrupted when it becomes unusable to the customer because of a failure of a facility component used to furnish service and must result in the complete loss of service by the customer. An interruption period starts when an inoperative service is reported to FRONTIER and ends when the service is operative.

The credit allowance for an interruption or for a series of interruptions shall be calculated based on the applicable monthly rate for the port (or ports) which were interrupted, including the other rate elements associated with that port (CIR, regenerator, etc.). The credit amount applicable in a given month shall not exceed 100% of the monthly recurring charge for the port and associated rate elements. No credit shall be applicable to other ports on the network that were uninterrupted, even if they were unable to connect to an interrupted port.

No credit shall be allowed for an interruption period of less than 30 minutes. The customer shall be credited for an interruption of 30 minutes or more at the rate of 1/1440 of the monthly charges for the facility or service for each period of 30 minutes or fraction thereof that the interruption continues after the initial 30 minute interruption. Exclusions may apply when interruption is caused or impacted by factors beyond FRONTIER control.

3. Connections

A Network Availability Service Level Agreement of at least 99.99% per month, including the local loop, is provided by FRONTIER. This equates to not more than 4.32 minutes of downtime per month (based on a 30-day month), excluding maintenance windows and other appropriate exclusions (see *Exclusions* following). Network Availability is calculated as the percentage of time that the FRONTIER Switched Ethernet network is capable of accepting and delivering customer data during the measurement period. The calculation for Network Availability for a given calendar month is as follows:

$$\begin{aligned} \text{Network Availability} = & \\ & \frac{24 \text{ hours} \times \text{days in month} \times 60 \text{ minutes} \times \text{number of customer sites]} \\ & - \text{network outage time (measured in minutes)}}{[24 \text{ hours} \times \text{days in month} \times 60 \text{ minutes} \times \text{number of customer sites}]} \end{aligned}$$

- As noted in the above formula, all ports included in a customer's network are utilized in calculating Network Availability.
- The customer is responsible for (1) notifying FRONTIER within 45 days after the end of the month when the service parameter within the calendar month falls below the committed level, and (2) requesting a service credit.
- Upon verification by FRONTIER that the actual service performance for that parameter was less than the committed level, the customer will be provided a service credit equal to 10% of the Monthly Recurring Charge (MRC) for all affected ports.

4. SLA Measurement Definitions for Classes of Service

FRONTIER Switched Ethernet ports include a choice among multiple Classes of Service. Each Class of Service contains performance objectives based on the priority of traffic through the network. Higher level Classes of Service receive higher priority thru the network allowing higher level SLAs.

The measurements associated with these SLAs include the following categories:

- **Latency:** Latency is measured by averaging sample measurements taken during a calendar month between the NTE to which the customer ports are attached (i.e. end to end) based on one-way traffic traversing the NTE and the network. The SLA target for Latency is to be not more than that specified in the SLA table. Note: Latency may vary on ports with Real Time CIR of 10 Mbps and below and such ports are excluded from calculations that determine whether the latency SLA is met.
- **Jitter:** Jitter is measured by averaging sample measurements taken during a calendar month between the NTE to which the customer ports are attached (i.e. end to end), based on one-way traffic traversing the NTE and the network. The SLA target for Jitter is to be not more than that specified in the SLA table.
- **Packet Delivery Rate (PDR):** Packet Delivery Rate is measured by averaging sample measurements taken during a calendar month between the NTE to which the customer ports are attached (i.e. end to end), based on one-way traffic traversing the NTE and the network. The SLA target for PDR is to be not less than the applicable percentage specified in the SLA table.

Class of Service	Service Measurement		
	Latency (one-way)	Jitter	Packet Delivery Rate (PDR)
Real Time	5 ms	3 ms	99.995%
Interactive	13 ms	10 ms	99.95%
Business Critical – High	20 ms	n/a	99.9%
Business Critical - Medium	30 ms	n/a	99.9%
Non-Critical High	50 ms	n/a	99.5%
Non-Critical Low ¹	n/a	n/a	n/a

¹This CoS is only offered as part of the Per Packet Class of Service serving arrangement..

Reporting and Remedies for Class of Service SLAs

Class of Service SLAs are provided for FRONTIER Switched Ethernet Service. If FRONTIER fails to meet service parameters defined for a given Class of Service, a service credit will be offered to the customer if certain conditions are met:

- The customer is responsible for (1) notifying FRONTIER within 45 days after the end of the month when the service parameter falls below (or above) the committed level, and (2) requesting a service credit.
- Upon notification by the customer that the actual service performance for that parameter was worse than the committed level, FRONTIER has 30

days to correct the problem.

- If after one month, the service performance for that parameter is still failing to meet the committed level, the Customer will be provided a service credit equal to 25% of the monthly recurring charge for all affected ports (for each of the SLAs other than Network Availability). Only one such credit, per port, shall be applied per calendar month.
- Packet Delivery Rate, Latency and Jitter calculations will be measured only when the FRONTIER Switched Ethernet network is available.
- Real Time EVCs between ports that are connected with an inter-Central Office facilities path extending more than 200 miles are not subject to the Real Time Latency SLA and are excluded from calculations that determine whether the Latency SLA is met.
- Latency may vary on ports with Real Time CIR of 10 Mbps or below and Real Time EVCs on such ports are excluded from calculations that determine whether the latency SLA is met.

If and when FRONTIER offers SLA reporting via on-line tools, the procedures to depict performance or request credit may be modified accordingly at that time.

5.Exclusions for all SLAs

FRONTIER will be excused from providing Service Level Agreement credits should any of the following conditions occur:

- Any cause beyond FRONTIER's reasonable control (force majeure events) including, but not limited to, acts of war, civil disturbances, acts of civil or military authorities or public enemies, earthquakes, hurricanes, floods, fires, storms, tornadoes, explosions, lightning, power surges or failures, fiber cuts, strikes or labor disputes
- All SLAs are offered across FRONTIER's network. The failures of any components beyond the local facility including the Network Interface (NI), the CSU/DSU/Channel band/Extended Demarcation are excluded from the SLA calculation.
- Data loss during FRONTIER's scheduled maintenance window.
- Data exceeding subscribed Committed Information Rate.
- Failures attributed to facilities or equipment provided by customer or its contractors, equipment vendors, another local exchange carrier or inter-exchange carrier.
- Any type of Customer Network Management functionality is not included in SLAs.

6.Maximum Credit for SLAs or Service Interruptions

The total credit amount of any allowances for interruptions and SLA credits applicable in a given month shall not exceed 100% of the monthly recurring charge for the port

and associated rate elements.

7. Service Level Objective (SLO)

FRONTIER Switched Ethernet Service offers the following Service Level Objectives

- Mean Time to Repair (MTTR): 4 hours. end-to-end, including the local loop
- Installation: Mutually agreed upon due date established on location by location basis based on fiber and equipment availability, site readiness and negotiated project schedule

No service credits or other remedies are associated with these SLOs.

8. Customer Responsibilities

In order to deploy FRONTIER Switched Ethernet service at a customer location, and to successfully transport customer data across the FRONTIER Switched Ethernet network, the customer will need to adhere to specific guidelines as to the space, power, conduit and other physical aspects of providing the service, and the data formatting and configuration recommendations to ensure maximum Ethernet compatibility with the FRONTIER Switched Ethernet service. These responsibilities are described in detail in the FRONTIER **Customer Site Preparation** and the FRONTIER **Customer Data Format Requirements documents**. Both documents are available from a FRONTIER representative. These requirements, while not specifically part of this service level agreement, describe factors that impact FRONTIER's ability to meet these service level objectives. These factors include:

- Traffic Shaping: To ensure maximum throughput efficiency, traffic shaping should be enabled on the customer's network equipment.
 - When traffic policing is applied on the FRONTIER Switched Ethernet network, traffic shaping is required in order to ensure that packets are not dropped when entering the network
 - If shaping is not turned on, the FRONTIER Switched Ethernet network will randomly drop traffic if the customer exceeds the subscribed amount of CIR for that connection. Most routers on the market should support traffic shaping, which makes it easy to implement in its simplest form.
 - FRONTIER Switched Ethernet offers scalable service connection rates (CIR) from 2 Mbps to 10 Gbps, providing great flexibility as long as the customer can shape their traffic. If customers are not able to shape their traffic, they should subscribe to service that aligns with their physical port (i.e. 10/100/1000 Mbps) to ensure maximum throughput. **Failure to comply with this recommendation could result in reduced throughput and performance.**
- MAC Address limitations: For Ethernet Virtual Connections (EVCs) that are configured as point-to-point, there are no limits to the number of MAC addresses associated with that connection. For EVCs that are multipoint, there is a maximum of 50 MAC addresses associated with the EVC. Customers may subscribe to an optional feature increasing the limit to 100

MAC addresses per multipoint EVC. Customers may use routers to limit the number of MAC addresses presented to the FRONTIER Switched Ethernet Network.

- Multicast / Broadcast protocols: For Ethernet Virtual Connections (EVCs) that are configured as point-to-point, there are no limits to the volume of broadcast or multicast packets up to the subscribed CIR. For EVCs that are multipoint, there is a maximum of 2 Mbps of aggregate broadcast or multicast traffic. Packets dropped by traffic controls will be excluded from SLA calculations. FRONTIER recommends that customers enable controls for multicast, broadcast and unknown unicast traffic within the customer network(s).

SERVICE AVAILABILITY/LIMITATIONS:

Service is generally available in Connecticut.

VENDOR NAME: FRONTIER (SBC)

SERVICE NAME: FRONTIER Switched Ethernet Service (ASE)

A 2% credit will be issued monthly against the items ordered from this Product Schedule per the FRONTIER (SBC SNET) Master Agreement

Activity (Add, Delete, Change)	Date of Vendor Request	Date Approved By DAS	Item	Item Code	Description of Service/Equipment	Unit	Non-Recurring Monthly Cost	Recurring Monthly Cost	
Add	09/22/15	02/10/16	1	EYQEX	100 Mbps Port-Basic Service	port/ access	\$0.00	\$260.00	
Add	09/22/15	02/10/16	2	EYQFX	1 Gbps Port-Basic Service	port/ access	\$0.00	\$400.00	
Add	09/22/15	02/10/16	3	EYQGX	10 Gbps Port-Basic Service	port/ access	\$0.00	\$3,000.00	
Add	09/22/15	02/10/16	4	R6E2X	2Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$116.00	
Add	09/22/15	02/10/16	5	R6E2X	2Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$120.00	
Add	09/22/15	02/10/16	6	R6E2X	2Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$144.00	
Add	09/22/15	02/10/16	7	R6E2X	2Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$170.00	
Add	09/22/15	02/10/16	8	R6E2X	2Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$184.00	
Add	09/22/15	02/10/16	9	R6E4X	4Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$136.00	
Add	09/22/15	02/10/16	10	R6E4X	4Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$140.00	
Add	09/22/15	02/10/16	11	R6E4X	4Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$164.00	
Add	09/22/15	02/10/16	12	R6E4X	4Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$186.00	
Add	09/22/15	02/10/16	13	R6E4X	4Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$200.00	
Add	09/22/15	02/10/16	14	R6EAX	5Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$172.00	
Add	09/22/15	02/10/16	15	R6EAX	5Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$180.00	
Add	09/22/15	02/10/16	16	R6EAX	5Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$200.00	
Add	09/22/15	02/10/16	17	R6EAX	5Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$220.00	
Add	09/22/15	02/10/16	18	R6EAX	5Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$236.00	
Add	09/22/15	02/10/16	19	R6E8X	8Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$212.00	
Add	09/22/15	02/10/16	20	R6E8X	8Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$220.00	
Add	09/22/15	02/10/16	21	R6E8X	8Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$238.00	
Add	09/22/15	02/10/16	22	R6E8X	8Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$254.00	
Add	09/22/15	02/10/16	23	R6E8X	8Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$272.00	
Add	09/22/15	02/10/16	24	R6EBX	10Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$248.00	
Add	09/22/15	02/10/16	25	R6EBX	10Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$260.00	
Add	09/22/15	02/10/16	26	R6EBX	10Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$300.00	
Add	09/22/15	02/10/16	27	R6EBX	10Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$340.00	
Add	09/22/15	02/10/16	28	R6EBX	10Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$364.00	
Add	09/22/15	02/10/16	29	R6EDX	20Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$344.00	
Add	09/22/15	02/10/16	30	R6EDX	20Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$360.00	
Add	09/22/15	02/10/16	31	R6EDX	20Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$400.00	
Add	09/22/15	02/10/16	32	R6EDX	20Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$440.00	

VENDOR NAME: FRONTIER (SBC)

SERVICE NAME: FRONTIER Switched Ethernet Service (ASE)

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Activity (Add, Delete, Change)	Date of Vendor Request	Date Approved By DAS	Item	Item Code	Description of Service/Equipment	Unit	Non-Recurring Monthly Cost	Recurring Monthly Cost	
Add	09/22/15	02/10/16	33	R6EDX	20Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$472.00	
Add	09/22/15	02/10/16	34	R6EHX	50Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$392.00	
Add	09/22/15	02/10/16	35	R6EHX	50Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$410.00	
Add	09/22/15	02/10/16	36	R6EHX	50Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$450.00	
Add	09/22/15	02/10/16	37	R6EHX	50Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$490.00	
Add	09/22/15	02/10/16	38	R6EHX	50Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$528.00	
Add	09/22/15	02/10/16	39	R6ELX	100Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$456.00	
Add	09/22/15	02/10/16	40	R6ELX	100Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$480.00	
Add	09/22/15	02/10/16	41	R6ELX	100Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$520.00	
Add	09/22/15	02/10/16	42	R6ELX	100Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$560.00	
Add	09/22/15	02/10/16	43	R6ELX	100Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$600.00	
Add	09/22/15	02/10/16	44	R6ENX	150Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$524.00	
Add	09/22/15	02/10/16	45	R6ENX	150Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$550.00	
Add	09/22/15	02/10/16	46	R6ENX	150Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$575.20	
Add	09/22/15	02/10/16	47	R6ENX	150Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$600.00	
Add	09/22/15	02/10/16	48	R6ENX	150Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$644.00	
Add	09/22/15	02/10/16	49	R6EQX	250Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$600.00	
Add	09/22/15	02/10/16	50	R6EQX	250Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$630.00	
Add	09/22/15	02/10/16	51	R6EQX	250Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$710.00	
Add	09/22/15	02/10/16	52	R6EQX	250Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$790.00	
Add	09/22/15	02/10/16	53	R6EQX	250Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$848.00	
Add	09/22/15	02/10/16	54	R6ESX	400Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$674.00	
Add	09/22/15	02/10/16	55	R6ESX	400Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$708.00	
Add	09/22/15	02/10/16	56	R6ESX	400Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$788.00	
Add	09/22/15	02/10/16	57	R6ESX	400Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$868.00	
Add	09/22/15	02/10/16	58	R6ESX	400Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$932.00	
Add	09/22/15	02/10/16	59	R6ETX	500Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$724.00	
Add	09/22/15	02/10/16	60	R6ETX	500Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$760.00	
Add	09/22/15	02/10/16	61	R6ETX	500Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$840.00	
Add	09/22/15	02/10/16	62	R6ETX	500Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$920.00	
Add	09/22/15	02/10/16	63	R6ETX	500Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$988.00	
Add	09/22/15	02/10/16	64	R6EUX	600Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$848.00	

VENDOR NAME: FRONTIER (SBC)

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Add	09/22/15	02/10/16	65	R6EUX	600Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$890.00	
Add	09/22/15	02/10/16	66	R6EUX	600Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$984.00	
Add	09/22/15	02/10/16	67	R6EUX	600Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$1,050.00	
Add	09/22/15	02/10/16	68	R6EUX	600Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$1,124.00	
Add	09/22/15	02/10/16	69	R6EZX	1000Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$980.00	
Add	09/22/15	02/10/16	70	R6EZX	1000Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$1,030.00	
Add	09/22/15	02/10/16	71	R6EZX	1000Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$1,110.00	
Add	09/22/15	02/10/16	72	R6EZX	1000Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$1,190.00	
Add	09/22/15	02/10/16	73	R6EZX	1000Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$1,276.00	
Add	09/22/15	02/10/16	74	R61BX	2000Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$1,824.00	
Add	09/22/15	02/10/16	75	R61BX	2000Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$1,920.00	
Add	09/22/15	02/10/16	76	R61BX	2000Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$1,988.00	
Add	09/22/15	02/10/16	77	R61BX	2000Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$2,056.00	
Add	09/22/15	02/10/16	78	R61BX	2000Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$2,200.00	
Add	09/22/15	02/10/16	79	R61CX	2500Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$2,188.00	
Add	09/22/15	02/10/16	80	R61CX	2500Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$2,300.00	
Add	09/22/15	02/10/16	81	R61CX	2500Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$2,382.00	
Add	09/22/15	02/10/16	82	R61CX	2500Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$2,464.00	
Add	09/22/15	02/10/16	83	R61CX	2500Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$2,640.00	
Add	09/22/15	02/10/16	84	R61FX	4000Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$2,584.00	
Add	09/22/15	02/10/16	85	R61FX	4000Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$2,720.00	
Add	09/22/15	02/10/16	86	R61FX	4000Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$2,816.00	
Add	09/22/15	02/10/16	87	R61FX	4000Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$2,912.00	
Add	09/22/15	02/10/16	88	R61FX	4000Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$3,116.00	
Add	09/22/15	02/10/16	89	R61HX	5000Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$3,040.00	
Add	09/22/15	02/10/16	90	R61HX	5000Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$3,200.00	
Add	09/22/15	02/10/16	91	R61HX	5000Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$3,312.00	
Add	09/22/15	02/10/16	92	R61HX	5000Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$3,424.00	
Add	09/22/15	02/10/16	93	R61HX	5000Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$3,664.00	
Add	09/22/15	02/10/16	94	R61NX	7500Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$3,992.00	
Add	09/22/15	02/10/16	95	R61NX	7500Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$4,200.00	
Add	09/22/15	02/10/16	96	R61NX	7500Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$4,348.00	

VENDOR NAME: FRONTIER (SBC)

SERVICE NAME: FRONTIER Switched Ethernet Service (ASE)

A 2% credit will be issued monthly against the items ordered from this Product Schedule per the FRONTIER (SBC SNET) Master Agreement

Activity (Add, Delete, Change)	Date of Vendor Request	Date Approved By DAS	Item	Item Code	Description of Service/Equipment	Unit	Non-Recurring Monthly Cost	Recurring Monthly Cost
Add	09/22/15	02/10/16	97	R61NX	7500Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$4,496.00
Add	09/22/15	02/10/16	98	R61NX	7500Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$4,812.00
Add	09/22/15	02/10/16	99	R61RX	9500Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$4,752.00
Add	09/22/15	02/10/16	100	R61RX	9500Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$5,000.00
Add	09/22/15	02/10/16	101	R61RX	9500Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$5,176.00
Add	09/22/15	02/10/16	102	R61RX	9500Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$5,352.00
Add	09/22/15	02/10/16	103	R61RX	9500Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$5,728.00
Add	09/22/15	02/10/16	104	R61SX	10000Mb CIR / Basic CoS-Non Critical HIGH	Mbps	\$0.00	\$4,940.00
Add	09/22/15	02/10/16	105	R61SX	10000Mb CIR / Basic CoS-Business Critical Medium	Mbps	\$0.00	\$5,200.00
Add	09/22/15	02/10/16	106	R61SX	10000Mb CIR / Basic CoS-Business Critical HIGH	Mbps	\$0.00	\$5,382.00
Add	09/22/15	02/10/16	107	R61SX	10000Mb CIR / Basic CoS-Interactive	Mbps	\$0.00	\$5,564.00
Add	09/22/15	02/10/16	108	R61SX	10000Mb CIR / Basic CoS-RealTime	Mbps	\$0.00	\$5,956.00
Add	09/22/15	02/10/16	109	EYQLX	100 Mbps Port-PPCoS Service	port/ access	\$0.00	\$312.00
Add	09/22/15	02/10/16	110	EYQMX	1 Gbps Port-PPCoS Service	port/ access	\$0.00	\$480.00
Add	09/22/15	02/10/16	111	EYQNX	10 Gbps Port-PPCoS Service	port/ access	\$0.00	\$3,600.00
Add	09/22/15	02/10/16	112	R6E2X	2Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$116.00
Add	09/22/15	02/10/16	113	R6E2X	2Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$120.00
Add	09/22/15	02/10/16	114	R6E2X	2Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$170.00
Add	09/22/15	02/10/16	115	R6E2X	2Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$184.00
Add	09/22/15	02/10/16	116	R6E4X	4Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$136.00
Add	09/22/15	02/10/16	117	R6E4X	4Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$140.00
Add	09/22/15	02/10/16	118	R6E4X	4Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$186.00
Add	09/22/15	02/10/16	119	R6E4X	4Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$200.00
Add	09/22/15	02/10/16	120	R6EAX	5Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$172.00
Add	09/22/15	02/10/16	121	R6EAX	5Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$180.00
Add	09/22/15	02/10/16	122	R6EAX	5Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$220.00
Add	09/22/15	02/10/16	123	R6EAX	5Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$236.00
Add	09/22/15	02/10/16	124	R6E8X	8Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$212.00
Add	09/22/15	02/10/16	125	R6E8X	8Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$220.00
Add	09/22/15	02/10/16	126	R6E8X	8Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$254.00
Add	09/22/15	02/10/16	127	R6E8X	8Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$272.00
Add	09/22/15	02/10/16	128	R6EBX	10Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$248.00
Add	09/22/15	02/10/16	129	R6EBX	10Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$260.00
Add	09/22/15	02/10/16	130	R6EBX	10Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$340.00
Add	09/22/15	02/10/16	131	R6EBX	10Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$364.00
Add	09/22/15	02/10/16	132	R6EDX	20Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$344.00
Add	09/22/15	02/10/16	133	R6EDX	20Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$360.00

VENDOR NAME: FRONTIER (SBC)

SERVICE NAME: FRONTIER Switched Ethernet Service (ASE)

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Activity (Add, Delete, Change)	Date of Vendor Request	Date Approved By DAS	Item	Item Code	Description of Service/Equipment	Unit	Non-Recurring Monthly Cost	Recurring Monthly Cost
Add	09/22/15	02/10/16	134	R6EDX	20Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$440.00
Add	09/22/15	02/10/16	135	R6EDX	20Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$472.00
Add	09/22/15	02/10/16	136	R6EHX	50Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$392.00
Add	09/22/15	02/10/16	137	R6EHX	50Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$410.00
Add	09/22/15	02/10/16	138	R6EHX	50Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$490.00
Add	09/22/15	02/10/16	139	R6EHX	50Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$528.00
Add	09/22/15	02/10/16	140	R6ELX	100Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$456.00
Add	09/22/15	02/10/16	141	R6ELX	100Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$480.00
Add	09/22/15	02/10/16	142	R6ELX	100Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$560.00
Add	09/22/15	02/10/16	143	R6ELX	100Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$600.00
Add	09/22/15	02/10/16	144	R6ENX	150Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$524.00
Add	09/22/15	02/10/16	145	R6ENX	150Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$550.00
Add	09/22/15	02/10/16	146	R6ENX	150Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$600.00
Add	09/22/15	02/10/16	147	R6ENX	150Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$644.00
Add	09/22/15	02/10/16	148	R6EQX	250Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$600.00
Add	09/22/15	02/10/16	149	R6EQX	250Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$630.00
Add	09/22/15	02/10/16	150	R6EQX	250Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$790.00
Add	09/22/15	02/10/16	151	R6EQX	250Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$848.00
Add	09/22/15	02/10/16	152	R6ESX	400Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$674.00
Add	09/22/15	02/10/16	153	R6ESX	400Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$708.00
Add	09/22/15	02/10/16	154	R6ESX	400Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$868.00
Add	09/22/15	02/10/16	155	R6ESX	400Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$932.00
Add	09/22/15	02/10/16	156	R6ETX	500Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$724.00
Add	09/22/15	02/10/16	157	R6ETX	500Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$760.00
Add	09/22/15	02/10/16	158	R6ETX	500Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$920.00
Add	09/22/15	02/10/16	159	R6ETX	500Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$988.00
Add	09/22/15	02/10/16	160	R6EUX	600Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$848.00
Add	09/22/15	02/10/16	161	R6EUX	600Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$890.00
Add	09/22/15	02/10/16	162	R6EUX	600Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$1,050.00
Add	09/22/15	02/10/16	163	R6EUX	600Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$1,124.00
Add	09/22/15	02/10/16	164	R6EZX	1000Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$980.00
Add	09/22/15	02/10/16	165	R6EZX	1000Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$1,030.00
Add	09/22/15	02/10/16	166	R6EZX	1000Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$1,190.00
Add	09/22/15	02/10/16	167	R6EZX	1000Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$1,276.00
Add	09/22/15	02/10/16	168	R61BX	2000Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$1,824.00
Add	09/22/15	02/10/16	169	R61BX	2000Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$1,920.00
Add	09/22/15	02/10/16	170	R61BX	2000Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$2,056.00
Add	09/22/15	02/10/16	171	R61BX	2000Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$2,200.00
Add	09/22/15	02/10/16	172	R61CX	2500Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$2,188.00
Add	09/22/15	02/10/16	173	R61CX	2500Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$2,300.00

VENDOR NAME: FRONTIER (SBC)

SERVICE NAME: FRONTIER Switched Ethernet Service (ASE)

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Activity (Add, Delete, Change)	Date of Vendor Request	Date Approved By DAS	Item	Item Code	Description of Service/Equipment	Unit	Non-Recurring Monthly Cost	Recurring Monthly Cost
Add	09/22/15	02/10/16	174	R61CX	2500Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$2,464.00
Add	09/22/15	02/10/16	175	R61CX	2500Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$2,640.00
Add	09/22/15	02/10/16	176	R61FX	4000Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$2,584.00
Add	09/22/15	02/10/16	177	R61FX	4000Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$2,720.00
Add	09/22/15	02/10/16	178	R61FX	4000Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$2,912.00
Add	09/22/15	02/10/16	179	R61FX	4000Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$3,116.00
Add	09/22/15	02/10/16	180	R61HX	5000Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$3,040.00
Add	09/22/15	02/10/16	181	R61HX	5000Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$3,200.00
Add	09/22/15	02/10/16	182	R61HX	5000Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$3,424.00
Add	09/22/15	02/10/16	183	R61HX	5000Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$3,664.00
Add	09/22/15	02/10/16	184	R61NX	7500Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$3,992.00
Add	09/22/15	02/10/16	185	R61NX	7500Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$4,200.00
Add	09/22/15	02/10/16	186	R61NX	7500Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$4,496.00
Add	09/22/15	02/10/16	187	R61NX	7500Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$4,812.00
Add	09/22/15	02/10/16	188	R61RX	9500Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$4,752.00
Add	09/22/15	02/10/16	189	R61RX	9500Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$5,000.00
Add	09/22/15	02/10/16	190	R61RX	9500Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$5,352.00
Add	09/22/15	02/10/16	191	R61RX	9500Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$5,728.00
Add	09/22/15	02/10/16	192	R61SX	10000Mb CIR / PPCoS-Business Data	Mbps	\$0.00	\$4,940.00
Add	09/22/15	02/10/16	193	R61SX	10000Mb CIR / PPCoS-Critical Data	Mbps	\$0.00	\$5,200.00
Add	09/22/15	02/10/16	194	R61SX	10000Mb CIR / PPCoS-MultiMedia Standard	Mbps	\$0.00	\$5,564.00
Add	09/22/15	02/10/16	195	R61SX	10000Mb CIR / PPCoS-MultiMedia High	Mbps	\$0.00	\$5,956.00
Add	09/22/15	02/10/16	196	EYQH	100Mb Regenerator		\$0.00	\$436.00
Add	09/22/15	02/10/16	197	EYQJ	1Gb Regenerator		\$0.00	\$436.00
Add	09/22/15	02/10/16	198	EYQK	10Gb Regenerator		\$0.00	\$1,760.00
Add	09/22/15	02/10/16	199	M2CB	Additional Mac Address 251-500		\$0.00	\$2.00
Add	09/22/15	02/10/16	200	ORCM	Administrative Charge per Order		\$0.00	\$0.00
Add	09/22/15	02/10/16	201	EY7A	Enhanced MultiCast (Per Port)		\$0.00	\$56.00
Add	09/22/15	02/10/16	202	1HHE	Alternate Serving Switch (0-10 miles)		\$600.00	\$130.00
Add	09/22/15	02/10/16	203	1HHE	Alternate Serving Switch (11-25 miles)		\$600.00	\$260.00
Add	09/22/15	02/10/16	204	1HHE	Alternate Serving Switch (26-35 miles)		\$600.00	\$880.00
Add	09/22/15	02/10/16	205	1HHE	Alternate Serving Switch (36-50 miles)		\$600.00	\$1,200.00

NOTE: Grey highlighted items are no longer available. They have been either deleted, changed, and/or no longer apply.