

The terms and conditions within this IP VPN Service Level Attachment ("SLA") are hereby incorporated into the IP VPN Schedule(s) executed by and between Pinellas County ("Customer") and Frontier Communications of America, Inc. ("Frontier"). The terms this SLA apply exclusively to the IP VPN network elements directly within Frontier's management responsibility and control ("On-Net Service").

# 1. Operational Service Performance Objectives.

- A. **Availability:** On-Net Service availability is coupled with the underlying transport availability. "Availability" is defined as the ability to exchange IP packets with the IP VPN configuration via the On-Net Service IP VPN port(s). Availability is measured by the number of minutes during a calendar month that the On-Net Service is operational, divided by the total minutes in that month's billing cycle. Calculation is based on the stop-clock method referenced by date-time of the Customer-reported Service Outage, and ends when Frontier re-establishes compliant port operation. Frontier's On-Net Service Availability Target is 99.99%. A "Service Outage" occurs when On-Net Service is completely unavailable.

In the event of a Service Outage of greater than a total of 4 minutes and 35 seconds in one calendar month, subject to the terms of this SLA, Customer will be eligible for a credit as follows:

- i. **Credits:** For the initial 2 hour period (or part) of Service Outage, Frontier will credit Customer 10% of the applicable MRC for the applicable month, for all affected On-Net Service ports. For each successive 1 hour period of Service Outage, Frontier will credit Customer 5% of the applicable MRC for the applicable month for all affected On-Net Service port.
- ii. **Chronic Outage:** If an Individual circuit experiences either (i) a single Service Outage of greater than twenty-four (24) hours in any calendar month, (ii) 3 or more Service Outages 8 hours or more during a rolling 6 month period, or (iii) 15 separate Service Outages (any duration) within a calendar month, then Customer may terminate the affected circuit without penalty (written notice to Frontier required within 15 days of the event triggering the termination right).  
If Customer terminates more than 25% of the Services as a result of Chronic Outage, or the aggregate MRCs of the terminated circuits is greater than 50% of the MRCs for all Frontier-provisioned IP VPN circuits, then Customer may terminate all of its Frontier IP VPN circuits with 30 days written notice, with no further liability other than payment to Frontier for Services rendered prior to the effective date of the termination.

- B. **IP VPN Performance Metrics:** The following metrics and targets are used as an operational overview of IP VPN network quality. For clarification, this relates only to the Frontier network up to the point of demarcation. These metrics are reported on a monthly basis. A "Service Degradation" occurs if the On-Net Service falls to perform in compliance with the following targets, measured as an average over the previous billing month.

- i. **Packet Delivery:** Frontier guarantees average, monthly, successful packet delivery based on CoS between any 2 Provider Edge routers (PEs) on the Frontier IP VPN network. The Packet Delivery rate is the percentage of packets successfully transported between any two PE router ports on the Frontier IP VPN network that transit the Frontier IP-over-MPLS network.

CoS Level	Packet Delivery % per Site Pair
Basic and Basic Plus	≥ 99.9%
Enhanced and Enhanced Plus	≥ 99.99%
Premium and Premium Plus	≥ 99.999%

- **Credits:** If the actual, monthly, average Packet Delivery level on Frontier's IP network falls to meet these performance objectives, Frontier will credit Customer 10% of the applicable MRC for the applicable month for the affected On-Net Service ports.
- **Excessive Service Degradation:** If Customer experiences Packet Delivery performance of less than 99.9% for Premium CoS, or 99.0% for Enhanced CoS, for a period of 2 or more hours, the duration of the Service degradation will be considered a Service Outage providing Customer with the SLA credit outlined in Section 1(A) in lieu of the standard Packet Delivery credit. This provision does not apply to (i) Basic CoS, (ii) service provisioned on third party networks, or (iii) when the lower packet delivery rate results from Customer sending more Premium CoS traffic than allocated in total (Committed plus Reserved) on a given port.

- ii. **Latency:** Frontier guarantees an average (in a calendar month) roundtrip latency between the Provider Edge routers (PEs) on the Frontier IP VPN network within Customer's VPN of no more than 95 ms.
- Latency is measured between ingress and egress ports on the Frontier network (PE routers) and does not apply to local access circuits. Latency is measured by, and SLA credits are based on, Frontier's network management system measurements.
  - Credits:** If the actual, average, monthly, roundtrip latency exceeds these parameters, Frontier will credit Customer 10% of the applicable MRC for the month for the affected customer ports.
  - Excessive Service Degradation:** If Customer experiences Latency performance more than 3 times the guaranteed performance level for a period of 2 or more hours, this time also will be considered a Service Outage, providing Customer with the SLA credit outlined in Section 1(A) in lieu of the standard Latency credit.
- iii. **Packet Jitter:** Frontier guarantees average (in a calendar month) Jitter (inter-packet differential) performance on transmissions between any 2 Provider Edge routers (PEs) on the Frontier IP VPN network within Customer's VPN based on the following table:

CoS Level	Average Jitter per Site Pair
Basic and Basic Plus	≤ 30 ms
Enhanced and Enhanced Plus	≤ 15 ms
Premium and Premium Plus	≤ 5 ms

- Credits:** If the actual, monthly, average Jitter on Frontier's IP network fails to meet these performance guarantees, Frontier will credit Customer 10% of the applicable MRC for the applicable month for the affected On-Net Service ports.
  - Excessive Service Degradation:** If Customer experiences Jitter performance degradation of more than 3 times the applicable threshold (above) for a sustained period of 2 or more hours, this time period also will be considered a Service Outage providing Customer with the SLA credit outlined in Section 1(A) in lieu of the standard Packet Delivery credit. This provision does not apply to Basic CoS, to IP VPN service provisioned on third party networks.
- C. **Mean Time to Repair & Resolution:** Frontier commits to restore IP VPN Service within an average of four (4) hours with respect to Service Outages in any month. MTTR is calculated by referencing the reported Trouble Ticket of the Service Outage. MTTR is calculated as follows:
- MTTR formula = The total duration of the Service Outage, excluding Customer delays (in hours) for all Trouble Tickets in a month / total number of Trouble Tickets.
- Credits:** If MTTR exceeds 4 hours in a given month, Frontier will credit Customer 10% of the applicable MRC for the month for the affected On-Net Service ports, identified in Frontier logged Trouble Tickets for that month.

## 2. Service Impairment Reporting Procedure.

- A. A "Service Impairment" means either a Service Outage or a Service Degradation. Frontier will maintain a point-of-contact for Customer to report a Service Impairment, twenty-four (24) hours a day, seven (7) days a week.
- B. When Customer believes that a Service Impairment has occurred, Customer must contact Frontier's Network Operations Center ("NOC") at 1-(800) 608-8029 to identify the Service Impairment and initiate an investigation of the cause ("Trouble Ticket"). Responsibility for Trouble Ticket initiation rests solely with Customer. Once the Trouble Ticket has been opened, the appropriate Frontier departments will initiate diagnostic testing and isolation activities to determine the source. In the event of a Service Impairment, Frontier and Customer will cooperate to restore the Service. If the cause of a Service Impairment is a failure of Frontier's equipment or facilities, Frontier will be responsible for the repair. If the degradation is caused by a factor outside the control of Frontier, Frontier will cooperate with Customer to conduct testing and repair activities at Customer's cost and at Frontier's standard technician rates.
- C. A Service Impairment begins when a Trouble Ticket is initiated and ends when the affected On-Net Service is operating in accordance with the performance metrics outlined in Section 1B; provided that if the Customer reports a problem with a Service but declines to allow Frontier access for testing and repair, the Service will be considered to be impaired, but will not be deemed a Service Impairment subject to these terms.

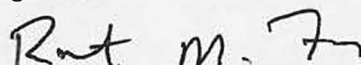



- D. If Frontier dispatches a field technician to perform diagnostic troubleshooting and (i) the source of the problem is the Customer's equipment or facilities, or (ii) the reported problem cannot be replicated ("No Trouble Found"), or (iii) the failure was caused by the acts or omissions of Customer or its employees, affiliates, contractors, agents, representatives or invitees; then Customer will pay Frontier for all related time and material costs at Frontier's standard rates. **Dispatch of a field technician will be subject to the County's prior approval.**

### 3. Credit Request and Eligibility.

- A. In the event of a Service Impairment, Customer may be entitled to a credit against the applicable On-Net Service MRC if (i) Customer initiated a Trouble Ticket; (ii) the Service Impairment was caused by a failure of Frontier's equipment, facilities or personnel; (iii) the Service Impairment warrants a credit based on the terms of Section 1; and (iv) Customer requests the credit within thirty (30) days of last day of the calendar month in which the Service Impairment occurred.
- B. Credits do not apply to Service Impairments caused, in whole or in part, by one or more of the following: (i) the acts or omissions of Customer or its employees, affiliates, contractors, agents, representatives or invitees; (ii) failure of power; (iii) the failure or malfunction of non-Frontier equipment or systems; (iv) circumstances or causes beyond the control of Frontier or its representatives; (v) a Planned Service Interruption; or (vi) Emergency Maintenance. In addition, Customer will not be issued credits for a Service Impairment during any period in which Frontier is not provided with access to the Service location or any Frontier network element, or while Customer is testing and/or verifying that the problem has been resolved. "Planned Service Interruption" means any Service Impairment caused by scheduled maintenance, planned enhancements or upgrades to the Frontier network; provided that Frontier will endeavor to provide at least five (5) business days' notice prior to any such activity if it will impact the Services provided to Customer. "Emergency Maintenance" means maintenance which, if not performed promptly, could result in a serious degradation or loss of service over the Frontier network.
- C. Notwithstanding anything to the contrary, all credit allowances will be limited to maximum of 25% of the MRC for the impacted On-Net Service, per month. For cascading failures, only the primary or causal failure is used in determining Service Impairment and associated consequences. Only one service level component metric can be used for determining Service credits. In the event of the failure of the Service to meet multiple metrics in a one-month period, the highest Service credit will apply, not the sum of multiple Service credits.
- D. The final determination of whether Frontier has or has not met SLA metrics will be based on Frontier's methodology for assessment of compliant performance. Service Outage credits are calculated based on the duration of the Service Outage, regardless of whether such Service Outage is the result of failure of the Service to meet one or more performance metric.
- E. Credit allowances, if any, will be deducted from the charges payable by Customer hereunder and will be expressly indicated on a subsequent bill to Customer. Credits provided pursuant to this SLA shall be Customer's sole remedy with regard to Service Impairments.

This SLA constitutes the entire agreement between the parties pertaining to the subject matter herein and supersedes all prior oral and written proposals, correspondence and memoranda with respect thereto, and may not be modified in any manner except by mutual written agreement.

<Insert Frontier's Name from FSA>	<Insert Customer's Name>
Frontier's Signature: 	Customer's Signature: 
Printed Name: Robert M. Fox	Printed Name: Mark S. Woodard
Title: Regional Sales Manager	Title: County Administrator
Date: 8-23-17	Date: September 15, 2017

APPROVED AS TO FORM  
By:   
Office of the County Attorney