MASTER SERVICE AGREEMENTSERVICE ATTACHMENT 1
AMENDMENT 4
BY AND BETWEEN
CHARTER COMMUNICATIONS OPERATING, LLC
AND
THE STATE OF OHIO, DEPARTMENT OF ADMINISTRATIVE SERVICES

This **Amendment Number 4 to Service Attachment 1** ("Amendment") is entered into by and between **the State of Ohio, Department of Administrative Services** ("the "State") and **Charter Communications Operating, LLC** ("Spectrum"), as successor in interest to Time Warner Entertainment Company, L.P. ("Vendor"), is effective as of the Amendment Effective Date (defined below) and sets forth additional and amended terms and conditions that shall apply to Service Attachment 1 dated September 2, 2009 (as amended) ("Service Attachment 1") of the Master Service Agreement (sometimes referred to as MSA0004 for the State's internal purposes) of September 2, 2009 (as amended) ("the Agreement") by and between the State and Vendor. The State and Vendor are referred to herein as a "Party" and collectively as the "Parties." Capitalized terms used herein without definition shall have the respective meanings ascribed to them in the Agreement.

WHEREAS, the State and Spectrum mutually desire to amend Service Attachment 1 as further described herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby mutually agree as follows:

1.   The tables set forth in Section 5.1.3 of Service Attachment 1, as amended by Amendments 1 and 2 to Service Attachment 1, are hereby deleted in their entirety and replaced with the table set forth immediately below. The table added by Amendment 3 to Service Attachment 1 remains in full force and effect.

E-Line Point-to-Point Ethernet Connection Service Pricing Schedule

Speed	Month to Month	12 Month Term	24 Month Term	36 Month Term	48 Month Term	60 Month Term	Non-Recurring Installation Fee	Non-Recurring Construction Costs
5 Mbps	$253	$243	$223	$203	$192	$182	Waived	ICB
10 Mbps	$394	$378	$347	$315	$299	$284	Waived	ICB
20 Mbps	$450	$432	$396	$360	$342	$324	Waived	ICB
50 Mbps	$534	$513	$470	$428	$406	$385	Waived	ICB
100 Mbps	$760	$729	$669	$568	$485	$407	Waived	ICB
200 Mbps	$943	$905	$830	$755	$645	$550	Waived	ICB
500 Mbps	$998	$958	$878	$798	$759	$650	Waived	ICB
1 Gbps	$1,098	$1,053	$966	$878	$834	$790	Waived	ICB
>1 Gbps	ICB	ICB	ICB	ICB	ICB	ICB	Waived	ICB

2.   Sections 7, 8, 9, 10 and 11 of Service Attachment 1 are hereby deleted in their entirety and replaced with Spectrum's Ethernet Service Level Agreement provided in Exhibit A attached hereto. As of the Effective Date of this Amendment, any references to the deleted Sections in this paragraph shall mean the Ethernet Service Level Agreement in Exhibit A.

3.   In the event of a conflict between the terms of the Agreement and the terms of this Amendment, the terms of this Amendment shall control. Except as herein modified, all terms, provisions and conditions of the Agreement, including Service Attachment 1, shall remain in full force and effect, and shall govern the obligations of the State and Spectrum.

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IN WITNESS WHEREOF, the Parties have executed this Amendment, which is effective on the date the State's duly authorized representative signs it on behalf of the State ("Amendment Effective Date").

CHARTER COMMUNICATIONS OPERATING, LLC BY: CHARTER COMMUNICATIONS, INC., ITS MANAGER	STATE OF OHIO, DEPARTMENT OF ADMINISTRATIVE SERVICES
Daniel Roche Daniel Roche (Aug 10, 2020 18:23 EDT)	*Matthew M. Damschroder /Fmw*
Signature	Signature
Daniel Roche	Matthew M. Damschroder
Printed Name	Printed Name
VP, Spectrum Enterprise Sales	DAS Director
Title	Title
Aug 10, 2020	8/21/2020
Date	Effective Date

Exhibit A
ETHERNET SERVICE LEVEL AGREEMENT

Spectrum Enterprise
Ethernet Service Level Agreement

This document outlines the Service Level Agreement ("SLA") for fiber-based Spectrum Enterprise Ethernet Service and Spectrum Enterprise Cloud Connect Service (individually the "Service" and collectively the "Services"). Capitalized words used, but not defined herein, shall have the meanings given to them in the Agreement.

This SLA is a part of, and hereby incorporated by reference into the Master 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. Performance tier goals ("SLA Targets") are set forth in the table(s) below.

Ethernet Services SLA Targets presented below are measured end to end (i.e. from any two applicable Customer's edge or network interface devices at the Subscribing Entity's location provided in the Agreement "Service Location") at the individual circuit or service level, and any applicable credits are issued for the affected circuit or service (the "Affected Service").

The Cloud Connect Service SLA Target for Availability is measured between Spectrum Enterprise's network interface device (NID) located at the Customer location and the point of physical handoff of the Service to the Cloud Service Provider (the "Gateway Point").

I. SLA Targets for Ethernet and Cloud Connect Services:

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

1 "On-Net" includes circuits that are provided by Spectrum Enterprise to Service Locations directly from the Spectrum Network.

2 "Off-Net" includes circuits that are provided to geographic locations that may be outside or inside Spectrum Enterprise service areas and are provided by third party service providers and not from the Spectrum Network.

Spectrum Enterprise Cloud Connect Gateway Point SLAs	
Availability	> 99.99%

II. Priority Classification:

"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

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Events. Notwithstanding anything to the contrary in the Agreement, any service issues beyond the connectivity to the Cloud Service Provider is not covered by this SLA.

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 Service 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.

Spectrum Enterprise will classify Service problems as follows:

Priority	Criteria
Priority 1	• 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	• Service Degradation where Customer is able to use the Service and is not prepared to release it for immediate testing.
Priority 3	• 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 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

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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 a 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 Service.

MTTR per calendar month is calculated as follows:

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

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 Service. The roundtrip delay is expressed in milliseconds (ms).

Latency / Frame Delay is calculated as follows:

Latency / Frame Delay=
$$\frac{\textbf{Sum of the roundtrip delay measurements for a Service}}{\textbf{Total \# of measurements for a Service}}$$

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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.

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 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).

$$\text{Jitter / Frame Delay Variation} = \frac{\text{Sum of the Frame Delay Variation measurements for a Service}}{\text{Total \# of measurements for a Service}}$$

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 Credit:

If the actual performance of a 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 the monthly recurring charges for the Affected Service as set forth in the table below. Any credit to be applied will be off-set against any 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 thirty (30) days of the calendar month in which the SLA Target was missed. Spectrum Enterprise will exercise commercially reasonable efforts to respond to such credit requests within 30 days of receipt thereof.

Service Availability	Mean Time To Restore ("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.

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