

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®)

29.1 Service Description

A. General Description

(C)

OPT-E-MAN Service offers networking capabilities utilizing Optical Ethernet, which is the use of Ethernet LAN packets running over optical fiber within or as access to a service provider's network. OPT-E-MAN provides an integrated service consisting of fiber and/or copper transport (at the Telephone Company's discretion) connected to an Ethernet device capable of switching. OPT-E-MAN provides dedicated bandwidth ranging from 2 Mbps up to 1 Gbps. Customers may connect to the service using a router, bridge or switch. Customers that are connecting to OPT-E-MAN service in the Telephone Company's Central Office must follow the terms and conditions as stated in Section 18 of Tariff F.C.C. No. 1.

OPT-E-MAN supports a logical point-to-point, point to multi-point or multi-point to multi-point configuration and enables the customer to connect two or more locations together when utilizing a point-to-point or point-to-multipoint configuration, and a minimum of three or more locations when utilizing a multipoint-to-multipoint configuration within the same LATA or Metropolitan Area Network (MAN) as if they were segments on the same LAN. OPT-E-MAN Service supports full duplex communication.

Once the facilities necessary to provide OPT-E-MAN, as specified in this section, are deployed in other LATAs, customers may purchase OPT-E-MAN in those LATAs. To the extent a customer would like to purchase OPT-E-MAN Service in any LATA where the necessary facilities to provide OPT-E-MAN Service have not been deployed, the customer can request special construction for this service in accordance with this Guidebook.

OPT-E-MAN Service provides the customer the capability to connect to the Telephone Company's network via one of the following standard network interfaces as described in Section 29.1.B and 29.1.D:

(C)

- 10/100 Mbps Base T
- 1 Gbps Ethernet (1000 Base SX, 1000 Base LX/LH or 1000 Base ZX)

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

29.1 Service Description (Cont'd)

A. General Description (Cont'd)

(C)

OPT-E-MAN includes the port and connection to the Ethernet network, Committed Information Rate (CIR) (Bandwidth assessed per speed increments ranging from 2 Mbps to 1 Gbps), and Ethernet Virtual Connections (EVC) and is offered in three grades of service: Bronze, Silver and a Best Effort service.

Customized Switched Metro Ethernet Service (CSME)^{/1/}, as described in Section 29.3, is a sell and deploy product which provides a switched metropolitan Ethernet network and is available in 10 Mbps, 100 Mbps or 1 Gbps connections. A CSME Best Effort port cannot be combined with an OPT-E-MAN Best Effort, Bronze, and/or Silver port in the same network. Service Level Agreements (SLAs) are not available on CSME.

/1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

A. General Description (Cont'd)

(N)

OPT-E-MAN will be offered as follows:

Basic Connection

The OPT-E-MAN Basic Connection provides the customer with a switched, logical point-to-point connection and point to multipoint connection between the customer locations using a physical connection to the Ethernet network, and virtual connections through the Ethernet network.

Basic Plus Connection

The OPT-E-MAN Basic Plus Connection provides the customer with a switched, logical point-to-point, point to multi-point, and/or multi-point to multi-point connection between the customer locations using a physical connection to the Ethernet network, and virtual connections through the Ethernet network.

Committed Information Rate (CIR)

The customer must select CIR usage and at least one EVC to enable service.

CIR usage will have the following Grades of Service selection:

Best Effort

Intended for non-critical data applications with more tolerance for delay and/or data applications that are lower in priority, i.e. LAN traffic. There are no service parameters associated with this Grade of Service.

Best Effort Grade of Service is intended for non-critical applications. Standard Telephone Company procedures will be used to provision and maintain the service. No specific performance assurances are provided in connection with the Best Effort Grade of Service.

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/1/ Material now appears on Page 3.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

A. General Description (Cont'd)

Committed Information Rate (CIR) (Cont'd)

CIR usage will have the following Grades of Service selection:
(Cont'd)

(N)

Bronze

Intended for data applications with more tolerance for delay and/or data applications that are lower in priority, i.e. LAN traffic. Service parameters associated with this Grade of Service are PDR and Latency. Latency is defined as the amount of time necessary for a typical frame to traverse the Ethernet network. Latency is measured by averaging sample measurements taken during a calendar month from Network Terminating Equipment (NTE) to NTE to which the customer ports are attached and is measured when the network is available for use by the customer.

/1/

Silver

Supports applications that require minimal loss and low latency variation (jitter). The service parameters associated with this Grade of Service are PDR, Latency and Jitter. Jitter is calculated as the delay variance of the packets transported across the network or the delta between two consecutive packets and is measured when the network is available for use by the customer.

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/1/ Material formerly appeared on Page 3.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd) (N)

B. Service Provisioning

1. Manner of Provisioning

- a. Access into the Telephone Company's network must conform to industry standards and specifications as described in technical publications TP-76200MP and SBC-TP-76412-000.
- b. The Telephone Company will provision up to and including the Network Terminating Equipment (NTE), which is on the Telephone Company's side of the demarcation point.
- c. NTE installed by the Telephone Company on the customer's premises shall remain the property of the Telephone Company. The customer or user may not rearrange, disconnect, remove, attempt to repair, remote test or interface with any network equipment installed by the Telephone Company without prior written consent of the Telephone Company.
- d. The customer shall be responsible for obtaining permission for the Telephone Company's agents or employees to enter the customer's premises at a mutually agreed upon time for the purpose of installing, inspecting, repairing, or removing (upon termination of the service) the equipment of the Telephone Company.

2. Limitations

- a. OPT-E-MAN is only available within the same Local Access Transport Areas (LATAs).
- b. The Telephone Company shall not be responsible for error correction. Error correction is the responsibility of the customer's OPT-E-MAN compatible CPE.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

B. Service Provisioning (Cont'd)

2. Limitations (Cont'd)

(N)

- c. The selected CIR bandwidth usage may not exceed the physical bandwidth/speed of that port. If a customer orders 1 Gbps of CIR on a single port, the Telephone company reserves the right to use up to 10% of bandwidth for traffic management.
- d. OPT-E-MAN does not allow for oversubscription. The total bandwidth (speed sum of the EVCs) on a single port cannot exceed the selected CIR of that port.
- e. The Telephone Company shall not be responsible for installation, operation, maintenance, or adapting OPT-E-MAN to the technological requirements of any specific CPE.
- f. If a customer connects to the Ethernet network using a bridge or switch, only 50 MAC addresses will be initially available per port. Additional addresses may be purchased in blocks of 50 at an additional charge, with a limit of 100 MAC addresses total per port. The rates are described in Section 29.2.D Rates and Charges.
- g. OPT-E-MAN service requiring a cross connect in a Telephone Company central office is only available with a 1 Gbps connection.
- h. Data exiting the network through the customer port or ports is excluded from SLA calculations to the extent that it exceeds the CIR for those ports.

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/1/ Material now appears on Page 5.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd)

B. Service Provisioning (Cont'd)

2. Limitations (Cont'd) (N)

i. The Telephone Company will use controls to limit the amount of multicast and broadcast traffic to protect the OPT-E-MAN network against traffic storms. The maximum throughput of multicast traffic will be set at 1 Mbps per customer port for multipoint-to-multipoint service. There is no restriction on point-to-point or point-to-multipoint multicast traffic. The maximum throughput of broadcast traffic will be set at 200 packets per second per port for multipoint-to-multipoint service and 10 Mbps per port for point-to-point and point-to-multipoint service. Packets dropped by traffic controls will be excluded from SLA calculations. The Telephone Company recommends that customers enable controls for multicast, broadcast, and unknown unicast traffic within the customer network(s). /1/

j. OPT-E-MAN Service may be available in a meet-point billing arrangement involving another Incumbent Local Exchange Carrier (ILEC) (sometimes also referred to as an Independent Company or ICO), where suitable facilities exist and where appropriate procedures for such arrangement have been put in place between the Telephone Company and the other ILEC. When the Telephone Company and another ILEC jointly provision an OPT-E-MAN Service meet-point arrangement, the ILEC involved shall provision and bill the portion of service located in its operating territory at that ILEC's applicable rates. /1/

3. Customer Interface Options /2/

<u>Interface</u>	<u>Handoff</u>	<u>Bandwidth Limit</u>	<u>Distance Limit</u>
10/100 Mbps Base T	Copper	100 Mbps	100 M
1000 Base SX	Fiber	1 Gbps	550 M
1000 Base LX/LH	Fiber	1 Gbps	550 M – 10 Km
1000 Base ZX	Fiber	1 Gbps	70 Km

 /2/

/1/ Material formerly appeared on Page 5.

/2/ Material formerly appeared on Page 6.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd) (N)

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/1/

C. Service Level Agreements (SLAs)

The Telephone Company is committed to maintain Network Availability of 99.95% per month, including the local loop which equates to less than 21.6 minutes of downtime per month, excluding maintenance windows.

Network Availability is calculated as the percentage of time that the Ethernet network is capable of accepting and delivering customer data during the measurement period. The calculation for Network Availability for a given month is as follows:

Network Availability = (24 hours x days in month x 60 x number of customer sites - network outage time) / (24 hours x days in month x 60 x number of customer sites)

The Telephone Company will meet the Network Availability, given the following terms and conditions:

- The customer must notify the Telephone Company when the service parameters within the calendar month fall below (or above) the committed level. (C)
- The customer must request a service credit within 45 days after the end of the month when the failure occurred. (C)
- Upon verification by the Company 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 for that service parameter for all affected ports. /2/ (C)

/2/

/1/ Material now appears on Page 5.1.

/2/ Material formerly appeared on Page 7.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd)

C. Service Level Agreements (SLAs) (Cont'd) (N)

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1. Grade of Service Guarantees

Grade of Service guarantees will exist for OPT-E-MAN Service if the Telephone Company fails to meet service parameters, such as Latency, PDR and Jitter, defined for each Grade of Service, given the following terms and conditions:

- The customer must notify the Telephone Company when the service parameters within the calendar month fall below (or above) the committed level.
- The customer must request a service credit within 45 days after the end of the month when the failure occurred.
- Upon verification by the Telephone Company that the actual service performance for that parameter was less than the committed level, the Telephone Company has one month to correct the problem.
- If after one month, the service performance for that parameter is still less than the committed level, the customer will be provided a service credit equal to 25% of the monthly recurring charge for that service parameter for all affected ports.

a. Packet Delivery Rate (PDR) Guarantee

The PDR guarantee is a percentage of total traffic from source Network Terminating Equipment (NTE) to the destination NTE to which the customer port is attached.

Bronze PDR = 99.5%

Silver PDR = 99.9%

Packet delivery is measured by averaging sample measurements taken during a calendar month from NTE to NTE to which the customer ports are attached when the OPT-E-MAN network is available for use by the customer.

/1/ Material now appears on Page 6.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

C. Service Level Agreements (SLAs) (Cont'd)

1. Grade of Service Guarantees (Cont'd)

(N)

b. Latency

The Telephone Company is committed to maintain delay across the Telephone Company's network at no more than a 18-27 ms (36-54 ms roundtrip) depending on grade of service for packets 1500 bytes or less.

Bronze Latency = 27 ms one way (54 ms roundtrip)
Silver Latency = 18 ms one way (36 ms roundtrip)
Best Effort = Not Available

Latency is measured by averaging sample measurements taken during a calendar month between NTE to which the customer ports are attached when the OPT-E-MAN network is available for use by the customer.

c. Jitter

Applicable only to the Silver Grade of Service, OPT-E-MAN is committed to maintain a jitter of less than 12 ms one-way end-to-end (including the local loop) within the Telephone Company's Ethernet network.

Jitter is measured by averaging sample measurements taken during a calendar month between NTE to which the customer ports are attached when the OPT-E-MAN network is available for use by the customer.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

C. Service Level Agreements (SLAs) (Cont'd)

(N)

2. Allowance for Service Interruptions

The OPT-E-MAN outage credits listed below are in lieu of, and not in addition to, the outage credit allowances provided for in the General Conditions Section of this Guidebook.

A service is interrupted when it becomes unusable to the customer because of a failure of a facility component used to furnish service under this Guidebook, or in the event that the protective controls applied by the Telephone Company result in the complete loss of service by the customer. An interruption period starts when an inoperative service is reported to the Telephone Company and the Telephone Company confirms that continuity has been lost, and ends when the service is operative.

In case of an interruption to OPT-E-MAN service, allowance for the period of interruption, if not due to the negligence of the customer or the customer's end user, shall be as follows: no credit shall be allowed for an interruption of less than 10 seconds. The customer shall be credited for an interruption of 10 seconds or more as follows: the credit shall be at the rate of 10/8640 of the monthly charges for the service for each period of 5 minutes or major fraction thereof that the interruption continues. The credit allowance(s) for service interruptions shall not exceed 100 percent of the applicable monthly rates.

The Telephone Company's failure to provide or maintain services under this Guidebook shall be excused by force majeure events such as, but not limited to, an earthquake, hurricane, flood, fire, storms, tornadoes, explosion, lightning, power surges or failure, fiber cuts, strikes or labor disputes, acts of war, civil disturbances, acts of civil or military authorities or public enemy, governmental orders, civil commotion, criminal actions taken against the Telephone Company, acts of God and other circumstances beyond the Telephone Company's reasonable control.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

C. Service Level Agreements (SLAs) (Cont'd)

2. Allowance for Service Interruptions (Cont'd)

(N)

a. When a Credit Allowance Does Not Apply

No credit allowance will be made for:

- Interruptions caused by the negligence of the Customer;
- Interruptions of a service due to the failure of equipment or systems provided by the Customer or parties other than the Telephone Company;
- Interruptions of a service during any period in which the Telephone Company is not afforded access to the premises where the service is terminated;
- Interruptions of a service when the Customer has released that service to the Telephone Company for maintenance purposes, to make rearrangements, or for the implementation of an order for a change in the service during the time that was negotiated with the Customer prior to the release of that service;
- No credit allowances will apply during a Telephone Company work stoppage;
- No credit allowance due to governmental orders, civil commotions, criminal actions taken against the Telephone Company, acts of God and other circumstances beyond the Telephone Company's reasonable control.

3. SLA Conditions

- a. SLAs will be offered at no charge to all customers with term agreements of 1 year or more. Month-to-month customers will continue to receive credits as described in Part 2, Section 2 of this Guidebook.
- b. SLAs will apply to all connection types.
- c. SLA credits will not exceed full monthly charges for affected network elements.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

C. Service Level Agreements (SLAs) (Cont'd)

(N)

4. SLA Exclusions

The Telephone Company will be excluded from providing any Service Level Agreement credits should any of the following conditions occur:

- a. Force major events such as, but not limited to an earthquake, hurricane, flood, fire, storms, tornadoes, explosion, lightning, power surges or failure, fiber cuts, strikes or labor disputes. Loss or damage resulting from any cause beyond the Telephone Company's reasonable control such as acts of war, civil disturbances, acts of civil or military authorities or public enemy.
- b. All SLAs are guaranteed end-to-end (hand-off at the customer demarcation to hand-off at the customer demarcation, including the local loop). The failures of any components beyond the demarcation point are excluded from SLA calculation.
- c. Data Loss during the Telephone Company's scheduled maintenance window.
- d. Data exceeding subscribed CIR.
- e. Failures attributed to facilities or equipment provided by customer or its contractors, equipment vendors, another local exchange carrier or inter-exchange carrier.

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/1/ Material now appears on Page 10.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)	(N)
29.1 Service Description (Cont'd)	(N)
D. OPT-E-MAN Configuration	/2/
The customer must order OPT-E-MAN service via an OPT-E-MAN standard interface as described in the following:	
- 10/100 Mbps Base T - a copper handoff with a bandwidth limitation of 100 Mbps	
- 1 Gbps Ethernet (1000 Base SX, 1000 Base LX/LH or 1000 Base ZX) - a fiber handoff with a bandwidth limitation of 1 Gbps	
The customer must select a Port Committed Information Rate (CIR) and one (1) Ethernet Virtual Connection (EVC) to enable service. The bandwidth usage (CIR) selected by the customer must be in service for at least 30 days before an increase or decrease in the bandwidth can be requested.	
The aggregate assigned Committed Information Rate (CIR) across all point-to-point and point-to-multipoint ICO Trunk Connections (EVCs) between any two customer locations, utilizing a Meet-Point GigE Trunk arrangement between the Telephone Company and a ILEC, cannot exceed 600 Mbps per Basic or Basic Plus Connections. ^{/1/}	/2/
The customer will have the option to order Bronze or Silver Grades of Service.	/3/
Network Terminating Equipment (NTE) will be placed at the customer's premises or Telephone Company central office as part of the OPT-E-MAN Service.	
- A total of 8 EVCs may be configured per Basic 10/100 Mbps port.	
- A total of 64 EVCs may be configured per Basic 1 Gbps port.	
- A total of 7 EVCs may be configured per Basic Plus 10/100 Mbps port.	
- A total of 63 EVCs may be configured per Basic Plus 1 Gbps port.	/3/
/1/ This provisioning requirement will only apply to new service installed after March 30, 2009.	/2/ /2/
/2/ Material formerly appeared on Page 10.	
/3/ Material formerly appeared on Page 11.	

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

D. OPT-E-MAN Configuration (Cont'd)

(N)

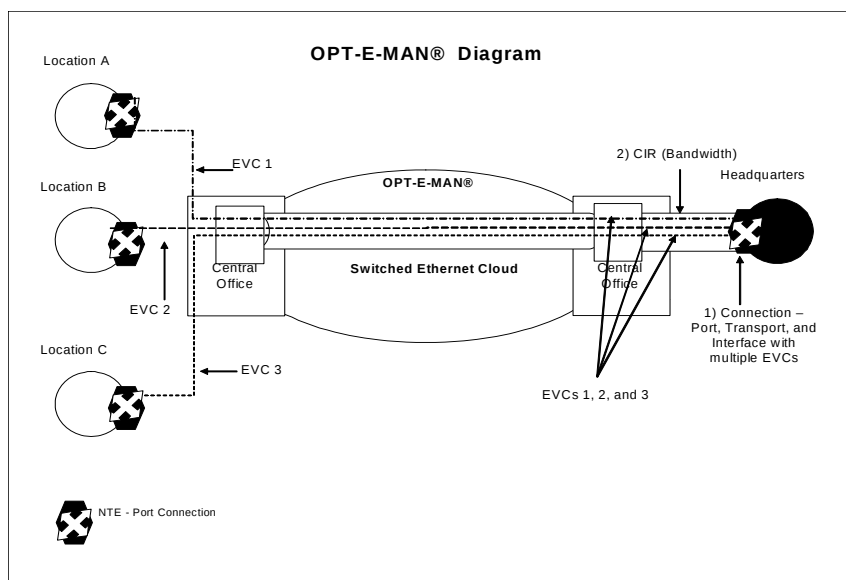
/1/

When EVCs are ordered, the customer must designate the portion of the CIR bandwidth assigned to each EVC. The CIR bandwidth for the EVCs range from 2 Mbps to 1000 Mbps in 1 Mbps increments. EVCs will be prioritized as Bronze or Silver. The originating and terminating ports must both have a CIR with Silver GoS for the EVC between the two ports to be prioritized with a Silver GoS. For point-to-point and point-to-multipoint connections, EVCs can be set in 1 Mbps increments from 2 Mbps to 600 Mbps. For multipoint-to-multipoint connections, EVCs can be set in 1 Mbps increments from 2 Mbps to 1 Gbps.

The aggregate assigned Committed Information Rate (CIR) across all Ethernet Virtual Connections (EVCs) between any two customer connections cannot exceed 600 Mbps per Basic or Basic Plus Connection.

The customer EVC order will designate the GoS of the CIR assigned connection and may not be higher than the GoS CIR assigned to any of the connecting ports.

An EVC must be in service for at least 30 days before any changes can be requested.



/1/ Material now appears on Page 10.1.

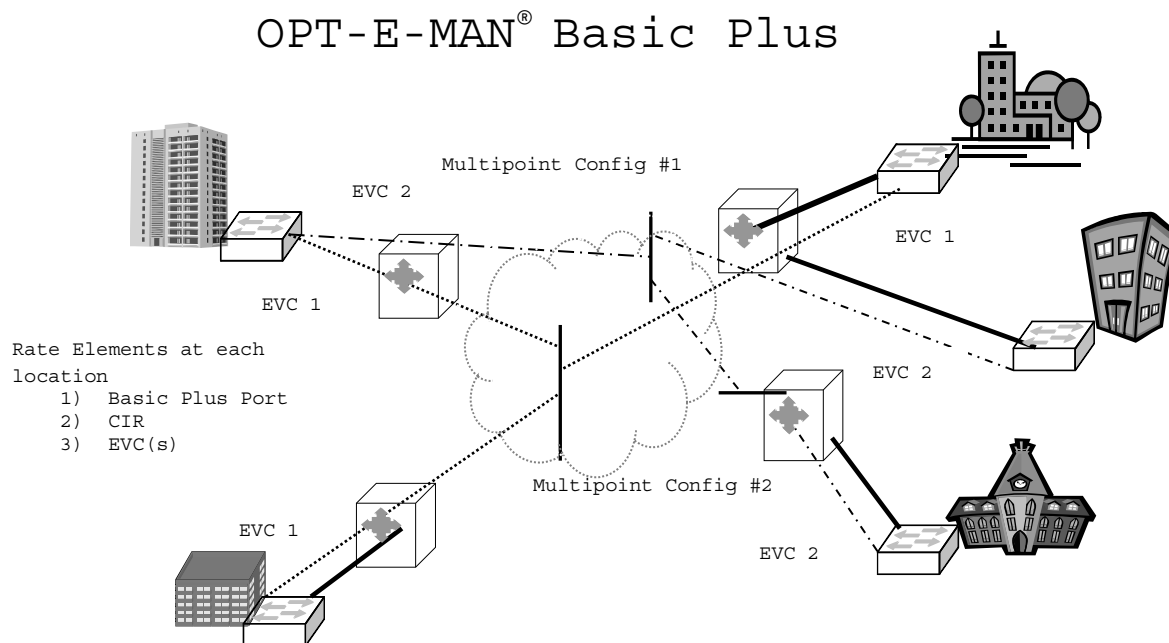
29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.1 Service Description (Cont'd)

D. OPT-E-MAN Configuration (Cont'd)

(N)



The service above has a port at each location (Basic Plus). Each Basic Plus port has a Committed Information Rate (CIR) that must be equal to or greater than the sum of the Ethernet Virtual Connections (EVCs) on that port. Basic Plus service can facilitate Point to Point, Point to Multipoint, or Multipoint to Multipoint as shown above. EVC1 and EVC2 represents Basic Plus Multipoint to Multipoint configurations, illustrating that each port in a multipoint configuration can transmit traffic to all other locations on the same multipoint configuration. Point to Point is a dedicated connection between two ports. Point to Multipoint is multiple point to point connections between several different ports. Multipoint to Multipoint is a connection between multiple designated ports on the OPT-E-MAN network.

E. Responsibility of the Customer

The customer is responsible for providing the compatible CPE to be used for the connection to the OPT-E-MAN Service. The customer is responsible for notifying the Telephone Company of any interruption in service.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd) (N)

F. Rate Elements

Connection

The OPT-E-MAN connection rate elements are assessed per interface at 10/100 Mbps or 1 Gbps Ethernet. The OPT-E-MAN connection rate element includes the physical connection from the customer demarc to the Ethernet network.

Committed Information Rate (CIR)

CIR is bandwidth assessed per speed increments ranging from 2 Mbps to 1 Gbps and is available in Bronze and Silver Grade of Service. OPT-E-MAN Best Effort service is available in CIR speeds of 2, 4 and 8 Mbps. (C)

Ethernet Virtual Connections (EVC)

EVCs must be ordered in increments between 2-600 Mbps (point-to-point and point-to-multi-point) or 2-1000 Mbps (multi-point to multi-point), not to exceed the CIR bandwidth ordered per connected port. CIR per EVC may be set in 1 Mbps increments.

Nonrecurring Charges

One-time charges that apply for specific work activity related to the provisioning of OPT-E-MAN Service, as described in Section 29.2.

Recurring Charges

Recurring charges are rates that apply each month or fraction thereof that the service is provided. Recurring rates apply to 12, 24, 36, or 60-month period under the terms and conditions of Term Pricing Plan (TPP), discussed in 29.1.H.

Month to Month Rates

Upon completion of a TPP, a customer's service will automatically convert to the Month-to-Month Rates unless the customer requests a new TPP.

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/1/ Material now appears on Page 13.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd) (N)

G. Optional Features /3/

Repeater (Circuit Regenerators)

Provide essential detection and retransmission of Ethernet signals. Repeaters will only be provided as required by the Telephone Company when actual fiber facility distance between customer designated premises and/or central office locations exceed design limits (as specified in technical publication SBC-TP-76412-000). Repeaters will be located exclusively in Telephone Company central offices.

Additional MAC Addresses

If a customer connects to the Ethernet network using a bridge or switch for Layer 2 connectivity, only 50 MAC addresses will be initially available per port. 50 additional addresses may be purchased at an additional charge, with a limit of 100 MAC addresses total per port.

/3/

Meet-Point Billing Options

Meet-Point, where available, may be offered in two configurations:

Direct LEC Connection is provisioned using standard OPT-E-MAN Basic or Basic Plus Connections^{/1/} and associated Committed Information Rate (CIR),^{/1/} plus mileage. The mileage is measured in airline miles from the OPT-E-MAN switch location to the ILEC (ICO) meet-point location.

GigE ICO Trunking Arrangement applies an Independent Company (ICO) Trunk Connection charge between the OPT-E-MAN switch to the meet-point that is shared with the ILEC (ICO) Ethernet switch. The ICO Trunk Connection charge is applied to each Customer Ethernet Virtual Channel (EVC) that is transported on the GigE Trunk backbone to the meet-point.^{/2/} The trunk mileage charge is from the OPT-E-MAN switch to the meet-point for mileage that exceeds 10 miles. The mileage charge is applicable to each ICO Trunk Connection (EVC) transported access the GigE Trunk.

/1/ Basic and/or Basic Plus Connection and CIR rate elements are available in Section 29.2.A and 29.2.B. Direct LEC Mileage rate elements are available in Section 29.2.E.3.a. (C)

/2/ ICO Trunk Connection and ICO Trunk Mileage rate elements are available in Section 29.2.E.3.b.

/3/ Material formerly appeared on Page 13.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd) (N)

H. Term Pricing Plan^{/1/} /2/

The OPT-E-MAN Term Payment Plan (TPP) is a term plan that allows a customer to purchase OPT-E-MAN Service over a 1, 2, 3 or 5-year period. During the term of the selected TPP, Telephone Company initiated recurring rate changes (increases or decreases) will automatically be applied to the monthly payments for the remaining months of the current TPP term however, the monthly recurring rate during the TPP term will never exceed the initial TPP rate. The TPP rates can be found in Section 29.2. The customer must commit to at least a 12-month TPP to qualify for the service.

The Administrative Charge is a non-recurring charge that applies for each Access Order. The Administrative Charge will be waived for all orders requesting new service. Administrative Charges for OPT-E-MAN are set forth in Section 29.2.D. /2/

/1/ All term plans for OPT-E-MAN Service which are established after November 9, 2013, for term lengths which are scheduled to expire at any time after October 1, 2018, will instead expire on October 1, 2018. All such services existing on or after October 1, 2018, will be provided on a month-to-month basis at the applicable, then current month-to-month rates. Notwithstanding anything to the contrary in the previous two sentences, this footnote does not apply to any term plans established after October 20, 2016.

/2/ Material formerly appeared on Page 14.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd) (N)
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I. Moves

Moves involve a change in the physical location of one of the following:

- Service rearrangement;
- Point of Termination at the customer's premises; or
- Customer's premises

Move charges are dependent upon the type of move requested by the customer.

a. Service Rearrangement (C)

Service rearrangements are changes to existing (installed) services, which do not result in a change in the minimum period requirements, as set forth in Part 2, Section 5 of this Guidebook.

b. Moves Within the Same Building (C)

When the move is to a new location within the same building, the Administration charge, all associated non-recurring charges, and Customer Connection charge for the service termination affected will apply. There will be no change in the minimum period requirements, as described in Part 2, Section 5 of this Guidebook.

c. Moves to a Different Building (C)

1. The customer may move one OPT-E-MAN location to another location in the same LATA and maintain the existing TPP term at the new location, or establish a new TPP equal to or greater than the remaining time left at the old location without assessment of early Termination Liability charges. No lapse in billing can occur. The customer's request for the disconnect at the existing location and the request for the Add at the new location must refer to each other and be issued at the same time. (C)
2. When the move is to a new location which is served out of a different serving wire center, the Administration charge, all associated non-recurring charges, and a new Customer Connection charge for the service will apply. There will be no change in the minimum period requirements. (C)
3. For all other moves to a different building and/or moves at more than one location, the customer will be liable for termination charges and will be treated as a discontinuance; therefore, start of service, all associated nonrecurring charges, and new minimum period requirements, as described in Part 2, Section 5 of this Guidebook, will apply. (C)

/1/ Material now appears on Page 13.2.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd) (N)

J. Expiration of OPT-E-MAN TPP term options

The OPT-E-MAN TPP is not available for renewal. At the expiration of the TPP term, the customer may select a new TPP term at the prevailing rates. If a customer does not wish to purchase a new OPT-E-MAN TPP at the expiration of the term, the customer's service will automatically convert to the prevailing month-to-month rates. The Telephone Company must receive written notice 45 days prior to termination.

K. Termination Liability

Termination liability charges will apply in the following cases:

In the event service (which consists of a Basic or Basic Plus Connection and a designated CIR) is terminated prior to the end of the TPP term, a termination charge utilizing the following termination percentage will apply:

Termination Billing Period Percentage: 50%

The monthly recurring rates exclude EVC(s) and additional MAC address charges.

The termination charge is calculated as follows:

(Monthly recurring rates, e.g. Basic Plus Connection 10/100 Mbps 1 Year \$660 + Bronze 10 Mbps CIR \$550 = \$1,210) X (Months remaining in TPP term) X (Termination Billing Period Percentage)

Example: A customer with \$1,210.00 in monthly rates terminates service with ten (10) months remaining in a three-year TPP term.

The termination liability charge would be calculated as follows:

$$(\$1,210.00) \times (10) \times (.50) = \$6,050.00$$

L. Termination Liability will not apply for a new customer's first two OPT-E-MAN Ports if the customer cancels service prior to the 61st calendar day of service.

This will allow customers to fully complete integration testing between AT&T's OPT-E-MAN Network and their own Ethernet Network without incurring termination penalties associated with a circuit under the TPP if they elect not to continue service.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.1 Service Description (Cont'd) (N)

M. Upgrades

An upgrade is considered an increase in speed/capacity and technology/functionality when comparing OPT-E-MAN Service to the new service. Customers will be permitted to upgrade to a higher-speed service provided by the Company, without incurring Termination Charges, given all of the following conditions are met:

1. The customer must issue a disconnect order for the existing OPT-E-MAN Service and place a service order for the new higher-speed service at the same locations such that there is no more than 90 days overlap in service.
2. The new higher-speed service term must be equal to or greater than the remaining time left on the existing OPT-E-MAN term.
3. The existing OPT-E-MAN Service must have been in service for a minimum period of 15 months for a 3-year term, or 18 months for a 5-year term.

Existing OPT-E-MAN Service with 1 or 2-year terms would not be eligible for this option.

Migration to AT&T Switched Ethernet ServiceSM

Customers subscribing to OPT-E-MAN Service may migrate to AT&T Switched Ethernet provided by the Telephone Company without incurring termination charges, subject to the following conditions:

1. The new AT&T Switched Ethernet Service and the existing OPT-E-MAN Service must be billed to the same customer of record at the same customer locations.
2. The customer's existing service must have been in place for at least 12 months.
3. The minimum term for the new service must be at least 12 months and must be equal to or greater than the number of months remaining in the customer's existing Term Payment Plan (TPP) term.
4. The speed (capacity/bandwidth) of the new service must be equal to or greater than that of the existing service.
5. The customer must issue a disconnect order for the replaced OPT-E-MAN Service to be effective within 90 days after the AT&T Switched Ethernet Service installation date. The disconnect and new orders must be coordinated through the Telephone Company.
6. If overlapping service is required, the period will be limited to not more than 90 days and billing will apply to both services during the time both services are available.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.2 Rates and Charges

A. Connection

<u>Connection</u>	<u>USOC</u>	<u>Month-to-Month</u>	<u>1 Year</u> ^{/2/}	<u>2 Year</u> ^{/2/}	<u>3 Year</u> ^{/2/}	<u>5 Year</u> ^{/2/}	<u>NRC</u> ^{/1/}	(C)
Basic								
10/100 Mbps Gigabit Ethernet	P9FEX	\$780.00	\$660.00	\$630.00	\$550.00	\$480.00	\$1,630.00	
	P9FGX	1,190.00	1,020.00	970.00	850.00	720.00	1,780.00	
Basic Plus								
10/100 Mbps Gigabit Ethernet	P9FFX	780.00	660.00	630.00	550.00	480.00	1,630.00	
	P9FHX	1,190.00	1,020.00	970.00	850.00	720.00	1,780.00	

B. Committed Information Rate (CIR)

1. Best Effort Grade of Service

<u>CIR Bandwidth Charges</u>	<u>USOC</u>	<u>Monthly Recurring Rate</u>	<u>NRC</u>
CIR Speed (Mbps)			
2	R6E2E	\$215.00	\$0.00
4	R6E4E	250.00	0.00
8	R6E8E	390.00	0.00

/3/

/1/ Nonrecurring charges will be waived for Basic and Basic Plus Connections for 2, 3 and 5-year terms for new service.

/2/ All term plans for OPT-E-MAN Service which are established after November 9, 2013, for term lengths which are scheduled to expire at any time after October 1, 2018, will instead expire on October 1, 2018. All such services existing on or after October 1, 2018, will be provided on a month-to-month basis at the applicable, then current month-to-month rates. Notwithstanding anything to the contrary in the previous two sentences, this footnote does not apply to any term plans established after October 20, 2016.

/3/ Material now appears on Page 17.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)				(N)
29.2 Rates and Charges (Cont'd)				
B. Committed Information Rate (CIR) (Cont'd)				(N)
2. Bronze Grade of Service				/1/
<u>CIR Bandwidth Charges</u>	<u>USOC</u>	<u>Monthly Recurring Rate</u>	<u>NRC</u>	
CIR Speed (Mbps)				
2	R6E2B	\$255.00	\$0.00	
4	R6E4B	300.00	0.00	
5	R6EAB	380.00	0.00	
8	R6E8B	465.00	0.00	
10	R6EBB	550.00	0.00	
20	R6EDB	760.00	0.00	
50	R6EHB	870.00	0.00	
100	R6ELB	1,020.00	0.00	
150	R6ENB	1,160.00	0.00	
250	R6EQB	1,330.00	0.00	
500	R6ETB	1,610.00	0.00	
600	R6EUB	1,890.00	0.00	
1000	R6EZB	2,180.00	0.00	/1/

/1/ Material formerly appeared on Page 17.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)

(N)

29.2 Rates and Charges (Cont'd)

B. Committed Information Rate (CIR) (Cont'd)

(N)

3. Silver Grade of Service

<u>CIR Bandwidth Charges</u>	<u>USOC</u>	<u>Monthly Recurring Rate</u>	<u>NRC</u>
CIR Speed (Mbps)			
2	R6E2C	\$425.00	\$0.00
4	R6E4C	465.00	0.00
5	R6EAC	550.00	0.00
8	R6E8C	635.00	0.00
10	R6EBC	720.00	0.00
20	R6EDC	930.00	0.00
50	R6EHC	1,040.00	0.00
100	R6ELC	1,190.00	0.00
150	R6ENC	1,500.00	0.00
250	R6EQC	1,670.00	0.00
500	R6ETC	1,950.00	0.00
600	R6EUC	2,230.00	0.00
1000	R6EZC	2,520.00	0.00

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.2 Rates and Charges (Cont'd) (N)

C. EVC Charges

<u>EVC CIR Range</u>	----- BRONZE -----		----- SILVER -----		<u>NRC per EVC</u>	(C)
	<u>USOC</u>	<u>Monthly Recurring Rate</u>	<u>USOC</u>	<u>Monthly Recurring Rate</u>		
2-100 Mbps	EVNAB	\$0.00	EVNAC	\$0.00	\$0.00	
101-500 Mbps	EVNBB	\$0.00	EVNBC	\$0.00	\$0.00	
501-1000 Mbps	EVNCB	\$0.00	EVNCC	\$0.00	\$0.00	

D. Other Charges

<u>Item</u>	<u>USOC</u>	<u>Recurring Charge</u>	<u>Nonrecurring Charge</u>
Administrative Charge, per order	ORCMX	N/A	\$51.00
Design and Central Office Connection Charge, per circuit	NRMCK	N/A	0.00
Customer Connection Charge, per termination	NRBBL	N/A	0.00

E. Optional Features

	<u>USOC</u>	<u>Month-to-Month</u>	<u>1 Year^{/1/}</u>	<u>2 Year^{/1/}</u>	<u>3 Year^{/1/}</u>	<u>5 Year^{/1/}</u>	<u>NRC</u>
1. Repeater							
VU4		\$400.00	\$340.00	\$315.00	\$275.00	\$255.00	\$210.00
2. Additional MAC							
Addresses (51-100)				<u>USOC</u>	<u>Recurring Charge</u>	<u>Nonrecurring Charge</u>	
				M2CAX	\$4.25	\$59.00	
3. Meet-Point Billing							
a. Direct LEC Connection Mileage							
Above 0 and inclusive of 10 miles				JZXLA	\$500.00	\$1,200.00	
Above 10 and inclusive of 25 miles				JZXLB	1,000.00	1,200.00	
Above 25 and inclusive of 35 miles				JZXLC	1,500.00	1,200.00	
Above 35 and inclusive of 50 miles				JZXLD	2,500.00	1,200.00	

/1/ All term plans for OPT-E-MAN Service which are established after November 9, 2013, for term lengths which are scheduled to expire at any time after October 1, 2018, will instead expire on October 1, 2018. All such services existing on or after October 1, 2018, will be provided on a month-to-month basis at the applicable, then current month-to-month rates. Notwithstanding anything to the contrary in the previous two sentences, this footnote does not apply to any term plans established after October 20, 2016.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.2 Rates and Charges (Cont'd) (N)

E. Optional Features (Cont'd)

3. Meet-Point Billing (Cont'd)

b. GigE Trunking

ICO Trunk Connection - EVC

	USOC	1 Year ^{/2/}	2 Year ^{/2/}	3 Year ^{/2/}	5 Year ^{/2/}	Monthly	NRC Charge ^{/1/} (C)
2 Mbps	LYTOA	\$340.00	\$290.00	\$250.00	\$220.00	\$400.00	\$300.00
4 Mbps	LYTOB	380.00	330.00	285.00	250.00	440.00	345.00
5 Mbps	LYTOC	430.00	370.00	315.00	270.00	500.00	400.00
8 Mbps	LYTOD	490.00	420.00	360.00	310.00	570.00	460.00
10 Mbps	LYTOE	570.00	490.00	420.00	360.00	660.00	525.00
20 Mbps	LYTOF	670.00	580.00	504.00	430.00	780.00	600.00
50 Mbps	LYTOG	840.00	730.00	630.00	540.00	970.00	700.00
100 Mbps	LYTOH	1,120.00	970.00	840.00	720.00	1,290.00	800.00
150 Mbps	LYTOJ	1,670.00	1,450.00	1,260.00	1,080.00	1,930.00	925.00
250 Mbps	LYTOK	2,160.00	1,870.00	1,620.00	1,380.00	2,490.00	1,100.00
500 Mbps	LYTOL	4,640.00	4,030.00	3,500.00	2,980.00	5,340.00	1,100.00
600 Mbps	LYTOM	5,560.00	4,830.00	4,200.00	3,570.00	6,400.00	1,100.00
1000 Mbps	LYTON	6,390.00	5,500.00	4,830.00	4,100.00	7,360.00	1,100.00

/3/

/1/ Nonrecurring charges will be waived for those customers selecting a 24, 36 or 60-month term payment plan (TPP) period for new service.

/2/ All term plans for OPT-E-MAN® Service which are established after November 9, 2013, for term lengths which are scheduled to expire at any time after October 1, 2018, will instead expire on October 1, 2018. All such services existing on or after October 1, 2018, will be provided on a month-to-month basis at the applicable, then current month-to-month rates. Notwithstanding anything to the contrary in the previous two sentences, this footnote does not apply to any term plans established after October 20, 2016.

/3/ Material now appears on Page 19.2.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)			(N)
29.2 Rates and Charges (Cont'd)			
E. Optional Features (Cont'd)			
3. Meet-Point Billing (Cont'd)			
b. GigE Trunking (Cont'd)			(N)
	<u>USOC</u>	<u>Recurring Charge</u>	/1/
GigE ICO Trunking Arrangement ICO Trunk Mileage			
Above 0 and inclusive of 10 miles - per EVC	N/A	N/A	
Above 10 and inclusive of 25 miles - per EVC			
2 Mbps to 20 Mbps	JZXTE	\$170.00	
50 Mbps to 150 Mbps	JZXTF	375.00	
250 Mbps to 1 Gbps	JZXTG	1,500.00	
Above 25 and inclusive of 35 miles - per EVC			
2 Mbps to 20 Mbps	JZXTH	270.00	
50 Mbps to 150 Mbps	JZX TJ	675.00	
250 Mbps to 1 Gbps	JZX TK	1,750.00	
Above 35 and inclusive of 50 miles - per EVC			
2 Mbps to 20 Mbps	JZX TL	410.00	
50 Mbps to 150 Mbps	JZX TN	1,100.00	
250 Mbps to 1 Gbps	JZX TO	2,000.00	/1/

/1/ Material formerly appeared on Page 19.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/1/} (C)

A. Service Description

The CSME Port Connection provides the customer with a switched, logical point-to-point, point to multi-point, and/or multi-point to multi-point connection between the customer locations using a physical connection to the Ethernet network, and virtual connections through the Ethernet network.

There are no CIR options associated with the CSME Port. The full bandwidth of the CSME Port is available for transport as best effort. CSME Service can be purchased with the following Port types:

- 10/100 Base T (10 Mbps or 100 Mbps)
- Gigabit Ethernet (1000 Base SX, 1000 Base LX/LH or 1000 Base ZX)

CSME is a best effort grade of service, with no performance parameters, and the performance is not guaranteed.

Best Effort Grade of Service is intended for non-critical applications. Standard Telephone Company procedures will be used to provision and maintain the service. No specific performance assurances are provided in connection with the Best Effort Grade of Service.

B. Terms and Conditions

In addition to conditions set forth elsewhere in this Guidebook, the following conditions apply to CSME Service:

1. The Telephone Company shall not be responsible for installation, operation, maintenance or adapting CSME Service to the technological requirements of any specific CPE.
2. CSME Service supports full duplex communication.
3. If a customer connects to the CSME network using a bridge, switch or router for Layer 2 connectivity, 150 MAC addresses are included per Layer 2 device, per port.
4. CSME Service is distance limited, based on circuit configuration. A repeater, as described in Section 29.3(C)(2)(c), may be used to extend the transmission of CSME Service.

/2/

- /1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)
- /2/ Material now appears on Page 21. (N)

-
29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)
- 29.3 Customized Switched Metro Ethernet (CSME)^{/1/} (Cont'd)
- B. Terms and Conditions (Cont'd) (N)
5. A total of 8 Ethernet Virtual Connections (EVCs) may be configured per 10/100 Base T connection. A total of 64 EVCs may be configured per 1 Gbps connection. /2/
 6. CSME Service may be available in a meet-point billing arrangement involving another Incumbent Local Exchange Carrier (ILEC) (sometimes also referred to as an Independent Company or ICO), where suitable facilities exist and where appropriate procedures for such arrangement have been put in place between the Telephone Company and the other ILEC. When the Telephone Company and another ILEC jointly provision a CSME Service meet-point arrangement, the ILEC involved shall provision and bill the portion of the service located in its operating territory at that ILEC's applicable rates.
 7. Service Level Agreements (SLAs) are not offered with this service.
 8. Both the 10 Mbps and 100 Mbps ports are provisioned using the 10/100 Base T Electrical Interface.
 9. Customers will be permitted to upgrade from a 10 Mbps or 100 Mbps Ports to a 1 Gbps Port; however, the Nonrecurring Charge associated with the new 1 Gbps Port will apply.
- /1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)
- /2/ Material formerly appeared on Page 20. (N)
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29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/1/} (N)

C. Features

1. Standard Features

Usage, Port, Transport and Interface

Usage, Port, Transport and Interface provides for the physical connection between the customer's premises and the serving wire center, as well as the bandwidth that will be used by the customer at each location.

Available protocols: 10/100 Base T and 1 Gigabit Ethernet (1000 Base SX, 1000 Base LX/LH or 1000 Base ZX).

2. Optional Features

a. Additional MAC Addresses

Media Access Control (MAC) Addresses denote a data link layer protocol used for Layer 2 connectivity. If a customer connects to the CSME network using a bridge or switch for Layer 2 connectivity, only 150 MAC addresses can be used per Layer 2 device, per port. Any additional addresses over the first 150 will be assessed an additional charge, with a limit of 200 MAC addresses total per port. An additional charge will be assessed per block of 151-200 addresses.

b. Ethernet Virtual Connections (EVC)

An Ethernet Virtual Connection is a logical point-to-point connection between two customer locations, and goes from the customer demarcation point at one location through the network to terminate at the demarcation point at the second customer location. EVCs do not provide for traffic prioritization. EVCs may be ordered to establish additional virtual connections over the same physical connection. When EVCs are ordered, the customer must designate the amount of bandwidth to be assigned to each EVC. EVCs can be set in 1 Mbps increments from 5 Mbps to 1 Gbps.

/2/

/1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)

/2/ Material now appears on Page 22.1. (N)

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd)	(N)
29.3 Customized Switched Metro Ethernet (CSME) ^{/3/} (Cont'd)	
C. Features (Cont'd)	
2. Optional Features (Cont'd)	(N)
c. Repeater	/4/
Repeater (Circuit Regenerators) provide essential detection and retransmission of Ethernet signals. Repeaters will only be provided as required by the Telephone Company when actual fiber facility distance between customer designated premises and/or central office locations exceed design limits (as specified in technical publication SBC-TP-76412-000). Repeaters will be located exclusively in Telephone Company central offices.	
d. Meet-Point Billing Options	
Meet-Point, where available, may be offered in two configurations:	
Direct LEC Connection is provisioned using standard CSME Connections, ^{/1/} plus mileage. The mileage is measured in airline miles from the CSME switch location to the ILEC (ICO) meet-point location.	/4/
GigE ICO Trunking Arrangement applies an Independent Company (ICO) Trunk Connection charge between the CSME switch to the meet-point that is shared with the ILEC (ICO) Ethernet switch. The ICO Trunk Connection charge is applied to each Customer Ethernet Virtual Channel (EVC) that is transported on the GigE Trunk backbone to the meet-point. ^{/2/} The trunk mileage charge is from the CSME switch to the meet-point for mileage that exceeds 10 miles. The mileage charge is applicable to each ICO Trunk Connection (EVC) transported across the GigE Trunk.	(C)
/1/ CSME Connection rate elements are available in Section 29.3(D)(1) and Direct LEC Mileage rate elements are available in Section 29.3(D)(2)(d)(1).	/4/
/2/ ICO Trunk Connection and ICO Trunk Mileage rate elements for CSME Service are available in Section 29.3(D)(2)(d)(2).	/4/
/3/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued.	(N)
/4/ Material formerly appeared on Page 22.	(N)

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/2/} (Cont'd) (N)

D. Rate Elements

1. Physical and/or Virtual Elements

<u>Description</u>	<u>Nonrecurring Charges</u>	<u>36 Months^{/1/}</u>	<u>60 Months^{/1/}</u>	<u>Monthly Extension</u>	(C)
10 Mbps Connection /P9FYX/	\$1,360.00	\$990.00	\$930.00	\$1,310.00	
100 Mbps Connection /P9FKX/	1,630.00	1,410.00	1,360.00	2,120.00	
1 Gbps Connection /P9FLX/	2,120.00	2,730.00	2,610.00	3,310.00	
EVC (per Connection) /EVNDE/	0.00	0.00	0.00	0.00	
Additional MAC Addresses (151 - 200) /M2CAX/	59.00	4.25	4.25	4.25	
Repeater (Optional) /VU4/	210.00	340.00	315.00	400.00	

2. Ordering Elements

	<u>Nonrecurring Charges</u>	
a. Administrative Charge - per order /ORCMX/	\$51.00	
b. Design and Central Office Connection Charge - per circuit /NRMCK/	0.00	(C)
c. Customer Connection Charge - per termination /NRBBL/	0.00	/3/

/1/ All term plans for CSME Service which are established or renewed after November 9, 2013, for term lengths which are scheduled to expire at any time after October 1, 2018, will instead expire on October 1, 2018. All such services existing on or after October 1, 2018, will be provided on a month-to-month basis at the applicable, then current month-to-month rates.

/2/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued.

/3/ Material now appears on Page 23.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/3/} (Cont'd)

D. Rate Elements (Cont'd) (N)

2. Ordering Elements (Cont'd)

d. Meet-Point Billing (C)

	<u>USOC</u>	<u>Recurring Charge</u>	<u>Nonrecurring Charge</u>			
1. Direct LEC Connection Mileage				/4/		
Above 0 and inclusive of 10 miles	JZXLA	\$500.00	\$1,200.00			
Above 10 and inclusive of 25 miles	JZXLB	1,000.00	1,200.00			
Above 25 and inclusive of 35 miles	JZXLC	1,500.00	1,200.00			
Above 35 and inclusive of 50 miles	JZXLD	2,500.00	1,200.00	/4/		
2. GigE Trunking						
ICO Trunk Connection - EVC						
	<u>USOC</u>	<u>3 Year</u> ^{/2/}	<u>5 Year</u> ^{/2/}	<u>Monthly</u>	<u>Nonrecurring Charge</u> ^{/1/}	(C)
10 Mbps	LYTOE	\$420.00	\$360.00	\$660.00	\$525.00	
100 Mbps	LYTOH	840.00	720.00	1,290.00	800.00	
1000 Mbps	LYTON	4,830.00	4,100.00	7,360.00	1,100.00	
						/5/

/1/ Nonrecurring charges will be waived for those customers selecting a 36 or 60-month Term Payment Plan (TPP) period for new service.

/2/ All term plans for CSME Service which are established or renewed after November 9, 2013, for term lengths which are scheduled to expire at any time after October 1, 2018, will instead expire on October 1, 2018. All such services existing on or after October 1, 2018, will be provided on a month-to-month basis at the applicable, then current month-to-month rates.

/3/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued.

/4/ Material formerly appeared on Page 23.

/5/ Material now appears on Page 23.2.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/1/} (Cont'd)

D. Rate Elements (Cont'd)

2. Ordering Elements (Cont'd) (N)

d. Meet-Point Billing (Cont'd) /2/

2. GigE Trunking (Cont'd)

	<u>USOC</u>	<u>Recurring Charge</u>
Meet-Point Billing		
GigE ICO Trunking arrangement		
ICO Trunk Mileage		
CSME Above 0 and inclusive of 10 miles - per EVC	N/A	N/A
CSME Above 10 and inclusive of 25 miles - per EVC		
10 Mbps	JZXT6	\$170.00
100 Mbps	JZXT7	375.00
1000 Mbps	JZXT8	1,500.00
CSME Above 25 and inclusive of 35 miles - per EVC		
10 Mbps	JZXT9	270.00
100 Mbps	JZXT9	675.00
1000 Mbps	JZXTU	1,750.00
CSME Above 35 and inclusive of 50 miles - per EVC		
10 Mbps	JZXTV	410.00
100 Mbps	JZXTW	1,100.00
1000 Mbps	JZXTY	2,000.00

/1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)

/2/ Material formerly appeared on Page 23.1. (N)

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/2/} (Cont'd) (N)

E. Term Pricing Plan^{/1/}

CSME Service is only available under the Term Payment Plan (TPP) whereby customers must select either a 36- or 60-month period. Decreases in CSME Monthly Recurring Charges will be passed onto customers who participate in a TPP. At the expiration of the selected Term Payment Plan period, the Monthly Extension Rate in effect at the time of contract expiration will apply, unless a new TPP is selected.

The customer may renew an existing TPP with a written notice of intent to renew no later than 90 days prior to the expiration of the TPP, without incurring new Nonrecurring Charges.

/3/

/1/ All term plans for CSME Service which are established or renewed after November 9, 2013, for term lengths which are scheduled to expire at any time after October 1, 2018, will instead expire on October 1, 2018. All such services existing on or after October 1, 2018, will be provided on a month-to-month basis at the applicable, then current month-to-month rates.

/2/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)

/3/ Material now appears on Page 25. (N)

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/1/} (Cont'd) (N)

F. Upgrade of Service /2/

An upgrade is considered an increase in speed/capacity and technology/functionality when comparing CSME service to a new service. Customers will be permitted to upgrade from CSME Service to a higher-speed service provided by the Company, without incurring Termination Liability charges, given all of the following conditions are met:

1. The customer must issue a disconnect order for the existing CSME locations and place a service order for the new higher-speed service at the same locations such that there is no more than 90 days overlap in service. Termination charges for CSME Service at the current locations will be waived.
2. The new higher-speed service term must be equal to or greater than the remaining time left on the existing CSME term.
3. For Customers upgrading from CSME to OPT-E-MAN Service, the customer's network configuration must remain the same (i.e. multipoint CSME to multipoint OPT-E-MAN). The number of OPT-E-MAN locations must be greater than or equal to the number of CSME locations.
4. The existing CSME Service must have been in service for a minimum period of 15 months for a 3-year term, or 18 months for a 5-year term. /2/
5. For customers upgrading from CSME to OPT-E-MAN Service, a minimum of 50 percent of the connection speed for each individual connection must be maintained:
 - a. If customer has a 1 Gbps CSME connection, then customer must purchase a minimum 500 Mbps OPT-E-MAN connection.
 - b. If customer has a 100 Mbps CSME connection, then customer must purchase a minimum 50 Mbps OPT-E-MAN connection.
 - c. If customer has a 10 Mbps CSME connection, then customer must purchase a minimum 5 Mbps OPT-E-MAN connection.

/3/

/1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)

/2/ Material formerly appeared on Page 24.

/3/ Material now appears on Page 25.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/1/} (Cont'd) (N)

F. Upgrade of Service (Cont'd) /2/

Migration to AT&T Switched Ethernet ServiceSM

Customers subscribing to CSME Service may migrate to AT&T Switched Ethernet provided by the Telephone Company without incurring termination charges, subject to the following conditions:

1. The new AT&T Switched Ethernet Service and the existing CSME Service must be billed to the same customer of record at the same customer locations.
2. The customer's existing service must have been in place for at least 12 months.
3. The minimum term for the new service must be at least 12 months and must be equal to or greater than the number of months remaining in the customer's existing Term Payment Plan (TPP) term.
4. The speed (capacity/bandwidth) of the new service must be equal to or greater than that of the existing service.
5. The customer must issue a disconnect order for the replaced CSME Service to be effective within 90 days after the AT&T Switched Ethernet Service installation date. The disconnect and new orders must be coordinated through the Telephone Company.
6. If overlapping service is required, the period will be limited to not more than 90 days and billing will apply to both services during the time both services are available.

/2/

/3/

/1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)

/2/ Material formerly appeared on Page 25.

/3/ Material now appears on Page 25.2.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/2/} (Cont'd) (N)

G. Expiration of CSME TPP Option ^{/1/} /3/

If the customer elects not to renew the TPP or does not notify the Telephone Company of its intent to renew the TPP, the service will automatically be billed under the Monthly Extension rates in effect at the time the TPP expires until the customer cancels or renews the service with a new TPP term. Customers under the Monthly Extension rates may convert their existing service to either a three or five year TPP. The customer will not be assessed any associated Nonrecurring Charges as long as the physical serving arrangement does not change.

/3/

/1/ All term plans for CSME Service which are established or renewed after November 9, 2013, for term lengths which are scheduled to expire at any time after October 1, 2018, will instead expire on October 1, 2018. All such services existing on or after October 1, 2018, will be provided on a month-to-month basis at the applicable, then current month-to-month rates. /3/

/2/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)

/3/ Material formerly appeared on Page 25.1.

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/1/} (Cont'd) (N)

H. Termination Liability

Termination Liability will not apply for a new customer's first two CSME Ports if the customer cancels service prior to the 61st calendar day of service.

I. Termination Liability Charges

Termination Liability Charges will apply to service terminated prior to the contracted period. In addition to any unpaid Special Construction or Nonrecurring Charges (excluding any waived charges), Termination Charges will be equal to:

- 50% of all Recurring Charges for the remaining months of the customer's term. (C)

J. Moves

Moves involve a change in the physical location of one of the following:

- Service rearrangement; (C)
- Point of Termination at the customer's premises; or (C)
- Customer's premises. (C)

Move charges are dependent upon the type of move requested by the customer.

1. Service Rearrangement

Service rearrangements are changes to existing (installed) services, which do not result in a change in the minimum period requirements, as set forth in Part 2, Section 5 of this Guidebook.

2. Moves Within the Same Building

When a customer moves to a new location within the same building, the Administration charge, all associated Nonrecurring Charges, and the Customer Connection charge for the service termination affected will apply. There will be no change in the minimum period requirements, as described in Part 2, Section 5 of this Guidebook.

/2/

/1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)

/2/ Material now appears on Page 27. (N)

29. Optical Ethernet Metropolitan Area Network (OPT-E-MAN®) (Cont'd) (N)

29.3 Customized Switched Metro Ethernet (CSME)^{/1/} (Cont'd) (N)

J. Moves (Cont'd)

3. Moves to a Different Building (C)

- a. The customer may move one CSME location to another location in the same LATA and maintain the existing TPP term at the new location, or establish a new TPP equal to or greater than the remaining time left at the old location without assessment of early Termination Liability charges. No lapse in billing can occur. The customer's request for the disconnect at the existing location and the request for the Add at the new location must refer to each other and be issued at the same time. /2/
- b. When the move is to a new location which is served out of a different serving wire center, the Administration charge, all associated nonrecurring charges, and a new Customer Connection charge for the service will apply. There will be no change in the minimum period requirements.
- c. For all other moves to a different building and/or moves at more than one location, the customer will be liable for termination charges and will be treated as a discontinuance; therefore, start of service, all associated Nonrecurring Charges, and new minimum period requirements, as described in Part 2, Section 5 of this Guidebook, will apply. /2/

/1/ Effective December 10, 2018, CSME Service will no longer be available for purchase by new or existing customers. The Company will no longer accept orders for adds, moves, changes or new term plans for CSME Service, and existing term plans may not be renewed, converted or extended. Following the expiration of a customer's existing CSME term agreement, service will be provided on a month-to-month basis at the applicable monthly extension rates until the service is discontinued. (N)

/2/ Material formerly appeared on Page 26. (N)