

**PRODUCT SUPPLEMENT – ETHERNET  
TRANSPORT & MANAGED WAVELENGTH**

to the  
Master Service Agreement

This Product Supplement – Ethernet Transport and Managed Wavelength (this "Supplement") is incorporated by reference into and made a part of that certain Master Service Agreement (including all attachments and incorporated documents, the "Agreement") entered into between the Seller and the Buyer who signed the Master Service Agreement, as expressly provided therein and shall be effective as of the Effective Date defined in the Master Service Agreement. This Supplement provides additional terms and conditions governing the Ethernet Services.

**1. SERVICE DESCRIPTIONS**

(a) "Ethernet Private Line" – shall mean a set of configurations where Buyer obtains point-to-point connections between two locations using Gigabit Ethernet protocols.

(b) "Ethernet Transport Service" ("ETS") - shall mean a configuration where Buyer obtains ethernet frames between two or more end- points transparently through an Ethernet Virtual Circuit ("EVC") analogous to Frame Relay. EVCs are used to provide bi-directional traffic for either point-to-point or hub and spoke connections.

(c) "Managed Wavelength Service" – shall mean a configuration where Buyer obtains dedicated point-to-point optical wavelength connections between two locations on Seller's facilities.

ETS shall be ordered as type EPL or EVPL and provided based on a combination of its component parts: Access Interface, Ethernet Interconnect Interface, and Ethernet Virtual Circuit. ETS will be offered with both Gigabit Ethernet and 10/100 interfaces and a fixed Committed Access Rate. The provisioning information required shall be as set forth on the Service Order form. ETS will also be offered at various Committed Access Rates as modified from time to time by Seller and shall be as set forth on the respective Service Order form. ETS supports Jumbo Frames as defined in this Product Supplement and will support an MTU of 1532 bytes. Larger frame sizes may be supported on an individual case basis.

NOTE: The configurations above are subject to technical limitations, and Seller, in its sole discretion, shall determine the actual allowed and available configurations determined by the size of the Ethernet frames used by Buyer. Up to ten percent (10%) of the provisioned bandwidth may be used by Seller or Seller's equipment for OAM. Buyer agrees that if Buyer's or its User's equipment does, or if Seller has a good faith reason to believe that Buyer's or its User's equipment will, cause instability on Seller's Facilities, then for such Service, Seller shall be entitled to suspend its obligations with regard to such Service until Buyer's or its User's, as applicable, equipment conforms to Seller's Facilities specifications or other reasonable directions.

(d) Definitions: Capitalized terms or phrases not defined in this Supplement shall have the definitions ascribed thereto in the Agreement. In addition to terms or phrases defined elsewhere in the Agreement or this Supplement, the following terms or phrases, where capitalized, shall be defined as follows:

"Access Interface" or "AI" shall mean a UNI including a physical point to point segment or portion of the ETS which typically connects Buyer's end location to Seller's Ethernet cloud. This is typically used to connect to another AI or an EII and requires at least one EVC.

"Broadcast Traffic" shall mean Ethernet frames sent to all network devices on the link.

"Client Protection" shall mean a four fiber handoff between Seller and Buyer where the SONET equipment between the two parties shall be configured with a unidirectional linear protect scheme.

"Committed Information Rate" ("CIR") shall mean that fixed level of bandwidth up to which the Buyer shall be entitled to use for the Service. CIR shall be measured in megabits/second (Mbps) and shall take into account overhead inherent with Ethernet technology including the preamble and inter-frame gap. Such rate shall incur a fixed recurring charge as set forth on the Service Order. .

"Cross-Connect" shall mean the connection of Buyer's Service to another service, either within Seller's Facilities or from Seller's Facilities to a Third Party's Facilities. When available, the rate for a Cross-Connect is in addition to the standard charges and shall be calculated on an individual case basis and included on the Service Order. Prior to Seller's interconnection of a Cross-Connect to a Third Party Facility, Buyer agrees to provide a letter of authorization from such third party authorizing the interconnection of the Cross-Connect. Buyer agrees that if such third party revokes its authorization, Seller is expressly authorized to disconnect such Cross-Connect from such Third Party's Facilities without any notice by Seller to Buyer upon such revocation of authority.

"Ethernet Private Line" or "EPL" shall mean a set of configurations where Buyer obtains dedicated point-to-point connections between two locations on Seller's Network Facilities or point-to-point connections aggregated to a single endpoint on Seller's Network Facilities using Gigabit Ethernet protocols.

"Demarc Extension" or "Extended Demarc" shall mean a build to extend Services from Seller's stated Point of Demarcation to Buyer's Point of Demarcation. In most cases, Seller's stated Point of Demarcation is the Incumbent Local Exchange Carriers' ("ILEC") minimum point of entry ("MPOE"). Non-Recurring Charges for any Demarc Extension will be on an individual case basis.

"Ethernet Circuit" or "Circuit" shall mean two end points on an UNI and/or NNI connected by an EVC.

"Ethernet Interconnect Interface" or "EII" shall mean that physical point to point segment or portion of the ETS which typically connects Buyer's

centralized aggregation point to Seller's Ethernet cloud. The ELL is typically used in a hub and spoke architecture and can also be used in a point to point architecture. The ELL does not include an EVC. An ELL consists of a service multiplexed NNI whereby IEEE 802.1q vlan tags signify respective EVCs for directing Ethernet frames.

"Ethernet Private Line" or "EPL" shall mean an Ethernet Circuit over the ETS consisting of a single EVC logically connecting two Ethernet ports in a point-to-point configuration.

"Ethernet Virtual Circuit" or "EVC" shall mean a software-defined logical connection between a combination of UNI's and/or NNI's which is capable of transporting ethernet frames on a local or regional basis.

"Ethernet Virtual Private Line" or "EVPL" shall mean Metro Ethernet Service where one or more Ethernet Circuits are service multiplexed between Buyer's and Seller's networks using 802.1q vlan tags.

"Frame Loss Ratio" ("FLR") shall mean a measure of the number of lost frames between the ingress port and the egress port. Frame Loss Ratio is expressed as a percentage.

"Jumbo Frame" shall mean any Ethernet frame larger than 1518 bytes.

"Layer 3 Device" shall mean a device that utilizes network addresses (IP address) to make data traffic destination decisions, not physical addresses (MAC address).

"Load Shared Dedicated Ethernet Private Line Service" shall mean Service where Seller provides two client-side interfaces with two physically diverse, unprotected connections. Buyer is responsible for routing traffic for a Load Shared Service.

"Load Shared Managed Wavelength Service" shall mean Service where Seller provides two client-side interfaces with two physically diverse unprotected Managed Wavelength Services with Buyer routing all traffic.

"Managed Wavelength Services" shall mean a private, dedicated optical wavelength capable of 1.0 Gbps up to 2.488 Gbps (commonly referred to as 2.5 Gbps), 9.953 Gbps (commonly referred to as 10 Gbps) or 103.125 Gbps (commonly referred to as 100 Gbps) where Buyer specifies both the A-location and Z-location on the service order.

"MTU" or "Maximum Transmission Unit" shall mean the largest frame size, measured in bytes, that can be transmitted across an Ethernet Circuit.

"Multicast Traffic" shall mean Ethernet frames sent to a single destination address which then distributes the frames to multiple network devices, each with its own destination address.

"OAM" or "Operation, Administration, and Maintenance" shall mean in-band traffic that provides system or network fault indication, performance monitoring, security management, and diagnostic functions.

"Off-Net" shall mean a Service where Buyer obtains connections between a location on Seller's Facilities and a location on Third Party Facilities.

"Performance Liquidated Damages" shall mean those credits issued to Buyer under Section 4.2(c) of this Supplement.

"Point-to-Point Ethernet" shall mean a concatenated Ethernet Private Line Service where Buyer specifies both the A-location and Z-location on the Service Order.

"Point-to-Point" shall mean Service from Buyer's or its User's premise to any location at the rate specified.

"Protected", when used with a Ethernet Private Line Service" shall mean Service where Seller provides protection via diverse network paths, but still only a single client-side interface.

"Service Frame" shall mean an Ethernet frame transmitted across the UNI toward the Service Provider or an Ethernet frame transmitted across the UNI toward the Subscriber.

"UNI" or "User Network Interface". See "Access Interface" or "AI".

"Unicast Traffic" shall mean Ethernet frames sent to a single destination address and network device.

"Unprotected", when used with a Dedicated Ethernet Private Line Service shall mean Service where Seller provides only a single client-side interface and one network path (not protected).

"Unprotected Managed Wavelength Service" shall mean a Service where Seller provides a single client-side interface and one network path without a diverse network path.

"10 Gigabit Ethernet or 10GbE or 10 GigE" shall mean a version of Ethernet with a nominal data rate of 10 Gbps, ten times as fast as Gigabit Ethernet. Seller's available physical interface consists of fiber only. 10GBASE-R is used in the telecommunication industry to refer to Gigabit Ethernet transmission over fiber.

"100 Gigabit Ethernet or 100GbE or 100GigE" shall mean a version of Ethernet with a nominal data rate of 100 Gbps, ten times as fast as 10 Gigabit Ethernet. Seller's available physical interface consists of fiber only. 100GBASE-LR4 or 100GEBASE-LR10 is used in the telecommunications industry to refer to Gigabit Ethernet transmission over fiber.

## 2. PROVISIONING INTERVALS FOR FACILITIES

Provisioning Intervals.

Minimum Provisioning Interval (in Business Days, from date of Service Order) 10  
(Interval to be provided by Seller) (Interval to be provided by Seller)

The Provisioning Intervals for all Services shall be provided by Seller on an individual case basis ("ICB") and as set forth in the applicable Service Order FOC.

2.1 Remedies. If the Commencement Date does not occur prior to the Scheduled Service Date with regard to Services and such delay in the Commencement Date is not due to a Force Majeure Event or an act or omission of Buyer, Buyer's Users or their respective representatives, then the following remedies shall apply:

(a) Delay of Recurring Charge. Buyer shall not be obligated to pay the Recurring Charges until such time as the Service commences.

(b) Termination of Service. If the Commencement Date does not occur on or before sixty (60) days following the applicable Scheduled Service Date, then Buyer shall have the right to terminate the applicable Service by providing written notice to Seller to the extent that such notice is provided prior to the Commencement Date. In such event, unless otherwise provided in the Service Order, Buyer shall not be obligated to pay, and shall receive reimbursement for any amounts previously paid with regard to, any Recurring Charges or Non-Recurring Charges associated with such Service.

(c) **SOLE AND EXCLUSIVE REMEDIES. THE PARTIES ACKNOWLEDGE THAT THE REMEDIES IN THIS SECTION 2 SHALL BE THE SOLE AND EXCLUSIVE REMEDY OF BUYER AND THE SOLE AND EXCLUSIVE LIABILITY OF SELLER FOR THE FAILURE OF THE COMMENCEMENT DATE TO OCCUR PRIOR TO THE SCHEDULED SERVICE DATE OR ANY OTHER DELAY IN PROVIDING THE SERVICE.**

2.2 Supp or Deferral Rights – With respect to any Services provided entirely on Seller's Facilities, Buyer shall have the right to request up to three (3) deferrals of the Scheduled Service Date; provided that, unless otherwise agreed by Seller, in no event may Buyer request a deferral of more than thirty (30) days in aggregate from the Scheduled Service Date set forth in the initial FOC for the Service. The Supp Charges applicable to any such deferrals of the Scheduled Service Date are set forth in Seller's Miscellaneous Price Schedule. With respect to any Services provided in whole or in part on Third Party Facilities, any rights of Buyer to defer the Scheduled Service Date and any associated charges shall be determined by Seller on an individual case basis.

2.3 Facility Unavailability: Remedy for Incorrect Information – Buyer understands that certain transmission facilities may be ordered by Seller at times from third parties, including the incumbent local exchange carrier ("ILEC"). In such event, Seller will provide a FOC for orders based on information provided from the third party. Should such information be incorrect and not as originally represented to Seller, Seller may require modifications to the Service Order and respective FOC, including the number and type of facilities ordered and the pricing therefore. Should Buyer not desire the revised terms, Buyer shall notify Seller within two Business Days of receiving notice of the change in terms of such rejection and such Service Order will be cancelled without liability for either party related to such order.

## 3. TESTING PROCEDURES FOR FACILITIES

3.1 Testing Standards. Tests of each Service provided on Seller's Facilities shall be made to determine whether the Service complies with the following specifications:

a) Ethernet Private Line - The applicable Service will successfully pass 99% of the Ethernet frames during the duration of the testing period.

b) Ethernet Service – The applicable Service will successfully meet the Performance Objectives as outlined in Section 4.3 below during the duration of the testing period at a rate of not less than 99% of CIR.

c) Managed Wavelength – the applicable Service must have a BBER of equal to or better than  $10^{-12}$ , a BIP Errored Seconds of less than or equal to 6, and BIP Severely Errored Seconds of zero.

d) Other Services – The testing procedures and criteria for acceptance shall be determined on an individual case basis and set forth in the applicable accepted Service Order or other written agreement of the Parties.

3.2 Testing Periods. Seller will use a reasonable duration for the tests for Services provided on Seller's Facilities.

## 4. PERFORMANCE AND OPERATING STANDARDS FOR FACILITIES

4.1 Availability. If a Service Outage (as defined below) occurs with respect to Services provided entirely on Seller's Facilities and Seller is unable to provide the Services, then Seller will credit Buyer's invoice for the applicable period with an amount equal to the Service Outage Credit (as defined below) in the month following the request by Buyer and determination of the applicable Service Outage Credit pursuant to the provisions set forth below; provided that Buyer must request such Service Outage Credit and such request must be made within thirty (30) days of the applicable Service Outage.

4.2 Service Outage. A "Service Outage" shall mean that Buyer is unable to exchange IP packets over the Service via the Network Port.

- (a) A Service Outage shall begin upon the Seller's receipt of written notice from Buyer of the Service Outage and shall end upon the correction of the loss of service.
- (b) Notwithstanding the above, a Service Outage shall not be deemed to have occurred and no Service Outage Credits will apply:
  - (i) during periods (A) of less than ten (10) minutes, (B) in which Seller is not given access to its Facilities or equipment that are required to provide the Services or to remedy any Service Outage, (C) in which planned or scheduled maintenance and repair activities are occurring, (D) in which Buyer or its User continues to use the Services on an impaired basis, or (E) that are not reported to Seller within thirty (30) days of the date the Service was affected;
  - (ii) for interruptions that are caused by or due to (A) acts or omissions of Buyer, its User or another third party, (B) the failure or malfunction of facilities or equipment not owned or operated by Seller, including without limitation the failure of the power supply, or (C) a Force Majeure Event or (D) disconnections by Seller for non-payment or other contract default or breaches by Buyer; and
  - (iii) for Services utilizing in whole or in part Third Party Facilities.
- (c) Availability Factor. The following Availability Factors shall apply to the following services that are provided on Seller's Facilities:
  - (i) Managed Wavelength Services
    - a) Unprotected – 99.0%
    - b) Load Shared – 99.99% of the two diverse polls will be available
  - (ii) Ethernet Private Line Services
    - a) 99.0% packet delivery rate

The Availability Factor set forth above shall be measured during each calendar quarter and is a measurement of the percent of total time that Service is operative and deemed available to Buyer in accordance with the above specifications when measured over such period.

- (d) Service Outage Credit. With respect to a Service Outage, the Service Outage Credit shall be equal to an amount equal to (a) the Recurring Charge applicable to the affected Service during the calendar quarter in which the Service Outage occurred multiplied by (b) the number of hours or fractions thereof that the Service Outage occurred during the applicable period divided by 2160 hours. Service Outage Credits are calculated after deduction of all discounts and other special pricing arrangements, and are not applied to government fees, taxes, surcharges and similar additional charges, nor are credits available for any usage-based Services. **BUYER'S RIGHT TO RECEIVE SUCH SERVICE OUTAGE CREDIT SHALL BE THE BUYER'S SOLE AND EXCLUSIVE REMEDY AND THE SELLER'S SOLE AND EXCLUSIVE OBLIGATION IN THE EVENT OF A SERVICE OUTAGE OR FOR ANY OTHER CLAIM THAT SELLER FAILED TO MEET ITS OBLIGATION IN THE PROVIDING OF THE SERVICE.**

4.3 **PERFORMANCE LIQUIDATED DAMAGES**. FOR THIS SUPPLEMENT, THE REMEDIES OF BUYER IN SECTION 4.2(d), HEREOF SHALL CONSTITUTE BUYER'S PERFORMANCE LIQUIDATED DAMAGES FOR THE SERVICE OFFERED UNDER THIS SUPPLEMENT AND CONSTITUTE BUYER'S SOLE AND EXCLUSIVE REMEDY FOR ANY PERFORMANCE FAILURE RELATED TO OR ARISING FROM THE SERVICE OFFERED HEREUNDER.

## 5. RULES AND REGULATIONS FOR USE OF ETHERNET TRANSPORT SERVICE

- (a) As a condition of Buyer's use of the Service, Buyer warrants to Seller that neither it nor its Users will use the Ethernet Transport Service for any purpose that is unlawful or prohibited by these terms, conditions, and notices. Buyer agrees to abide by, and shall cause its Users to abide by, all applicable local, state, national and international laws and regulations. Buyer is solely responsible for all acts or omissions that occur under its account, including the content of Buyer's and its Users' transmissions through the Ethernet Transport Service.
- (b) Buyer agrees that it and its Users shall comply in all respects with Seller's Acceptable Use Policy ("AUP"), as set forth under the AUP link at [www.dobson.net/legal/](http://www.dobson.net/legal/). Buyer acknowledges that it has reviewed and agrees to the provisions of the AUP.