

**COMCAST LIFT ZONE PRODUCT-SPECIFIC ATTACHMENT  
ETHERNET DEDICATED INTERNET SERVICES**

The following additional terms and conditions are applicable to SOAs for Comcast's Ethernet Dedicated Internet Service:

**DEFINITIONS**

Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the General Terms and Conditions. The following terms shall have the meanings specified below.

**"Estimated Availability Date"** means the target date for delivery of Service.

**"HFC Network"** means a hybrid fiber coax network

**"Off-Net"** means geographical locations that are outside of Comcast's service area and/or geographical locations that are within Comcast's service area generally, but are not readily accessible by Comcast network facilities. All Off-Net Services are provided by third-party service providers. Off-Net Services provisioned over a fiber optic network are referred to as **"Off-Net Fiber."**

**"On-Net"** means geographical locations where Comcast currently provides Services through its Comcast network. On-Net Services may be provisioned over a fiber optic network ("On-Net Fiber"), or via a HFC Network ("On-Net HFC"), as available through Comcast.

**"Service(s)"** means Ethernet Dedicated Internet Services.

**ARTICLE 1. SERVICES**

This attachment shall apply to Ethernet Dedicated Internet Service. A further description of the Service is set forth in **Schedule A-1** hereto which is incorporated herein by reference.

**ARTICLE 2. PROVIDER**

On-Net Service shall be provided by Comcast Business Communications, LLC.

On-Net Service provided over the HFC Network and Off-Net Services are available in a limited number of markets. For information on service availability, call 866-429-0152.

**ARTICLE 3. PROVISIONING INTERVAL**

Following its acceptance of a SOA, Comcast shall notify Customer of the Estimated Availability Date applicable to the Service. Comcast shall use commercially reasonable efforts to provision the Services on or before the Estimated

Availability Date; provided, however, that Comcast's failure to provision by said date shall not constitute a breach of the Agreement.

**ARTICLE 5. SERVICE COMMENCEMENT DATE**

Comcast shall inform Customer when Service is available and performing in accordance with the "Technical Specifications" set forth in Schedule A-1 hereto ("Availability Notification"). Charges for Service (if any) shall begin to accrue as of the Service Commencement Date. The Service Commencement Date shall be earliest of: (A) the date on which Customer confirms receipt of and concurrence with the Availability Notification; (B) five (5) business days following the date of the Availability Notification, if Customer fails to notify Comcast that the Service does not comply materially with the Technical Specifications (defined in Article 8); or (C) the date on which Customer first uses the Service. In the event that a Service Term has not been expressly set forth in a SOA, the Service Term for such SOA shall be twelve (12) months

**ARTICLE 6. RESERVED**

**ARTICLE 7. ADDITIONAL INFORMATION**

As necessary for the interconnection of the Service with services provided by third parties, Comcast may request (as applicable), and Customer will provide to Comcast, circuit facility assignment information, firm order commitment information, and design layout records necessary to enable Comcast to make the necessary cross-connection between the Service and Customer's other service provider(s). Comcast may charge Customer nonrecurring and monthly recurring cross-connect charges to make such connections.

**SCHEDULE A-1  
SERVICE DESCRIPTIONS AND TECHNICAL  
SPECIFICATIONS COMCAST ETHERNET DEDICATED  
INTERNET SERVICES**

Comcast’s Ethernet Dedicated Internet Service will be provided in accordance with the service description and technical specifications set forth below:

**Service  
Descriptions**

**Ethernet Dedicated Internet Service (“EDI”)**. EDI provides reliable, simple, and flexible access to the Internet. The Service is offered in the Ethernet User-to-Network Interfaces (“UNI”) increments identified in Figure 1 below and is available in Committed Information Rate (“CIR”) speed increments starting at 1Mbps, subject to available capacity. The Service provides an Ethernet Virtual Connection (“EVC”) from the Customer Service Location to a Comcast Internet Point of Presence (“POP”) router.

**Technical Specifications.**

**1. Ethernet User-to-Network Interface.** The Service provides the bidirectional, full duplex transmission of untagged Ethernet frames using a standard IEEE 802.3 Ethernet interface (UNI) to attach to the Customer’s router. Figure 1 lists the available UNI speed and their UNI Physical Interfaces, and available CIR bandwidth increments and Committed Burst Sizes (CBS). CIR increments of less than 10 Mbps are generally not available in conjunction with Off-Net Services.

UNI Speed	UNI Physical Interface	CIR Increments	CBS (bytes)
		1 Mbps	25,000
100 Mbps	100BaseT	10 Mbps	250,000
1 Gbps	1000Base T or 1000BaseSX	100 Mbps	2,500,000
10 Gbps	10GBase-SR or 10GBase-LR	1 Gbps	25,000,000
100 Gbps	100GBASE-LR4	10 Gbps	25,000,000

**Figure 1: Available UNI interface types and CBS values for different CIR Increments**

**2. Traffic Management.** Comcast’s network traffic-policing policies restrict traffic flow to the subscribed, CIR. If the Customer-transmitted bandwidth rate exceeds the subscription rate CIR and CBS, Comcast will discard the non-conformant packets. The Customer’s router must shape traffic to the contracted CIR. Traffic management policies associated with any Off-Net portions of Service will conform to the policies enforced by the third-party service provider.

**3. Maximum Frame Size.** The Service supports a maximum transmission unit (“MTU”) frame size of 1518 bytes including Layer 2 Ethernet header and FCS.

**4. Layer 2 Control Protocol (“L2CP”) Processing.** All L2CP frames are discarded at the UNI.

**5. IP Address Allocation.** IP address space is a finite resource that is an essential requirement for all Internet access services. Comcast assigns up to two (2) routable IP addresses to each customer circuit. Customer can obtain additional IP addresses if required based on American Registry for Internet Numbers (“ARIN”) guidelines and by completing an IP address request form; additional charges may apply.

**6. Domain Name Service.** Comcast provides primary and secondary Domain Name Service (“DNS”). DNS is the basic network service that translates host and domain names into corresponding IP addresses, and vice-versa.

7. **Border Gateway Protocol (“BGP”) Routing.** Comcast supports BGP-4 routing (“BGP-4”) as an optional service feature. BGP-4 allows Customers to efficiently multi-home across multiple ISP networks. This optional service feature requires an Autonomous System Number (ASN) be assigned to a customer by the ARIN. Customers should also be proficient in BGP routing protocol to provision and maintain this optional service feature on their router. Additional information and requirements for BGP routing will be provided to the Customer upon request. Comcast supports private peering if the Customer is multi-homed only to Comcast’s network.

8. **Monitoring, Technical Support and Maintenance**

A. **Network Monitoring.** Comcast monitors On-Net Service on a 24x7x365 basis.

B. **Technical Support.** Comcast provides a toll-free trouble reporting telephone number to the Comcast Enterprise Technical Support (“ETS”) center that operates on a 24x7x365 basis. Comcast provides technical support for Service-related inquiries. ETS will not offer consulting or advice on issues relating to CPE or other equipment not provided by Comcast.

I. **Escalation.** Reported troubles are escalated within the ETS to meet the response/restoration objectives described below (Response and Restoration Standards). Service issues are escalated within Comcast ETS as follows: to a Supervisor at the end of the applicable objective time interval plus one (1) hour; to a Manager at the end of the applicable objective time interval plus two (2) hours, and to a Director at the end of the applicable objective time interval plus four (4) hours.

II. **Maintenance.** Comcast’s standard maintenance window for On-Net Services is Sunday to Saturday from 12:00am to 6:00am local time. Scheduled maintenance for On-Net Services is performed during the maintenance window and will be coordinated between Comcast and the Customer. Comcast provides a minimum of seven (7) days’ notice for service impacting planned maintenance. Emergency maintenance is performed as needed without advance notice to Customer. Maintenance for Off-Net Services shall be performed in accordance with the applicable third party service provider rules. Therefore, maintenance for Off-Net Service may be performed without advance notice to Customer.

C. Comcast provides certain Comcast Equipment for provisioning its Services and the delivery of the UNI, which will reside on the Customer-side of the Demarcation Point. Comcast will retain ownership and management responsibility for this Comcast Equipment. This Comcast Equipment must only be used for receipt of the Services. Customers are required to shape their egress traffic to the CIR identified in the SOA.

**Response and Restoration Standards**

Comcast has the following response and restoration objectives:

CATEGORY	OBJECTIVE	MEASUREMENT	REMEDIES
<i>Mean Time to Respond Telephonically to Call</i>	15 minutes	Averaged over one Month	Escalation (see above)
<i>Mean Time to Restore On-Net Comcast Equipment</i>	4 hours	Averaged over one Month	Escalation (see above)
<i>Mean Time to Restore Off-Net Equipment</i>	4 hours	Averaged over one Month	Escalation (see above)
<i>Mean Time to Restore On-Net Services</i>	6 hours	Averaged over one Month	Escalation (see above)
<i>Mean Time to Restore Off-Net Services</i>	6 hours	Averaged over one Month	Escalation (see above)

Customer shall bear any expense incurred, e.g., dispatch/labor costs, where a Service Interruption is found to be the fault of Customer, its end users, agents, representatives or third-party suppliers.