

**COMCAST ENTERPRISE SERVICES
PRODUCT-SPECIFIC ATTACHMENT
DEDICATED INTERNET SERVICES**

ATTACHMENT IDENTIFIER: Dedicated Internet, Version 1.15

The following additional terms and conditions are applicable to Sales Orders for Comcast's Dedicated Internet Service and Off-Net Dedicated Internet Access:

DEFINITIONS

Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the General Terms and Conditions.

"Comcast Switch" means Comcast's ethernet terminating device located at a Service Location and used for provisioning its services and the delivery of the UNI (as defined in Schedule A-1). The Comcast Switch constitutes Comcast Equipment.

"Customer Switch or Router" means the switch or router installed at the Service Location and used to connect to the UNI. The Customer Switch or Router may be Comcast Equipment or Customer-Provided Equipment.

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

"Interconnection Facilities" means transmission capacity provided by Comcast, Customer or a third-party supplier to extend the Comcast Equipment from a Comcast terminal to any other location (e.g., a local loop provided by a local exchange company or other communications company).

"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.

"On-Net" means geographical locations where Comcast currently provides Services through its Comcast Network.

"Service(s)" means Dedicated Internet Services and Off-Net Dedicated Internet Access.

ARTICLE 1. SERVICES

This attachment shall apply to Dedicated Internet Service and Off-Net Dedicated Internet Access. A further description of the Services are 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.

Off-Net Services are available in a number of markets. For Dedicated Internet Services PSA

information on service availability, call 866-429-0152.

ARTICLE 3. CUSTOM INSTALLATION FEES

Once Comcast accepts a Sales Order for Services, Comcast will invoice Customer for all Custom Installation Fee(s). Customer will pay the Custom Installation Fee(s) within thirty (30) days of the invoice date unless a payment schedule is specified in the applicable Sales Order.

ARTICLE 4. PROVISIONING INTERVAL

Following its acceptance of a Sales Order, Comcast shall notify Customer of the Estimated Availability Date applicable to that Sales Order. Comcast shall use commercially reasonable efforts to provision the Service 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 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 Sales Order, the Service Term for such Sales Order shall be twelve (12) months

**ARTICLE 6. TERMINATION CHARGES;
PORTABILITY; UPGRADES; OFF-NET SERVICES**

6.1 The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term.

6.2 Termination Charges for On-Net Services.

A. In the event that On-Net Service is terminated following Comcast's acceptance of the applicable Sales

Order, but prior to the Service Commencement Date, Customer shall pay Termination Charges equal to the costs and expenses incurred by Comcast in installing or preparing to install the On-Net Service plus twenty percent (20%).

B. In the event that On-Net Service is terminated on or following the Service Commencement Date but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to a percentage of the monthly recurring charges remaining for the unexpired portion of the then-current Service Term, calculated as follows:

- i. 100% of the monthly recurring charges with respect to months 1-12 of the Service Term; plus
- ii. 80% of the monthly recurring charges with respect to months 13-24 of the Service Term; plus
- iii. 65% of the monthly recurring charges with respect to months 25 through the end of the Service Term; plus
- iv. 100% of any remaining, unpaid Custom Installation Fees.

Termination Charges shall be immediately due and payable upon cancellation or termination and shall be in addition to any and all accrued and unpaid charges for the Service rendered by Comcast through the date of cancellation or termination.

C. Termination Charges for Off-Net Services.

Subject to Section 6.3, in the event that Off-Net Service is terminated following Comcast's acceptance of the applicable Sales Order but prior to the Service Commencement Date, Customer shall pay Termination Charges equal to one hundred and twenty percent (120%) of the costs and expenses incurred by Comcast in installing or preparing to install the Off-Net Service, including any third-party costs incurred by Comcast as a result of the early termination of the Service.

D. Subject to Section 6.3, in the event that Off-Net Service is terminated on or following the Service Commencement Date but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to 100% of the monthly recurring charges remaining through the end of the Service Term plus 100% of any remaining, unpaid Custom Installation Fees. Customer shall also pay any third-party charges incurred by Comcast as a result of the early termination of Service.

6.3 Exclusions. Termination Charges shall not apply to Service terminated by Customer as a result of Comcast's material and uncured breach in accordance with the General Terms and Conditions.

6.4 Portability. Customer may terminate an existing

On-Net Service (an "Existing Service") and turn up a replacement On-Net Service (*i.e.*, activate Service with termination points on Comcast's network that are different than those of the Existing Service) (a "Replacement Service") without incurring Termination Charges with respect to the Existing Service, provided that: (a) the Replacement Service must have a Service Term equal to or greater than the remaining Service Term of the Existing Service, but in no event less than twelve (12) months; (b) the Replacement Service must have monthly recurring charges equal to or greater than the monthly recurring charges for the Existing Service; (c) Customer submits a Sales Order to Comcast for the Replacement Service within ninety (90) days after termination of the Existing Service and that Sales

Order is accepted by Comcast; (d) Customer reimburses Comcast for any and all installation charges that were waived with respect to the Existing Service; and (e) Customer pays the actual costs incurred by Comcast in installing and provisioning the Replacement Service.

6.5 Upgrades. Customer may upgrade the speed or capacity of an Existing Service without incurring Termination Charges, provided that: (a) the upgraded Service (the "Upgraded Service") must assume the remaining Service Term of the Existing Service, but in no event less than twelve (12) months; (b) the Upgraded Service must have the same points of termination on Comcast's network as the Existing Service; (c) Customer submits a Sales Order to Comcast for the Upgraded Service and that Sales Order is accepted by Comcast; (d) Customer pays Comcast's applicable nonrecurring charges for the upgrade; and (e) Customer agrees to pay the applicable monthly recurring charges for the Upgraded Service commencing with the upgrade. Upgrades to Off-Net Services are subject to the applicable third party service provider rules and availability. Comcast has no obligation to upgrade Customer's Off-Net Service.

6.6 Off-Net Services. If Customer is receiving Off-Net Services, Comcast shall, in its sole discretion, have the ability to (i) provide On-Net Services in lieu of such Off-Net Services and/or (ii) substitute the current Off-Net Services provider for an alternate Off-Net Services provider, each, at no additional cost to Customer; provided, however, that Comcast shall not make any changes to Customer's Off-Net Services provider that could, in Comcast's reasonable opinion, impair Customer's specific network design or provider attributes (e.g. diversity). Comcast shall use commercially reasonable efforts to coordinate a mutually agreeable time with Customer to conduct any such changes.

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.

ARTICLE 8. TECHNICAL SPECIFICATIONS; SERVICE LEVEL AGREEMENT

The technical specifications applicable to the Service are set forth in Schedule A-1 hereto ("Technical Specifications"). The service level agreement applicable to the Service is set forth in a Schedule A-2 hereto and incorporated herein by reference

ARTICLE 9. NETWORK GROOMING AND TRANSPORT CHANGES

Comcast may perform grooming to optimize network performance or to enable Customer's requested service tier, including transitioning a Service's transport from HFC to Fiber, provided the Service remains with substantially equivalent or improved technical specifications. Any Service Interruption due to such grooming will be treated as Scheduled Maintenance under Schedule A 1, Section 8.B(ii), and not as an unplanned Service Interruption under Schedule A 2. A change in transport associated with grooming initiated by Comcast may result in a new circuit identifier and/or physical demarcation change; such changes will not reset or shorten the then current Service Term, and will not increase the Customer's MRC for the impacted Service unless Customer separately orders a higher CIR or UNI.

**COMCAST ENTERPRISE SERVICES PRODUCT-SPECIFIC ATTACHMENT
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**SCHEDULE A-1
SERVICE DESCRIPTIONS AND TECHNICAL SPECIFICATIONS
COMCAST DEDICATED INTERNET SERVICES AND OFF-NET
DEDICATED INTERNET ACCESS**

Comcast's Dedicated Internet Service and Off-Net Dedicated Internet Access will be provided in accordance with the service descriptions and technical specifications set forth below:

A. Service Descriptions.

Dedicated Internet Service. Dedicated Internet 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.

Off-Net Dedicated Internet Access ("Off-Net DIA"). Off-Net DIA provides reliable, simple, and flexible access to the Internet. The Service is offered in the UNI increments identified in Figure 1 below and is available in CIR speed increments starting at 1 Mbps, subject to availability. The Service provides an Internet connection from the Customer Service Location to an Off-Net Service provider POP router.

B. 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. Comcast will discard non-conformant packets if (a) the Customer transmitted bandwidth rate exceeds the subscribed CIR and CBS or (b) 64 byte frames comprise more than fifty (50%) of the CIR. 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. Single traffic flows and encrypted tunnels cannot exceed 30 Gbps.

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.** For Dedicated Internet Services, 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. For Off-Net DIA, up to two (2) routable IP addresses will be assigned to each customer circuit. Additional IP addresses can be requested subject to Off-Net service provider availability; 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. BGP routing for Off-Net DIA services is subject to Off-Net service provider terms & policies.

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 Business Services Network Operations Center that operates on a 24x7x365 basis. Comcast provides technical support for Service-related inquiries. The Comcast Business Services Network Operations Center 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 Comcast Business Services Network Operations Center to meet the response/restoration objectives described below (Response and Restoration Standards). Service issues are escalated within the Comcast Business Services Network Operations Center 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. The scheduled maintenance date will be determined by Comcast in its sole discretion, provided, that Comcast provides a minimum of seven (7) days’ notice for On-Net 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. **Transport and Circuit Updates.** Following completion of a grooming event that changes transport and/or circuit identifiers, Comcast will provide Customer the updated circuit ID(s) and demarcation details. Where practicable, Comcast will maintain existing IP addressing; however, Comcast may reassign IP addressing consistent with ARIN guidelines and Comcast policy where required by network design, with reasonable advance notice.

C. **Comcast Equipment.** 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 Committed Information Rate (CIR) identified in the Sales Order. Comcast will be excused from paying SLA credits, as set forth in Schedule A-2, if the Service Interruption is the result of Customer’s failure to shape their traffic to the contracted CIR or utilizing Comcast Equipment for non- Comcast provided Services.

1. 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.

D. Customer Responsibilities

Comcast will retain ownership and management responsibility for the Comcast Switch. As a result, the Comcast Switch must be used only for delivering Comcast Services. Customer is responsible for providing the Customer Switch or Router to connect to the UNI. To ensure proper performance, Customer is required to shape its egress traffic to the contracted CIR.

Customers have the following responsibilities related to the installation, support, and maintenance of the Service:

- Provide an operating environment with temperatures not below fifty-five (55) or above eighty-five (85) degrees Fahrenheit. Humidity shall not exceed ninety (90) percent at eighty-five (85) degrees Fahrenheit.
- Provide secure space sufficient for access to one (1) standard, freestanding, equipment cabinet at each of the Service Locations, no further than fifty (50) feet from the Customer Switch or Router interface.
- Provide outside cable entry conduit(s), entry cable ground point, and internal building conduit to allow Comcast the ability to rod/rope a fiber optic cable to the Demarcation Point.
- Locate and mark all private underground utilities (water, electric, etc.) along path of new underground placement not covered by utility companies.
- Provide a pull rope in any existing duct that Comcast is to use and ensure existing duct is serviceable for Comcast use.
- Obtain “right-of-way” entry easement for Comcast facilities and equipment from property owners at each Service Location.
- Coring of the Service Location’s outside wall and internal walls. Upon request, Comcast can perform this activity on an “as needed” basis for an additional fee.
- Provide backup battery power equipment.
- Emergency local generator backup service, if applicable.
- Provide access to the buildings and Demarcation Point at each Service Location to allow Comcast and its approved contractors to install the Service and for regular (8am - 5pm) and emergency (24 hour) service and maintenance of Comcast’s equipment and facilities.
- Provide, install and maintain a device that is capable of interconnecting network traffic between the Service and the Customer’s LAN.
- Customer must provide a point of contact (“POC”) for installation, service activation and any maintenance activities
- Customer shall not move, disconnect, remove or otherwise tamper with any Comcast Equipment

**COMCAST ENTERPRISE SERVICES
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**SCHEDULE A-2
SERVICE LEVEL AGREEMENT**

Comcast's Dedicated Internet Service and Off-Net Dedicated Internet Access are backed by the following Service Level Agreement ("SLA"):

A. Definitions

Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Dedicated Internet Services PSA or the General Terms and Conditions.

"Planned Service Interruption" means any Service Interruption caused by planned work such as scheduled maintenance or planned enhancements or upgrades to the network and includes scheduled network grooming that transitions transport from HFC to Fiber where Comcast has provided the advance notice required by Schedule A-1, Section 8.B(ii).

"Service Interruption" means an interruption in transmission that renders the Service unusable due to a total loss of signal for the Service. The Service shall be "Available" in the absence of a Service Interruption.

B. Service Level Agreements

Comcast's liability, and Customer's sole remedy for Service Interruptions, and errors, omissions, interruptions, delays, outages, or defects in transmission or switching of any Service (individually or collectively, "Liability"), shall be limited to the amounts set forth in the Table below with the stated percentages to be applied against the MRC (as defined below) associated with the impacted portion of the Service set forth in the Sales Order ("Availability Credit"). For the purposes of calculating credit for a Service Interruption, the "Length of Service Interruption" begins when the Customer reports such Service Interruption and a trouble ticket is opened, and concludes upon the closing of the same trouble ticket or, if sooner, the termination of the Service Interruption less any time Comcast is awaiting additional information or premises testing from the Customer. In no event shall the total amount of Availability Credit issued to Customer's account on a per-month basis exceed 50% of the total monthly recurring charge ("MRC") associated with the impacted portion of the Service set forth in the Sales Order. The Length of Service Interruptions for separately occurring Service Interruptions will not be aggregated for purposes of determining Availability Credit allowances. To qualify, Customer must request the Availability Credit from Comcast within thirty (30) days of the beginning of the Service Interruption. Comcast shall not incur any Liability, including Availability Credit, for any failure of the Services caused by force majeure events, Planned Service Interruptions, Customer actions, omission or equipment, CPE, or any other items set forth in the "Exceptions to Credit Allowances" section below.

TABLE 1: Availability SLA (99.99% Availability)

Length of Service Interruption:	Amount of Credit:
Less than 4 minutes	None
At least 4 minutes but less than 4 hours	5% of Total MRC
At least 4 hours but less than 8 hours	10% of Total MRC
At least 8 hours but less than 12 hours	20% of Total MRC
At least 12 hours but less than 16 hours	30% of Total MRC
At least 16 hours but less than 24 hours	40% of Total MRC
At least 24 hours or greater	50% of Total MRC

THE TOTAL CREDIT ALLOWANCES PER CALENDAR MONTH IS CAPPED AT 50% of THAT MONTH'S MRC FOR THE INTERRUPTED PORTIONS OF SERVICE. SEPARATELY OCCURRING SERVICE INTERRUPTIONS ARE NOT AGGREGATED FOR THE PURPOSES OF DETERMINING CREDIT ALLOWANCES.

C. Exceptions and Terms Applicable to All SLAs

Emergency Blocking

The parties agree that if either party hereto, in its reasonable and sole discretion, determines that an emergency action is necessary to protect its own network, the party may, after engaging in reasonable and good faith efforts to notify the other party of the need to block, block any transmission path over its network by the other party where transmissions do not meet material standard industry requirements. The parties further agree that none of their respective obligations to one another under the Agreement will be affected by any such blockage except that the party affected by such blockage will be relieved of all obligations to make payments for charges relating to the circuit(s) which is so blocked and that no party will have any obligation to the other party for any claim, judgment or liability resulting from such blockage.

Remedy Processes

All claims and rights arising under this Service Level Agreement must be exercised by Customer in writing within thirty (30) days of the event that gave rise to the claim or right. The Customer must submit the following information to the Customer's Comcast account representative with any and all claims for credit allowances: (a) Organization name; (b) Customer account number; and (c) basis of credit allowance claim (including date and time, if applicable). Comcast will acknowledge and review all claims promptly and will inform the Customer by electronic mail or other correspondence whether a credit allowance will be issued or the claim rejected, with the reasons specified for the rejection.

Exceptions to Credit Allowances

A Service Interruption shall not qualify for the remedies set forth herein if such Service Interruption is related to, associated with, or caused by: scheduled maintenance events; Customer actions or inactions; Customer-provided power or equipment; any third party not contracted through Comcast, including, without limitation, Customer's users, third-party network providers, any power, equipment or services provided by third parties; or an event of force majeure as defined in the Agreement.

Other Limitations

The remedies set forth in this Service Level Agreement shall be Customer's sole and exclusive remedies for any Service Interruption, Liability, outage, unavailability, delay, or other degradation, or any Comcast failure to meet the service objectives.