

**COMCAST BUSINESS SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
SOFTWARE-DEFINED WIDE AREA NETWORKING**

**ATTACHMENT IDENTIFIER: Business Services SD-WAN, Version 1.0**

The following additional terms and conditions are applicable to Sales Order Agreements for Comcast's SD-WAN Services ordered under the Business Services Customer Terms and Conditions:

**DEFINITIONS**

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

**"Architectural Confirmation Document" or "ACD"** means a document that contains the initial configuration for the SD-WAN Services, as agreed to by Customer and Comcast.

**"Comcast System"** means applications, websites, computing assets, systems, databases, devices, products, or services owned or operated by or for Comcast.

**"Customer Expectations Document"** means a document created by Comcast that identifies Comcast's and Customer's responsibilities and obligations with respect to the delivery and support of the Services.

**"Customer System"** means any of Customer's or Customer's subcontractor's(s') applications, websites, computing assets, systems, databases, devices, products, or services that process Comcast data.

**"Estimated Availability Date"** means the target Service Commencement Date for the SD-WAN Service.

**"Information Security Standards"** means the standards prescribed for use by the National Institute of Standards and Technology, aligned with the International Organization for Standardization/International Electrotechnical Commission 27000 series of standards.

**"SD-WAN"** means Software-defined Wide Area Network.

**"Underlay Service"** means the connectivity over which the Service operates.

**ARTICLE 1. SERVICES**

This attachment shall apply to SD-WAN Services. A further description of these Services is set forth in Schedule A-1 hereto, which is incorporated herein by reference.

**ARTICLE 2. PROVIDER**

The Services shall be provided by Comcast Business Communications, LLC or its applicable subsidiaries or Affiliates ("**Comcast**").

**ARTICLE 3. SERVICE PROVISIONING INTERVAL**

Following Customer's acceptance of a Sales Order Agreement, Comcast shall notify Customer of the Estimated Availability Date applicable to that Sales Order Agreement. Comcast shall use commercially reasonable efforts to provision the Service on or about the Estimated Availability Date; provided, however, that Comcast's failure to provision Service by said date shall not constitute a breach of the Agreement.

**ARTICLE 4. SERVICE COMMENCEMENT DATE**

The Service Commencement Date shall be the date Comcast informs Customer that the Service is available and performing at one (1) Service Location. Charges for the Services shall begin to accrue on the Service Commencement Date.

**ARTICLE 5. TERMINATION CHARGES;  
PORTABILITY**

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

**5.2 Termination Charges.**

**A.** Subject to Sections 5.2(C) and 5.2(D), in the event that a Service is terminated following Comcast's acceptance of the applicable Sales Order Agreement, 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 Service.

**B.** Subject to Sections 5.2(C) and 5.2(D), in the event that a 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 Service 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.

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 such cancellation or termination.

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

**D.** Customer acknowledges and agrees that termination of the Comcast-provided Underlay Service, shall constitute a termination of the Services and Customer shall pay Termination Charges with respect to the Services as provided herein; provided, that, if Customer terminated such Underlay Service as a result of Comcast's material and uncured breach in accordance with the General Terms and Conditions applicable hereto, then Customer will not be obliged to pay Termination Charges with respect to the Service.

**5.3 Portability.** Customer may terminate an existing Service (an "**Existing Service**") and turn up a replacement Service (*i.e.*, activate an equivalent Service at a different Service Location) (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 Agreement to Comcast for the Replacement Service within ninety (90) days after termination of the Existing Service and that Sales Order Agreement 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.

#### **ARTICLE 6. SD-WAN CUSTOMER PORTAL**

Comcast provides Customer with access to a password-protected web portal for the purpose of accessing information regarding Customer's Service. The portal also provides a view of certain network-related data, subject to the availability of the Service.

#### **ARTICLE 7. TECHNICAL SPECIFICATIONS; SERVICE LEVEL AGREEMENT**

The technical specifications applicable to the Services are set forth in Schedule A-1 hereto. The service level agreement applicable to the Services is set forth in Schedule A-2 hereto. Comcast strives to achieve all service levels from the start of the SOW. However, Comcast is contractually relieved of the service level agreement set forth in Schedule A-2 and any service level requirements specified in SOWs for the first ninety

**COMCAST ENTERPRISE SERVICES**  
**PRODUCT-SPECIFIC ATTACHMENT SOFTWARE DEFINED WIDE AREA NETWORKING**

**SCHEDULE A-1**  
**SERVICE DESCRIPTIONS AND TECHNICAL SPECIFICATIONS**

The Services will be provided in accordance with the service descriptions and technical specifications set forth below:

**1. Service Descriptions**

- A. SD-WAN Service is a wide area network (“WAN”) solution. The SD-WAN Secure Service provides organizations end-to-end WAN connectivity for Service Locations creating an encrypted overlay network to Customer’s Underlay Service, regardless of whether such Underlay Service is provided by Comcast or a third party. SD-WAN Secure Service enables network abstraction and the separation of the control plane and data plane. The following features are also included with SD-WAN Secure Service:
- i. SD-WAN Service is agnostic as to WAN transport technologies.
  - ii. Automatic and dynamic routing and load balancing of application traffic across multiple WAN connections based on business and application policies set by Customer.
  - iii. SD-WAN Service assists with the management, configuration, and orchestration of WANs.
  - iv. SD-WAN Service has the ability to integrate additional network services and offload Internet-directed traffic closer to the edge of the network.
  - v. SD-WAN Service monitors the CPE and circuits for “up/down” status, and alerts Customers based on configuration.
  - vi. 24x7x365 phone support.
  - vii. Access to the Portal, which provides analytics that show the performance and utilization of Customer’s network applications and elements.
  - viii. Built-in security functions, including Layer 4 Stateful Firewall, SSL VPN, and IPsec VPN.
  - ix. The Service is configured as Standalone. Standalone is an optional configuration feature that enables the SD-WAN Service to be provisioned, with or without the need for Service Location-to-Service Location or IPSec Tunnels to third party peer topologies (as described in Section 4(C) below).
  - x. SD-WAN Service may be configured in a cloud environment. Cloud Connect is an optional configuration that enables the SD-WAN Service to be provisioned with one Service Location and a virtual site on the SD-WAN network. The virtual server enables a solution that is delivered and managed through the cloud.

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**2. Service Requirements**

In order to provide the Services to a Service Location, such Service Location must have Internet connectivity. The connectivity may be pre-existing or ordered in conjunction with the Services. Comcast supports the Services over Comcast EDI Service, Comcast Business Internet Service, Internet connectivity services provided by a third-party service provider. If the underlying connectivity is terminated at a Service Location or unavailable for any reason at any time, the Services at said Service Location will be inoperable.

Comcast does not guarantee that any individual speed test will reflect the maximum Underlay bandwidth capacity. The connectivity type, device limitations and network congestion may impact overall speed and performance. Wired connections typically provide more consistent speeds than wireless connections. Furthermore, the Service uses features such as encryption, tunneling, and traffic steering that can consume bandwidth and CPU on the edge device.

**3. SD-WAN Services Technical Specifications**

- A. **Underlay connectivity.** This Service leverages the public Internet (Comcast on-net Layer 3 internet access services over fiber and DOCSIS, Comcast provided off-net Layer 3 internet access, or third-party-provided internet access, or LTE provided by Comcast or a third party).

- B. **Hybrid WAN connectivity.** SD-WAN Service will work over any industry standard third-party Layer 3 IP technology (e.g., IP

VPN and MPLS) which can serve as additional underlay to the public Internet.

- C. **SD-WAN Overlay.** This Service uses Underlay Service access to establish IPsec VPN tunnels using AES-256 or AES-128 encryption between Comcast provided CPEs as well as to provide control plane access from the CPE to the SD-WAN controller. The SD-WAN software steers application traffic real time based on business policy rules provided by the Customer.
- D. **SD-WAN CPE.** Standard SD-WAN and Advanced SD-WAN service includes robust and flexible uCPEs. Such uCPEs are “x86” hardware that are service-agnostic and can host Comcast-provided applications.
- E. **SD-WAN Firewall.** Comcast will provide a Layer 3/Layer 4 Stateful Firewall as part of this Service.
- F. **Dynamic WAN utilization; Traffic Steering.** For Service Location-to-Service Location traffic, the Service automatically selects the best available WAN connection based on a combination of traffic flows and application policies that have been defined by Comcast and the Customer in the ACD. For Standalone, the Customer may prioritize certain applications and/or application groups to be re-routed in the event the primary route is unavailable, and to opt-in to LTE back-up on a per-application or per-application group basis; however, certain features of Dynamic WAN utilization are not available for Standalone.
- G. **Service Orchestration.** Provisioning and configuration of connectivity, routing policies, security, and application aware traffic steering is provided through a centralized, geo-redundant orchestration plane that is logically segregated per Customer. Connectivity to the orchestration layer occurs through encrypted tunnels across the public Internet.
- H. **Digital Experience.** Service visibility, control, and reporting is provided via the Comcast Business Digital Experience web portal (“Portal”).

#### **4. Optional SD-WAN Service Configurations and Features**

- A. **Local Internet Breakout.** Comcast can configure a local Internet breakout at each Service Location with the purpose of routing traffic directly to the Internet as needed. Local Internet breakout is not a connectivity service and is solely a route configuration inside the CPE to allow local hosts to bypass the VPN tunnel and access the internet using the local underlay directly.
- B. **High Availability.** High Availability is an optional price-impacting SD-WAN Service feature that enhances resiliency by eliminating the single point of failure at the hardware (CPE) level. Two (2) CPEs are placed at the Service Location, both connected to the network and functioning in Active/Active mode.
- C. **IPsec Tunnels to Third Party Peers.** An optional SD-WAN Service feature that allows Customer to establish IPsec tunnels between Customer Systems and up to three (3) third-party peers’ networks, applications, software-as-a-service solutions, or other business-to-business services not provided by Comcast (“**Third-Party System(s)**”), provided such Third-Party System supports policy-based VPN. Use of Third-Party Systems is subject to Customer’s agreement with the relevant provider and not the Agreement. Further to the limitations of liability set forth in Section 5.1(C) of the General Terms and Conditions, Comcast does not control, and has no liability for, how Third-Party Systems or their providers use Customer’s data or for any claim related to connecting Customer Systems to a Third-Party System via the Services, even where Comcast supports Customer in configuring IPsec tunnel(s). It is entirely within Comcast’s discretion as to whether Comcast will provide support for IPsec tunnel configuration.

#### **5. Service Delivery and Service Management**

- A. **Kick-off call:** Comcast will sponsor a kick-off call with the Customer to explain the Service delivery process and Comcast and Customer will review the Customer Expectations Document.
- B. **Technical interview:** Comcast will engage Customer in one or more interviews related to Customer’s network design initiatives. Comcast will document the technical information discovered through the interview process in an Architectural Confirmation Document and the Customer will review and confirm that the ACD is correct.
- C. **Managed Install, Test, and Turn-up:** When Comcast installs the SD-WAN equipment, the configuration created for the Customer will be loaded onto the SD-WAN equipment and Comcast will test the Service.

D. **Network Monitoring and Management:** On and after the Service Commencement Date, Comcast will monitor the SD-WAN Service 24/7/365 and pull alarms from the equipment related to the availability of the Services. Comcast will send an alert to the Customer for specific, Service-impacting alarms. After receiving such an alarm, Comcast will open an internal ticket and begin to troubleshoot the issue.

E. **On-Going Solution Support:**

- i. Configuration Changes. Comcast will support Customer-requested configuration changes, in accordance with Comcast's then-current configuration change policy (the "**Configuration Change Policy**"). Upon request, Comcast shall provide Customer with its then current Configuration Change Policy. Any moves, additions, changes, or deletions to the Services shall be requested over the phone. This includes any changes to the Service configuration as initially outlined in the ACD. Comcast endeavors to meet the following configuration change response objectives:

SD-WAN SERVICE	
Category	Objective
Simple Configuration Change	24 hours

"**Simple Configuration Change**" includes, but is not limited to, the following changes: addition of static route, bandwidth change (single site), button click changes in Edge configurations, account administration addition, SD-WAN FW entry update or change, SD-WAN NAT entry update or change, SD-WAN device remote restart, Edge type topology designation (Hub/Spoke), information request, IP changes, password reset, remote diagnostics, SD-WAN Quality of Service entry update or change, VLAN update or addition, and traffic steering change.

- ii. Software Updates and Security Patches. If a Comcast vendor develops software updates and/or security patches for such vendor's equipment which Comcast uses to provide the Services, Comcast will upload such software updates and/or security patches to the applicable equipment to the extent Comcast determines, in its sole discretion, that such software updates and/or security patches are necessary. Updates or patches that are viewed as critical may require immediate action with a maintenance window. For the avoidance of doubt, Comcast shall have no obligation to develop software updates or security patches and its only obligation under this paragraph is to install updates and security patches developed by its applicable vendors to the extent Comcast determines, in its sole discretion, that such software updates and/or security patches are necessary.
- iii. Technical Support. Comcast provides Customers a toll-free trouble reporting telephone number to reach the Enterprise Customer Care (ECC) that operates on a 24x7x365 basis. Comcast provides technical support for Service-related inquiries. Technical support will not offer consulting or advice on issues relating to non-Comcast Equipment.
- iv. Escalation. Reported troubles are escalated within the Comcast Advanced Solutions Operations (AS Ops) to meet the standard restoration interval described in the Service Availability Objectives. For Service Interruptions (as defined in Schedule A-2), troubles are escalated within the Comcast AS Ops as follows: Supervisor at the end of the standard interval plus one (1) hour; to the Manager at the end of the standard interval plus two (2) hours, and to the Director at the end of the standard interval, plus four (4) hours.
- v. Maintenance. Comcast's standard maintenance window is Sunday to Saturday from 12:00 a.m. to 6:00 a.m. local time. Scheduled maintenance is performed during the maintenance window and will be coordinated between Comcast and the Customer. Comcast provides a minimum of forty-eight (48) hours' notice for non-service impacting scheduled maintenance. Comcast provides a minimum of seven (7) days' notice for service impacting planned maintenance. Emergency maintenance is performed as needed.

6. **Security Monitoring and Mitigation.**

For the Services, Comcast monitors the equipment. **COMCAST DOES NOT PROVIDE MONITORING OF SECURITY EVENTS, ANY SECURITY EVENT MITIGATION, OR ADVICE REGARDING SECURITY ISSUES OR THREATS.**

Upon request by Customer, Comcast will modify the configuration of the Services in accordance with specifications provided by Customer to attempt to mitigate security events and security threats identified by Customer. Comcast's sole obligation is to implement the configuration settings requested by Customer. This Service is provided on a commercially reasonable efforts basis only and Comcast makes no guarantees with respect to the detection or blocking of viruses/worm/malware or any other types of attacks and is not responsible for any such malicious data that may be transmitted over the provided network.

## 7. Customer Responsibilities

**In addition to the responsibilities and obligations identified in the Customer Expectations Document, Customer shall have the following responsibilities related to the installation, support, and maintenance of the Service:**

- A. 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.
- B. Provide secure space sufficient for access to one (1) standard, freestanding equipment cabinet at each of the Customer facilities, no farther than fifty feet from the Customer router or switch interface.
- C. Provide power including UPS AC power equipment, circuit sizing to be determined, if applicable.
- D. Provide emergency local generator backup service, if applicable.
- E. Provide access to the buildings and point of demarcation at each Customer Service Location to allow Comcast and its approved contractors to install CPE. Provide access to each location for regular (8 a.m. - 5 p.m.) and emergency (24 hour) service and maintenance of Comcast's equipment and facilities.
- F. If interfacing with a third-party IP service: provide, install and maintain a device that is capable of routing network traffic between the Service and the Customer's Wide Area Network (WAN).
- G. Customer must provide a point of contact (POC) for installation, service activation, notices for Service Interruptions, and any maintenance activities.
- H. Customer must approve the final Architecture Configuration Document (ACD) prior to installation of the Services.
- I. Customer must ensure that any Customer-provided or existing Underlay Service is installed and operational prior to installation of the Services.
- J. The demarcation point of the SD-WAN Service is the CPE or vCPE. Customer shall have sole responsibility for installing, configuring, providing and maintaining all customer LAN equipment, unless those are provided by Comcast.
- K. With respect to IP SEC Tunnels to Third-Party Peers:
  - Customer must provide all third-party technical information required for establishing IP Sec tunnel connectivity.
  - Customer must establish and maintain all required accounts and infrastructure with the applicable third-party peer prior to any technical discussions with the Comcast Engineer or Solutions Architect.
  - If Customer receives any infringement notices related to its use of Third-Party System(s), it must promptly: (a) stop using the related item with the Service; and (b) notify Comcast.
- L. Cloud Connect customers must set up their cloud environment and configure a cloud instance through an approved cloud providers platform prior to Comcast activation of the Service.