

# MASTER SERVICES AGREEMENT

This Master Services Agreement ("Agreement"), is entered into on the date set out below ("Effective Date") by and between **COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC**, a Delaware limited liability company, on behalf of itself and its applicable operating affiliates and subsidiaries offering Service(s) as identified below, whose offices are located at 1702 John F. Kennedy Boulevard, Philadelphia, PA 19103 ("Comcast" or "Vendor") and the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado (the "City" or "Buyer"). Herein, the above shall be collectively referred to as "Parties" and individually as "Party."

The Parties hereby agree to the follow terms and conditions as follows:

## 1. Term and Termination

**1.1.** The term of this Agreement is from June 1, 2022 through June 1, 2027 (the "Agreement Term"). Subject to the City's Chief Information Officer's prior written authorization, to the extent the Service Term applicable to a Sales Order ("SO") extends beyond the Agreement Term, such SO shall continue to be governed by the terms and conditions of the Agreement. In the event that an SO continues beyond the term of this Agreement, the SO shall continue only so long as an appropriation has been made to fund the SO. "Service Term" means the duration of time as specified in the SO or Statement of Work, beginning with the Service Commencement Date, for which Services are ordered. "Service Commencement Date" means the date on which the Service Term begins, as more fully described in the applicable Product-Specific Attachment.

**1.2. Termination for Cause.** If either party refuses or fails to timely and properly perform any of its obligations under this Agreement (the "Breaching Party"), the other party (the "Non-Breaching Party") may (i) notify the Breaching Party in writing of such non-performance and (ii) if such non-performance is not remedied by the Breaching Party within thirty (30) days of delivery of such notice, terminate this Agreement. Payment for completed services performed and accepted shall be at the price set forth in this Agreement or the applicable SO.

**1.3. Termination for convenience.** City shall have the right, in its sole discretion, to terminate any or all SOs at any time, upon thirty (30) days prior written notice to Vendor. In the event City terminates pursuant to this Section 1, it may be subject to termination charges in accordance with the applicable PSA.

**1.4.** Notwithstanding anything to the contrary contained in §1.1 or this Agreement, Buyer acknowledges that (i) any and all Services provided by Vendor shall be subject to Vendor's acceptable use policies and other security and privacy policies (collectively, "Policies") concerning the Services as posted on Vendor's Website (<http://business.comcast.com/enterprise-terms-of-service>) and (ii) Vendor may change or modify the Policies ("Revisions") by posting such Revisions to the Vendor's Website. The Revisions shall be effective upon posting to Vendor's Website. Buyer will receive notice of the Revisions in the next applicable monthly invoice. Buyer shall have thirty (30) calendar days from the invoice notice of such Revisions to provide Vendor with written notice that the Revisions adversely affect Buyer's use of the Service(s) or Buyer's obligations under this Agreement. If after such notice, Comcast is able to verify such adverse effect but is unable to reasonably mitigate the Revision's impact on such Services or Buyer's obligations under this Agreement, then Buyer may terminate the impacted Service(s) without further obligation to Comcast beyond the termination date. This shall be Buyer's sole and exclusive remedy with respect to any Revisions.

**2. NO DISCRIMINATION IN EMPLOYMENT:** In connection with the performance of work under this contract, the Contractor may not refuse to hire, discharge, promote or demote, or discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, ethnicity, citizenship, immigration status, gender, age, , sexual orientation, gender identity, gender expression, marital status, source of income, military status, protective hairstyle or disability. The Contractor shall insert the foregoing provision in all subcontracts.

**3. Changes.** Vendor and Buyer acknowledge and agree that the products and/or services shall be furnished strictly in accordance with the specifications set forth in, and pursuant to the terms and conditions of, Vendor's Product-Specific Attachment(s) attached hereto as **Exhibit A** ("PSA(s)") and at the prices set forth for each item in a SO. This Agreement shall not be modified, superseded or otherwise altered, except in writing signed by City and accepted by Vendor. Each shipment received or service performed shall comply with the terms of this Agreement and applicable SO, notwithstanding invoice terms or acts of Vendor to the contrary, unless this Agreement has been modified, superseded or otherwise altered in accordance with this section.

**4. Intellectual Property.** Except to the extent specifically provided elsewhere in this Agreement, any City Information (as hereinafter defined), software, research, reports, studies, data, photographs, negatives or other documents, drawings, models, materials,

or work product of any type, including drafts, prepared by Vendor solely in the performance of its obligations under this Agreement shall be the exclusive property of the City (collectively, "City Materials"). Notwithstanding the foregoing, the parties acknowledge and agree that the creation of any City Materials or Work Product is not anticipated by the parties under this Agreement. All City Materials shall be delivered, upon City's request, to the City by Vendor upon completion or termination of this Agreement; provided, that, notwithstanding the foregoing, Vendor may retain copies of any City Materials for legal and regulatory compliance purposes. The City's exclusive rights in any work product prepared by Vendor shall include, but not be limited to, the right to copy, publish, display, transfer, and prepare derivative works. Vendor shall not use, willingly allow, cause or permit any City Materials to be used for any purpose other than the performance of Vendor's obligations hereunder without the prior written consent of the City. Buyer shall maintain complete and accurate records relating to (i) its use of all Vendor and third party software licenses and rights to use any Vendor or third party software granted under this Agreement and its attachments to which Buyer is a party and (ii) all amounts payable to Vendor pursuant to this Agreement and its attachments and Buyer's obligations under this Agreement or to any amounts payable to Vendor in relation to this Agreement, which records shall contain sufficient information to permit Vendor to confirm Buyer's compliance with the use restrictions and payment obligations under this Agreement or to any third-party use restrictions to which Buyer is a party. Notwithstanding the foregoing, Vendor retains the exclusive rights, title and ownership to any and all pre-existing materials owned by or licensed to Vendor including, but not limited to all Services, pre-existing software, licensed products, associated source code, machine code, text images, audio and/or video, and third-party materials, delivered by Vendor under the Agreement, whether incorporated in a Deliverable or necessary to use a Deliverable (collectively, "Vendor Property"). Buyer shall not copy, redistribute, or bundle in whole or in part, the Vendor Property except to the extent separately licensed to the City as set forth in a City-approved license agreement: (i) entered into as exhibits or attachments to this Agreement, (ii) obtained by the City from the applicable third-party vendor, or (iii) in the case of open source software, the license terms set forth in the applicable open source license agreement. Except as expressly set forth herein, Buyer shall not be subject to any provision incorporated in any exhibit or attachment attached hereto, any provision incorporated in any terms and conditions appearing on any website, any provision incorporated into any click through or online agreements, or any provision incorporated into any other document or agreement between the parties that (i) requires Buyer to indemnify Vendor or any other party, or (ii) is in violation of City laws, regulations, rules, fiscal rules, policies, or other City requirements as reasonably deemed by the City.

## 5. LIMITATION OF LIABILITY; DISCLAIMER OF WARRANTIES; WARNINGS

### 5.1 Limitation of Liability.

**A. THE AGGREGATE LIABILITY OF VENDOR FOR ANY AND ALL LOSSES, DAMAGES AND CAUSES ARISING OUT OF THIS AGREEMENT, INCLUDING, BUT NOT LIMITED TO, THE PERFORMANCE OF SERVICES, AND NOT OTHERWISE LIMITED HEREUNDER, WHETHER IN CONTRACT, TORT, OR OTHERWISE, SHALL NOT EXCEED DIRECT DAMAGES EQUAL TO THE SUM TOTAL OF PAYMENTS MADE BY BUYER TO VENDOR DURING THE EIGHTEEN (18) MONTHS IMMEDIATELY PRECEDING THE EVENT FOR WHICH DAMAGES ARE CLAIMED. THIS LIMITATION SHALL NOT APPLY TO VENDOR'S INDEMNIFICATION OBLIGATIONS AND CLAIMS FOR DAMAGE TO PROPERTY AND/OR PERSONAL INJURIES (INCLUDING DEATH) ARISING OUT OF THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF VENDOR WHILE ON THE BUYER'S SERVICE LOCATION.**

**B. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY, INCIDENTAL, INDIRECT, SPECIAL, COVER, PUNITIVE OR CONSEQUENTIAL DAMAGES, WHETHER OR NOT FORESEEABLE, OF ANY KIND INCLUDING, BUT NOT LIMITED TO, ANY LOSS OF REVENUE, LOSS OF USE, LOSS OF BUSINESS, OR LOSS OF PROFIT WHETHER SUCH ALLEGED LIABILITY ARISES IN CONTRACT OR TORT; PROVIDED, THAT, THE FOREGOING LIMITATION SHALL NOT: (I) LIMIT VENDOR'S LIABILITY FOR ANY SUCH DAMAGES TO THE EXTENT THEY ARE ACTUALLY INCURRED BY AN INDEMNIFIED PARTY PURSUANT TO A THIRD-PARTY CLAIM WITHIN THE SCOPE OF THE INDEMNIFICATION OBLIGATIONS SET FORTH IN SECTION 14; AND (II) LIMIT BUYER'S LIABILITY FOR AMOUNTS OWED FOR THE SERVICES, FOR ANY EQUIPMENT OR SOFTWARE PROVIDED BY VENDOR OR FOR CAPITAL EXPENDITURE CHARGES.**

**C. NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED IN THE AGREEMENT, IN NO EVENT SHALL THE AGGREGATE LIABILITY OF VENDOR AND ITS AGENTS, SUPPLIERS, AND LICENSORS UNDER THIS AGREEMENT FOR ALL INDEMNIFICATION OF INTELLECTUAL PROPERTY CLAIMS UNDER**

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**SECTION 14 OF THIS AGREEMENT EXCEED THE GREATER OF (I) FIVE (5) MILLION DOLLARS (\$5,000,000) AND (II) THE SUM TOTAL OF PAYMENTS MADE BY CUSTOMER DURING THE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE DATE ON WHICH THE INTELLECTUAL PROPERTY CLAIM FIRST AROSE.**

## 5.2 Disclaimer of Warranties.

A. Services shall be provided pursuant to the terms and conditions in the applicable PSA and Service Level Agreement (which, for the avoidance of doubt, is included, to the extent applicable, as a schedule to the PSA), and are in lieu of all other warranties, express, implied or statutory, including, but not limited to, the implied warranties of merchantability, fitness for a particular purpose, title, and non-infringement. **TO THE MAXIMUM EXTENT ALLOWED BY LAW, VENDOR EXPRESSLY DISCLAIMS ALL SUCH EXPRESS, IMPLIED AND STATUTORY WARRANTIES.**

B. Without limiting the generality of the foregoing, and except as otherwise identified in a PSA or Service Level Agreement, Vendor does not warrant that the Services or associated software or equipment (collectively for the purposes of this §6.2(B), the "Services") will be uninterrupted, error-free, or free of latency or delay, or that the Services will meet Buyer's requirements, or that the Services will prevent unauthorized access by third parties.

C. Except as otherwise stated herein, in no event shall Vendor, be liable for any loss, damage or claim arising out of or related to: (i) stored, transmitted, or recorded data, files or software (ii) any act or omission of Buyer, its users or third parties; (iii) interoperability, interaction or interconnection of the Services with applications, equipment, services or networks provided by Buyer or third parties; or (iv) loss or destruction of any Buyer hardware, software, files or data resulting from any virus or other harmful feature or from any attempt to remove it. Buyer is advised to back up all data, files and software prior to the installation of Service and at regular intervals thereafter.

**5.3 Disruption of Service.** Notwithstanding the performance standards identified in a PSA, the Services are not fail-safe and are not designed or intended for use in situations requiring fail-safe performance or in which an error or interruption in the Services could lead to severe injury to business, persons, property or environment ("High Risk Activities"). These High Risk Activities may include, without limitation, vital business or personal communications, or activities where absolutely accurate data or information is required.

**6. Inspection and Acceptance.** Final acceptance is contingent upon completion of all applicable inspection procedures. Buyer shall have the right to inspect Services provided under this Agreement at all reasonable times and places; provided, however, that Buyer shall not be entitled to any credit or other remedy related to any delay or interruption in the Services resulting from Buyer's inspection of the Services. "Services" as used in this section includes services performed or tangible material produced or delivered in the performance of services. If any of the Services do not conform to the applicable PSA, Buyer may require Vendor to perform the Services again in conformity with the applicable PSAs, without additional payment. When defects in the quality or quantity of Service cannot be corrected by re-performance, Buyer may be entitled to service credits as set forth in the applicable PSA. Without limiting the foregoing in any way, including any of Buyer's rights set forth in this §8, Service credits are Buyer's sole remedy with respect to a failure of the services to meet the specifications set forth in the applicable PSA.

**7. Taxes.** The City is not liable for the payment of late charges or penalties of any nature, except for any additional amounts that the City may be required to pay under the City's prompt payment ordinance D.R.M.C. § 20-107, *et seq.* Buyer is exempt from all federal excise taxes under Chapter 32 of the Internal Revenue Code No. 84-730123K and from all State and local government sales and use taxes CRS, Title 39, Article 26, Parts I and II and upon Buyer's submission of a valid tax exemption certificate, Vendor will notate Buyer's account as tax-exempt; provided, however, that Buyer will be responsible for the payment of any such taxes if it fails to provide a valid tax exemption certificate. Such exemptions apply when materials are purchased for the benefit of City, except that in certain political subdivisions Vendor may be required to pay sales or use taxes even though the ultimate product or service is provided to Buyer. Buyer shall not reimburse such sales or use taxes.

**8. Payment.** Comcast shall provide the City with a monthly invoice in a format and with a level of detail reasonably acceptable to the City including all supporting documentation reasonably required by the City. The City's Prompt Payment Ordinance, §§ 20-107 to 20-118, D.R.M.C., applies to invoicing and payment under this Agreement. There are no reimbursable expenses allowed under the Agreement except as set out herein. All of Comcast's expenses are contained in the rates in the Exhibits. Notwithstanding any other provision of the Agreement, the City's maximum payment obligation will not exceed **TWENTY MILLION AND 00/100 DOLLARS (\$20,000,000.00)** (the "Maximum Contract Amount"). The City is not obligated to execute an Agreement or any amendments for any further services, including any

services performed by Comcast beyond that specifically described in the Exhibits. Any services performed beyond those in the Exhibits are performed at Comcast's risk and without authorization under the Agreement. For the avoidance of doubt, Comcast is not required to provide any Services other than those identified in a SO and the City shall not request any additional Services without first having received additional funding to support the addition of such Services. The City's payment obligation, whether direct or contingent, extends only to funds appropriated annually by the Denver City Council, paid into the Treasury of the City, and encumbered for the purpose of the Agreement. The City does not by this Agreement irrevocably pledge present cash reserves for payment or performance in future fiscal years. The Agreement does not and is not intended to create a multiple-fiscal year direct or indirect debt or financial obligation of the City.

**9. Assignment and Successors; Subcontractors.** Buyer shall not assign any right, obligation or duty, in whole or in part, nor of any other interest hereunder, without the prior written consent of Vendor, which shall not be unreasonably withheld. The Vendor shall not assign, transfer, convey or otherwise dispose of any interest whatsoever in this Agreement without the prior written consent of Buyer, which shall not be unreasonably withheld; provided, however, that Vendor may assign this Agreement to any affiliate or an entity that purchases all or substantially all of the assets to which this Agreement pertains without the Buyer's consent. All obligations and duties of either party under this Agreement shall be binding on all successors in interest and assigns of such party.

**10. Indemnification.** Subject to Section 6(c), Vendor shall indemnify, defend, and hold harmless City, its affiliates and their respective employees, directors, officers, and agents (the "City Indemnified Parties") from and against all actions, causes of action, damages, liabilities, losses, and expenses (including reasonable attorneys' fees) arising out of (i) infringement of U.S. patent or copyright law based solely on Vendor equipment or licensed software; provided that Vendor shall have no liability for any claim of infringement arising from: (a) Vendor's compliance with any designs, specifications, or instructions of City; (b) modification or alteration of the licensed software or Vendor equipment by City or a third party without the prior knowledge and written approval of an authorized officer of Vendor; (c) use of the licensed software or Vendor equipment in a way not authorized in writing by an authorized officer of Vendor; and/or (d) City's failure to use an updated version of licensed software or Vendor equipment which has been provided, or made available, to City and (ii) damage to tangible personal property or real property, and personal injuries (including death) arising out of the negligent acts or omissions or willful misconduct of Vendor, or its employees, agents, subcontractors, or assignees while working on the service locations in the performance of services under this Agreement. Nothing in this Section 14 shall be construed or interpreted as a waiver, express or implied, of any of the applicable immunities, rights, benefits, protection, or other provisions, of the Colorado Governmental Immunity Act, CRS § 24-10-101 et seq., or the Federal Tort Claims Act, 28 USC § 2671 et seq., as applicable, as now or hereafter amended.

**11. Independent Contractor.** Vendor shall perform its duties hereunder as an independent contractor and not as an employee. Neither Vendor nor any agent or employee of Vendor shall be deemed to be an agent or employee of Buyer. Vendor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through Buyer and Buyer shall not pay for or otherwise provide such coverage for Vendor or any of its agents or employees. Unemployment insurance benefits will be available to Vendor and its employees and agents only if coverage is made available by Vendor or a third party. Vendor shall pay when due all applicable employment, income, and local head taxes incurred pursuant to this Agreement. Vendor shall not have authorization, express or implied, to bind Buyer to any agreement, liability or understanding, except as expressly set forth herein. Vendor shall (a) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law, (b) provide proof thereof when requested by Buyer, and (c) be solely responsible for its acts and those of its employees and agents.

**12. Communication.** All communication concerning administration of this Agreement, prepared by Vendor for Buyer's use, shall be furnished solely to Chief Information Officer or its designee.

**13. Compliance.** Vendor and Buyer shall strictly comply with all applicable federal and state laws, rules, and regulations in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

**14. Insurance.** Vendor agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Vendor shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M. Best Company as "A-"VII or better. Each policy shall provide for notice of cancellation in accordance with policy provisions. If such written notice is unavailable from the insurer, contractor shall provide written notice of cancellation, non-renewal and any reduction in coverage which causes Vendor to no longer comply with the requirements of this Insurance section to the parties identified in the Notices section. Vendor shall be responsible for the payment of any deductible or self-insured retention under its policies. The insurance coverages specified

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in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Vendor. Vendor shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

**14.1 Proof of Insurance.** Vendor may not commence services or work relating to the Agreement prior to placement of coverages required under this Agreement. Vendor shall provide certificate of insurance preferably an ACORD certificate, evidencing compliance with all insurance requirements of this Agreement. The City requests that the City's contract number be referenced on the Certificate. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Vendor's breach of this Agreement or of any of the City's rights or remedies under this Agreement.

**14.2 Additional Insureds.** For Commercial General Liability, Auto Liability and Excess Liability/Umbrella (if required), Comcast and subcontractor's insurer(s) shall include the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.

**14.3 Subcontractors and Subconsultants.** All subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of the Comcast. Comcast shall ensure that all such subcontractors and subconsultants maintain the required coverages. Comcast agrees to provide proof of insurance for all such subcontractors and subconsultants performing work hereunder upon request by the Customer.

**14.4 Workers' Compensation/Employer's Liability Insurance.** Comcast shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. Comcast expressly represents to the Customer, as a material representation upon which the Customer is relying in entering into this Agreement, that none of the Comcast's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Agreement, and that any such rejections previously effected, have been revoked as of the date Comcast executes this Agreement.

**14.5 Commercial General Liability.** Comcast shall maintain a Commercial General Liability insurance policy with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate.

**14.6 Business Automobile Liability.** Comcast shall maintain Business Automobile Liability with limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement.

**14.7 Technology Errors & Omissions with Cyber-Liability.** Comcast shall maintain Technology Errors and Omissions insurance including cyber liability, network security, privacy liability and product failure coverage with limits of \$1,000,000 per claim and \$1,000,000 policy aggregate.

**14.8 Additional Provisions:** For Commercial General Liability, the policy must provide the following:

- (i) That this Agreement is an Insured Contract under the policy;
- (ii) Defense costs are outside the limits of liability;
- (iii) A severability of interests or separation of insureds provision (no insured vs. insured exclusion) applies with respect to additional insured parties; and
- (iv) A provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by the Customer, but only with respect to losses for which Comcast is responsible hereunder.

For claims-made coverage:

- (i) The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the Customer, whichever is earlier.
- (ii) Comcast shall advise the Customer in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Comcast will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

**15. PAYMENT OF CITY MINIMUM WAGE:** Contractor shall comply with, and agrees to be bound by, all requirements, conditions, and City determinations regarding the City's Minimum Wage Ordinance, Sections 20-82 through 20-84 D.R.M.C., including, but not limited to, the requirement that every covered worker shall be paid

no less than the City Minimum Wage in accordance with the foregoing D.R.M.C. Sections. By executing this Agreement, Contractor expressly acknowledges that Contractor is aware of the requirements of the City's Minimum Wage Ordinance and that any failure by Contractor, or any other individual or entity acting subject to this Agreement, to strictly comply with the foregoing D.R.M.C. Sections shall result in the penalties and other remedies authorized therein.

**16. ELECTRONIC SIGNATURES AND ELECTRONIC RECORDS:** Vendor consents to the use of electronic signatures by the City. The Agreement, and any other documents requiring a signature under the Agreement, may be signed electronically by the City in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.

**17. Approval.** The Agreement will not be effective or binding on the City until it has been fully executed by all required signatories of the City and County of Denver, and if required by Charter, approved by the City Council.

**18. Choice of Law.** The Agreement will be construed and enforced in accordance with applicable federal law, the laws of the State of Colorado, and the Charter, Revised Municipal Code, ordinances, regulations and Executive Orders of the City and County of Denver, which are expressly incorporated into the Agreement. Unless otherwise specified, any reference to statutes, laws, regulations, charter or code provisions, ordinances, executive orders, or related memoranda, includes amendments or supplements to same. Venue for any legal action relating to the Agreement will be in the District Court of the State of Colorado, Second Judicial District (Denver District Court).

**19. Vendor Records.** During the term of this Agreement, Vendor will keep books and records sufficient to verify the accuracy of any books, documents, papers, and records directly related to Vendor's performance under this Agreement ("Records"). Vendor will, upon at least sixty (60) days prior written request by City, provide to City, or a representative of City who is reasonably acceptable to Vendor, the Records, or copies thereof for inspection; provided that (i) audits may not occur more frequently than once every twelve (12) months; and (ii) each such audit may only cover the period commencing after the period covered by the last audit, if any. Vendor will reasonably cooperate with City and its representatives in the conduct of such audit. City agrees that any information (including the Records) learned by it or its auditor in connection with any such audit is Confidential Information of Vendor. City agrees that any information learned by or disclosed to it or its auditor in connection with such audit is Confidential Information of Vendor; provided, however, that (i) the City Auditor shall be subject to government auditing standards issued by the United States Government Accountability Office by the Comptroller General of the United States, including with respect to disclosure of information acquired during the course of an audit and (ii) no examination of records and audits pursuant to this paragraph shall require Vendor to make disclosures in violation of state or federal privacy laws.

**20. Confidential Information – City Records and Data.** Vendor shall comply with and shall cause each of its Subcontractors and any other party performing Work under the Agreement to comply with the provisions of this Agreement if it becomes privy to City Information in connection with its performance. Confidential Information means all information regarding either Party's business or operations which has been marked or is otherwise communicated as being "proprietary" or "confidential" or which reasonably should be known by the receiving party to be proprietary or confidential information. "City Information" means the combination of City Confidential Information and City Records. "City Confidential Information" means all information, data, records, and documentary materials which are of a sensitive nature and belong to the City regardless of physical form or characteristics (including but not limited to any non-public City records, sensitive City data, protected City data, City personnel records, payment card information ("PCI") personally identifiable information ("PII") and federal tax information ("FTI")) which has been communicated, furnished or disclosed to Vendor by Buyer in connection with its provision of the Services; provided, that, Buyer acknowledges and agrees that (i) Vendor does not require access to, and City shall not provide Vendor with access to, any City personnel records, PII, PCI or any other information or data concerning individuals in the performance of its obligations under this PO and (ii) that information transferred by City and/or its users over or through the network (i.e., the Vendor equipment, facilities, fiber optic cable associated with electronics and other equipment used to provide the Services), including, but not limited to, PCI or PII, shall not constitute City Confidential Information that has been "communicated, furnished or disclosed" to Vendor by City. Notwithstanding the foregoing, City Confidential Information shall not include City Records. "City Records" means all information, data, records, and documentary materials which are not sensitive and belong to the City regardless of physical form or characteristics, including but not limited to any public City records, non-sensitive City data, and other information or data concerning individuals that is not deemed confidential but

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nevertheless belongs to the City, which has been communicated, furnished or disclosed by the City to Vendor which (i) is subject to disclosure pursuant to the Colorado Open Records Act, CRS § 24-72-200.1, et seq.; (ii) is already known to Vendor without restrictions at the time of its disclosure by Vendor; (iii) is or subsequently becomes publicly available without breach of any obligation owed by Vendor to the City; (iv) is disclosed to Vendor, without confidentiality obligations, by a third party who has the right to disclose such information; or (v) was independently developed without reliance on any City Confidential Information. Notwithstanding the foregoing, City Records shall not include City Confidential Information.

**21. Confidentiality.** Vendor and City shall comply with all laws and regulations concerning confidentiality of the Confidential Information of the other Party. Any request or demand by a third party for Confidential Information of either Party shall, within a commercially reasonable time, forward to the affected Party, provided such notification is not prohibited by law.

**22. Notification.** Vendor shall provide its agents, employees, Subcontractors and assigns who may come into contact with City Confidential Information with a written explanation of the confidentiality requirements herein, to which they are subject, before permitting them to access such City Information.

**23. Use, Security, and Retention.** City Information of any kind shall not be distributed or sold to any third party, retained in any files or otherwise, or used by Vendor or its agents in any way, except as authorized by this Agreement, by law, or approved in writing by the City.

**24. Protection.** Each party shall protect and secure all Confidential Information (including City Information) of the other party in the same manner as if it were its own Confidential Information. With respect to City Information provided to Vendor by the City (excluding the transmission of any such City Information through use of the Services provided hereunder), Vendor shall, and shall cause its Subcontractors to, (i) provide physical and logical protection for all related hardware, software, applications and data that meet or exceed industry standards and requirements as set forth in this Agreement; (ii) maintain network, system, and application security, which includes network firewalls, intrusion detection, and annual security testing; (iii) comply with applicable state and federal regulations related to security, confidentiality and auditing; and (iv) shall report all Incidents to a representative of the City as soon as is reasonably practicable, but in no event later than is required by applicable law.

**25. Background Checks.** Vendor shall perform background checks on all of its respective employees and agents performing Services under this Agreement. Comcast will take reasonable steps to assure that any third-party contractors or agents accessing City's facilities will be required to undergo a background check; provided that for the technicians of any third party internet connectivity providers, the standard screening practices of such providers will apply.

**26. Incident Notice.** If Vendor becomes aware of an Incident involving any City Records, it shall (i) notify the City as soon as is reasonably practicable thereafter but, in no event, later than fifteen (15) days thereafter and (ii) reasonably cooperate with the City regarding recovery, remediation, and the necessity to involve law enforcement, if any. If the Incident is determined to be caused by Vendor, Vendor shall be responsible for the cost of notifying each person whose personal information may have been compromised by the Incident.

**27. Incident Remediation.** Vendor shall be responsible for determining the cause of an Incident, and for producing a remediation plan to reduce the risk of incurring a similar type of breach in the future. Vendor shall promptly present its analysis and remediation plan to the City notifying the City of an Incident. If Vendor cannot produce its analysis and plan within a reasonable amount of time, the City, in its sole discretion, may perform such analysis and produce a remediation plan.

**28. Incident Liability.** Vendor shall indemnify, save, and hold harmless the City, its employees and agents against any and all claims, damages, liability and court awards including costs, expenses, and attorney fees arising from, or related to, an Incident to the extent that it is determined to have been caused by Vendor. Notwithstanding the foregoing or anything in this Agreement to the contrary, in no event shall the aggregate liability of Service Provider under this Agreement for all indemnification obligations in this Section 28 exceed the greater of (i) One Million Dollars (\$1,000,000.00) and (ii) the aggregate amount of fees received by Service Provider during the twelve (12) month period immediately preceding the date on which the claim first arose.

**29. End-of-Agreement City Information Handling.** The Parties agree that upon the termination or expiration of this Agreement, the Vendor shall, at the choice of the City, return all City Information provided by the City to Vendor, and the copies thereof, to the City, or Vendor shall destroy all such City Information and certify to the City that it has done so; provided, that, notwithstanding the foregoing, Vendor may retain copies of any City Information for legal and regulatory compliance purposes. If legislation imposed upon the Vendor prevents it from returning or destroying all or part of the City Information provided by the City to Vendor, Vendor warrants that it will protect the

confidentiality of all City Information provided by the City to Vendor in accordance with the terms and conditions of this Agreement.

**30. Force Majeure.** Neither Party will be liable for its non-performance or delayed performance if caused by a Force Majeure event. A Party that becomes aware of a Force Majeure event that will significantly delay performances shall notify the other Party promptly (but in no event later than fifteen (15) days) after it discovers the Force Majeure event. If a Force Majeure event occurs, the Parties shall execute an amendment in accordance with the terms of this Agreement to extend the Agreement for a time period that is reasonable under the circumstances.

**31. License or Use Audit Rights.** Vendor shall have the right, at any time during and throughout the Agreement term, but not more than once (1) per Fiscal Year to request via written notice in accordance with §16 ("Audit Request") that the City certify its compliance with any applicable license or use restrictions and limitations ("Audit") contained in this Agreement or its exhibits. The City shall complete the Audit and provide certification of its compliance to Vendor ("Audit Certification") within one hundred twenty (120) days following the City's receipt of the Audit Request. If upon receipt of the City's Audit Certification, the Parties reasonably determine: (i) the City's use of licenses, use of software, use of programs, or any other use during the Audit period exceeded the use restrictions and limitations contained in this Agreement or its exhibits ("Overuse") and (ii) that the City would have been or is then required to purchase additional maintenance and/or services ("Maintenance"), Vendor shall provide written notice in accordance with §16 to the City identifying any Overuse or required Maintenance and request that the City brings its use into compliance with such use restrictions and limitations. Notwithstanding anything to the contrary in this Agreement and its exhibits, or incorporated as a part of Vendor's or any Subcontractor's website, click-through or online agreements, third-party agreements, or any other documents or agreements between the Parties, the City shall not be liable for the costs associated with any Overuse or Maintenance beyond the then current fiscal year, regardless of whether the City may have been notified in advance of such costs.

**32. Press Release.** Vendor or Buyer shall not initiate any press and/or media contacts nor respond to press and/or media requests regarding this Agreement and/or any related matters concerning the either Party without the prior written approval of the other Party (in the case of the City, the representative listed on the cover page of this Agreement).

**33. Modification.** Modification. Except as specifically provided in this Agreement and Vendor's SO, modifications of this Agreement and Vendor's SO shall not be effective unless agreed to in writing by the Parties in an amendment to this Agreement and Vendor's SO, properly executed. This Agreement is subject to such modifications as may be required by changes in Federal or Colorado State law, or their implementing regulations. Any such required modification shall automatically be incorporated into and be part of this Agreement on the effective date of such change, as if fully set forth herein.

**34. Early Termination.** Notwithstanding anything to the contrary contained in this Agreement or any applicable PSA, Buyer shall have no obligation to pay early termination charges in connection with an early termination of this Agreement and/or a Service by Buyer; provided, however, that, notwithstanding the foregoing, if Buyer terminates this Agreement or a Service other than for cause in accordance with §20, Customer shall be obligated to reimburse Vendor for 100% of any remaining, unpaid capital expenditures which Vendor has incurred in order to provide the ordered Services to Buyer (the "Capital Expenditure Charges").

**35. Defined Terms.** "City" or "Buyer" means the City of Denver. "Deliverable" means the outcome to be achieved or output to be provided, in the form of a tangible or intangible object that is produced as a result of Vendor's Work that is intended to be delivered to the City by Vendor. Examples of Deliverables include, but are not limited to, report(s), document(s), server upgrade(s), software license(s), and may be composed of multiple smaller deliverables. "Federal Tax Information (FTI) Data" means federal or state tax returns, return information, and such other tax-related information as may be protected by State and federal law. "Fiscal Year" means the City's fiscal year, which begins on July 1 of each calendar year and ends on June 30 of the following calendar year. "Force Majeure" means failures or delays in performance by a Party due to causes beyond its reasonable control, including war, strikes, lockouts, fire, flood, storm, or other acts of God. Both Parties agree to use their best efforts to minimize the effects of such failures or delays. "Goods" means tangible material acquired, produced, or delivered by Vendor either separately or in conjunction with the Services Vendor renders hereunder. "Incident" means an accidental or deliberate event by Vendor or its representatives that results in the unauthorized loss or disclosure of City Information which has been communicated, furnished or disclosed to Vendor by Buyer and/or the City in connection with its provision of the Services. "Payment Card Information (PCI) Data" means any data related to card holders' names, credit card numbers, or other credit card information as may be protected by State and federal law. "Personally Identifiable Information (PII) Data" means information about an individual collected by the City that could reasonably be used to identify such individual as defined in CRS § 24-72-501(2) and includes, but is not limited to, any combination of (i) first and last name, (ii) first name or first initial and last name, (iii) residence or other physical address, (iv) electronic mail address, (v) telephone number, (vi) birth date, (vii) credit card information, (viii) social security

# MASTER SERVICES AGREEMENT

number, (ix) driver's license number, (x) identification card number, or (xi) any other information that identifies an individual personally. "Product-Specific Attachment (PSA)" means additional terms and conditions required by the Vendor which are applicable to the Services ordered by Buyer under this Agreement. "Sales Order ("SO")" means a request for Vendor to provide the Services to a Service Location(s) submitted by City to Vendor on a then-current Vendor form designated for that purpose. "Services" means the required services to be performed by Vendor pursuant to this Agreement as described in the applicable PSA. "Subcontractor" means any third party engaged by Vendor to aid in performance of Vendor's obligations. "Work" means the tasks and activities Vendor is required to perform to fulfill its obligations under this Agreement and its exhibits, including the performance of the Services. "Work Product" means the tangible or intangible results of Vendor's Work, including, but not limited to, software, research, reports, studies, data, photographs, negatives, or other finished or unfinished documents, drawings, models, surveys, maps, materials, or work product of any type, including drafts."Vendor" means Comcast Cable Communications Management, LLC and its assigns.

**36. ACCESS TO CITY FACILITIES.** Upon written notice to the City's Technology Services, Service Delivery Team by the Contractor, Contractor shall be entitled to enter upon City owned property, without further authorization or signature requirement, for installation and maintenance of Contractor's equipment for the duration of this Agreement. Contractor shall coordinate entry activities with the City's Technology Services, Service Delivery Team prior to any work taking place on the City property.

# MASTER SERVICES AGREEMENT

## Exhibit A

### Vendor Product Specific Attachments

**Contract Control Number:**  
**Contractor Name:**  
MANAGEMENT LLC

TECHS-202158321-00  
COMCAST CABLE COMMUNICATIONS

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at  
Denver, Colorado as of:

**SEAL**

**CITY AND COUNTY OF DENVER:**

**ATTEST:**  
  
\_\_\_\_\_

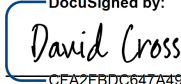
By:  
  
\_\_\_\_\_

**APPROVED AS TO FORM:**  
  
Attorney for the City and County of Denver  
  
By: \_\_\_\_\_

**REGISTERED AND COUNTERSIGNED:**  
  
By: \_\_\_\_\_  
  
By: \_\_\_\_\_

**Contract Control Number:**  
**Contractor Name:**  
MANAGEMENT LLC

TECHS-202158321-00  
COMCAST CABLE COMMUNICATIONS

By:   
CFA2FBDC647A497...

Name: David Cross  
(please print)

Title: Vice President  
(please print)

ATTEST: [if required]

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(please print)

Title: \_\_\_\_\_  
(please print)



**Exhibit A**

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
DARK FIBER SERVICE**

The following additional terms and conditions are applicable to Sales Orders for Comcast's Dark Fiber Service (the "Services"). Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the General Terms and Conditions.

**ARTICLE 1. FACILITIES**

- A. Comcast will lease to Customer the strands of Comcast's multi-strand single mode fiber-optic cable which strands shall originate at the points and terminate at the Service Locations specified in the applicable Sales Order. These strands and all related facilities and equipment are hereinafter referred to as the "Facilities" or the "Services". Customer agrees that it will light and immediately use all strands for its broadband needs. The Facilities are provisioned into each Service Location at the point of interconnection between the Comcast-owned Facilities and Customer's provided equipment located at the Service Location(s) (the "Demarcation Point").
- B. The Facilities do not include connection to the public switched network, building wire, any Local Area Networks ("LANs"), Customer Premise Equipment ("CPE"), IP addressing capability, firewalls or any other equipment, electronics, or wiring required on the Customer's side of the Demarcation Point.
- C. Upon the request of Customer, Comcast will consider providing other facilities or services to Customer at terms, conditions, and prices to be mutually agreed upon in writing between the Parties.

**ARTICLE 2. SERVICE INSTALLATION**

- A. Following its acceptance of a Sales Order, Comcast shall notify Customer of the target date for delivery of the applicable Services (the "Estimated Availability Date"). 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.
- B. At such time as Comcast completes installation and connection of the Services, Comcast shall then notify Customer in writing that the Services are available for use and the date of such notice shall be the "Service Commencement Date." Any failure or refusal on the part of Customer to be ready to receive the Services shall not relieve Customer of its obligation to pay charges for any Services that would otherwise be available for use.

**ARTICLE 3. OWNERSHIP, IMPAIRMENT, AND REMOVAL OF THE FACILITIES**

- A. The Facilities and all other portions of the Network are and shall remain the property of Comcast regardless of whether installed between, within or upon the Service Locations and whether installed overhead, above, or underground and shall not be considered a fixture or an addition to the land or the Service Locations located thereon. Customer agrees that it shall take no action that directly or indirectly impairs Comcast's title to the Facilities or Network, or exposes Comcast or the Facilities, Network, or any Comcast-provided equipment, or on the rights or title relating thereto, or any interest therein, to any claim, lien, encumbrance, or legal process, except as otherwise agreed in writing by the Parties, and Comcast will promptly at its own expense take all actions necessary to remedy any violation of this provision.
- B. Comcast retains the right to remove the Facilities or Network including, but not limited to, those portions that are located in the Service Locations. To the extent Comcast removes such portion of the Network; it shall be responsible for returning the Service Locations to their prior condition, reasonable wear and tear excepted.

**Exhibit A**

- C. In accordance with the Federal Communications Commission's Order in FCC 99-216, released August 11, 1999, the Parties agree to the terms set forth in this section. All equipment located on Customer's premises installed or provided under this Agreement by Comcast is an integral component of the Facilities provided by Comcast and will only be used in connection therewith. All right, title, and interest in the Facilities and any other equipment or facility provided by Comcast shall, at all times, remain exclusively with the Comcast, shall not become a fixture to Customer's premises, and must be returned to Comcast at the conclusion of the Term (unless a new similar agreement has been executed or is being actively negotiated by both parties) in the condition in which it was received, subject to ordinary wear and tear. All rights of Customer to the Facilities shall cease and Comcast may, at its option, disconnect, terminate, remove or use the Facilities for any other purpose. Comcast may use such equipment and its Network in any lawful manner, including supporting its network or providing service to other customers and Customer will not sell, lease, assign nor encumber any equipment provided by Comcast. Comcast does not provide any option to Customer to purchase any such equipment. Customer agrees not to interfere with other customers' use of the Comcast services or equipment, including any Comcast equipment located on Customer's premises. Customer represents and warrants that its internal communications systems, such as a Local Area Network ("LAN"), would continue to function if disconnected from the Comcast Network or disconnected from any on-premise equipment provided by Comcast.

**ARTICLE 4. CUSTOMER RESPONSIBILITIES**

- A. Customer shall be responsible for providing maintenance, repair, operation and replacement of all wire and cable facilities on the Customer's side of the Demarcation Point. Any CPE and wiring that Customer uses in connection with the Facilities shall be compatible with Comcast's Network.
- B. Customer shall provide adequate environmentally controlled space and electricity required for installation, operation, and maintenance of the Facilities within each Service Location. Customer shall use reasonable efforts to maintain its property and Service Locations in a manner that preserves the integrity of the Facilities and shall promptly notify Comcast of any event that affects such integrity including, but not limited to, damage to the Facilities and Network. For the avoidance of doubt, the Facilities constitute part of Comcast's Network.

**ARTICLE 5. TERMINATION CHARGES**

- A. The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term.
- B. Subject to Section 5(D), in the event that 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 the Service Location.
- C. Subject to Section 5(D), in the event Service is terminated on or following the Service Commencement Date but prior to the end of the applicable initial Service Term, Customer shall pay Termination Charges equal to 100% of any remaining, unpaid installation charges (including construction charges).
- D. 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.

**ARTICLE 6. MAINTENANCE**

- A. Maintenance consists of the repair or replacement, at Comcast's option, of any portion of the Facilities that is malfunctioning. Comcast will maintain the Facilities twenty-four (24) hours a day, seven (7) days per week, every day of the year. Comcast is responsible for the maintenance of the Facilities, provided, that, Customer may incur additional charges for maintenance (at Comcast's then-existing applicable rates for material and labor), if the maintenance is the

**Exhibit A**

result of the acts or omissions of Customer or a third-party acting on behalf of Customer. All maintenance and repair of the Facilities shall be performed by or under the direction of Comcast. Customer may not, nor permit others to, rearrange, disconnect, remove, attempt to repair, or otherwise tamper with any of the Facilities or equipment installed by Comcast, except with the written consent of Comcast, which consent shall be at Comcast's sole discretion.

- B. In the event that Comcast, in responding to a Customer-initiated service call, determines that the reason for such service call is due to Customer-provided equipment, Customer's actions or omissions, or acts or omissions of third parties with whom Customer has any type of relationship, Customer shall compensate Comcast for Comcast's costs of such service call at the rate of \$50.00 per half hour and \$150.00 per truck roll charge.

**ARTICLE 7. INSURANCE**

- A. Customer shall, at its own expense, secure and maintain in force, throughout the term of this Agreement, General Liability Insurance, with competent and qualified issuing insurance companies, including the following coverages: Product Liability; Hazard of Premises/Operations (including explosion, collapse and underground coverages); Independent Contractors; Products and Completed Operations; Blanket Contractual Liability (covering the liability assumed in this Agreement); Personal Injury (including death); and Broad Form Property Damage in policy or policies of insurance such that the total available limits to all insureds will not be less than \$2,000,000 Combined Single Limit for each occurrence and \$2,000,000 aggregated for each annual period. Such insurance may be provided in policy or policies, primary and excess, including the so-called Umbrella or Catastrophe forms and each such policy shall be endorsed to show Comcast, its parent and affiliates and its and their directors, officers, agents, servants, employees and independent contractors as additional insureds. In addition, Customer shall maintain in effect, with insurance companies of recognized responsibility, at its own expense, (i) "All Risk" property insurance coverage with limits sufficient to cover the full replacement cost of the Facilities with no co-insurance, (ii) Business Interruption coverage on an actual loss sustained basis, and (iii) such other insurance as may be required by any applicable franchise and/or pole attachment or conduit license agreements, as applicable and naming Comcast as the loss payee. All policies required by this Section shall require the insurance companies to notify Comcast at least thirty (30) days prior to the effective date of any cancellation or material modification of such policies. Customer may comply with any insurance requirements through self-insurance.

**ARTICLE 8. SERVICE CREDITS**

- A. Subject to Section 8(C), Comcast will provide a pro-rata credit against future payment of the net monthly recurring charge for the Services (exclusive of nonrecurring charges, other onetime charges, per call charges, measured charges, regulatory fees and surcharges, taxes, and other governmental and quasigovernmental fees) for a Service Interruption ("Credit"). "Service Interruption" shall mean a break in transmission that renders the Service unusable for transmission and reception. For the purposes of calculating a Credit allowance, the Service Interruption period begins when the Customer reports an interruption in the portion of the Service to Comcast, a trouble ticket is opened, and the Service is released to Comcast for testing and repair. The Service Interruption ends when the affected portion of the Service has been restored and Comcast has closed the trouble ticket. Service Interruption time does not include interruptions of less than thirty (30) minutes' duration.
- B. Subject to Section 8(C), Credits will be as follows:

<u>Length of Service Interruption</u>	<u>Amount of Credit</u>
At least 4 hours and up to and including 24 hours	1 full day

The total number of credit allowances per month shall not exceed the total monthly recurring charge for the affected Service. Credit allowances will not be made for less than \$1.00, unless required under applicable law. To qualify, Customer must request the Credit from Comcast within 30 days of the Service Interruption.

## Exhibit A

- C. Notwithstanding anything to the contrary contained in this Article 8 or the Agreement, a Service Interruption shall not qualify for the Credits 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 and third-party network providers; any power, equipment or services provided by third parties; or an event of force majeure as defined in the Agreement.
- D. The remedies set forth in this Article 8 shall be Customer's sole and exclusive remedy for any Service Interruption in the Services, any outage, unavailability, delay or other degradation in the Services or any Comcast failure to meet the objectives of the Services.
- E. All claims and rights arising under this Article 8 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.

**Exhibit A**

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
ACTIVECORE<sup>SM</sup> MANAGED ROUTER SERVICE**

**A. ATTACHMENT IDENTIFIER: ActiveCore<sup>SM</sup> Managed Router Service, Version 2**

The following additional terms and conditions are applicable to Sales Orders for Comcast's ActiveCore<sup>SM</sup> Managed Router Service:

## Exhibit A

**2. DEFINITIONS**

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

“**ACD**” means a document containing details regarding the Customer Local Area Network (“LAN”) and/or Wide Area Network (“WAN”) which will enable Comcast to create the configuration for the Base Service.

“**Estimated Availability Date**” means the target date for delivery of a Service.

“**Service(s)**” means Comcast ActiveCore<sup>SM</sup> Managed Router Service.

**3. ARTICLE 1. SERVICES**

This attachment shall apply to Comcast’s ActiveCore<sup>SM</sup> Managed Router Service which is delivered via Comcast’s ActiveCore<sup>SM</sup> platform. A further description of the Service is set forth in Schedule A-1 hereto which incorporated herein by reference.

**4. ARTICLE 2. PROVIDER**

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

**5. 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.

**6. ARTICLE 4. PROVISIONING INTERVAL**

Following the Customer’s 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 about the Estimated Availability Date; provided, however, that Comcast’s failure to provision Services by said date shall not constitute a breach of the Agreement.

**7. ARTICLE 5. SERVICE COMMENCEMENT DATE**

5.1 Comcast shall inform Customer when the Service is available and performing in accordance with the “Technical Specifications” set forth in Schedule A-1 (“**Availability Notification**”).

5.2 Charges for the Service shall begin to accrue as of the Service Commencement Date. The Service Commencement Date shall be the 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; 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 twenty-four (24) months.

5.3 Customer acknowledges and agrees that charges may begin to accrue with respect to Comcast-provided Underlay Connectivity Service (as defined below) and the Service at different times. For the avoidance of doubt, charges will begin to accrue with respect to Underlay Connectivity Services provided by Comcast in accordance with the PSA applicable thereto.

**8. ARTICLE 6. SERVICE REQUIREMENTS**

In order to provide the Service at a Service Location, the Service Location must have connectivity to the Internet or a private Ethernet network (“**Underlay Connectivity Service**”). The Underlay Connectivity Service must be ordered from Comcast and may be pre-existing or ordered in conjunction with the Service. Notwithstanding the foregoing, if the Service

**Exhibit A**

configuration requires multiple Underlay Connectivity Services:

- (A) one underlay must be an Underlay Connectivity Service provided by Comcast; and,
- (B) the other Underlay Connectivity Service(s) may be provided:
  - i. by Comcast; or,
  - ii. by the Customer as long as the Customer-provided Underlay Connectivity Service(s) meets the technical specifications provided by Comcast. Comcast reserves the right to refuse to use an Underlay Connectivity Service with the Service that does not meet the Comcast technical specifications.

## **9. ARTICLE 7. TERMINATION CHARGES**

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

### **7.2 Termination Charges for Services.**

(A) Subject to Sections 7.2(C) and 7.2(D), in the event that a 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 Service.

(B) Subject to Sections 7.2(C) and 7.2(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 100% of any remaining, unpaid installation fees (including construction charges).

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 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.

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

7.3 **Portability.** Customer may terminate an existing Service (an "Existing Service") and turn up a replacement Service (i.e., activate 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 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.

## **10. ARTICLE 8. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS**

The technical specifications and performance standards applicable to the Service are set forth in Schedule A-1.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
ACTIVECORE<sup>SM</sup> MANAGED ROUTER SERVICE**

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

Comcast's Managed Router Service ("Service") will be provided in accordance with the service descriptions and technical specifications set forth below. The Service consists of two components: the Router Service and the Manage Service, each of which are described below:

**A. ROUTER SERVICE**

The Router (defined below) sits between the Customer Local Area Network ("LAN") and the Wide Area Network ("WAN"). The Router Service can support connectivity speeds from 1Mbps to 10 Gbps. The Router can support a single connectivity solution, a dual-homed solution, or a high availability solution. The Router has a Layer 3/4 stateful firewall. The stateful firewall performs inspection and keeps track of each connection in the state table.

**1. Technical Specifications**

The Router Service is a service delivered via a platform that utilizes a service-specific piece of equipment designed and programed to deliver router services ("Router").

- 1.1** Router Service includes a Router that is installed by Comcast at the Service Location. The Router is owned by Comcast and leased to the Customer.
- 1.2** Router Service supports several routing protocols including BGP, Static, VRF and IPv4.
- 1.3** Router Service supports a stateful firewall and access control lists.
- 1.4** Router Service supports dynamic NAT with PAT, 1:1 NAT and persistent NAT.
- 1.5** Router Service supports DSCP-based prioritization and egress traffic shaping and policing for QOS.

**2. Technical Support and Maintenance**

Comcast provides the following Service Level Objectives for the Service, including mean time to respond, and mean time to replace.

**2.1 Mean Time to Respond**

Mean Time to Respond is the average time, measured on a calendar month basis, required for Comcast to begin troubleshooting a reported fault. The Mean Time to Respond objective is fifteen (15) minutes from the earlier of receipt of a fault notification or from the time a trouble ticket is opened with Comcast.



## 2.2 Mean Time to Replace

Mean Time to Replace is the average time, measured on a calendar month basis, required to ship a replacement Router to the applicable Service Location. The Mean Time to Replace objective is as stated below for Router failure from the time a trouble ticket is opened with Comcast. Replacement Router for:

- On-Net Service Locations will be brought to the Service Location by the Comcast technician replacing the Router.
- Off-Net Service Locations will ship from a central warehouse Monday – Friday (excluding national and state holidays) – 8:00am to 5:00pm, eastern standard time (“**Business Days**”). Please see details below.

Mean Time to Replace a Router	
On-Net Services*	Same day replacement
Off-Net Services**	Next day replacement

\*“On-Net Services” means geographical locations where Comcast currently provides Services through its Comcast network.

\*\*“Off-Net Services” 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. For Off-Net Services, if a trouble ticket is received:

- (i) by 2:00pm (EST) on a Business Day, the replacement Router will be shipped on that same Business Day;
- (ii) after 2:00pm (EST) on a Business Day, replacement Router will be shipped on the 2<sup>nd</sup> Business Day after the receipt of the trouble ticket;
- (iii) on a Saturday or Sunday, replacement Router will be shipped on Monday; and
- (iv) on a national or state holiday, replacement Router will be shipped the following Business Day after the holiday.

## 2.3 Technical Support

### A.

Comcast provides a toll-free trouble reporting telephone number to reach Comcast Support 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 Customer-Premises Equipment (“CPE”) or other equipment not provided by Comcast.

- **Escalation.** Service issues are escalated within Comcast Support as follows: to a Supervisor at the end of the applicable time interval plus one (1) hour; to a Manager at the end of the applicable time interval plus two (2)

hours, and to a Director at the end of the applicable time interval plus four (4) hours.

- **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 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.
- Comcast provides certain Comcast Equipment, including the Router, for provisioning its Services. Comcast will retain ownership and management responsibility for this Comcast Equipment. Comcast Equipment must be used only for delivering Services.

Customer shall bear all expenses 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.

### 3. Customer Responsibilities

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 Customer facilities, no farther than fifty feet from the Customer firewall or switch interface.
- Provide a pull rope in any existing duct that Comcast is to use and ensure existing duct is serviceable for Comcast use.
- Provide UPS AC power equipment, circuit sizing to be determined, if applicable.
- Emergency local generator backup service, if applicable.
- Provide access to each location for regular (8am - 5pm) and emergency (24 hour) service and maintenance of Comcast's equipment and facilities.
- Customer must provide a point of contact (POC) for installation, service activation and maintenance activities, if any.

### 4. 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.

## B. MANAGED SERVICE

Comcast will create a custom configuration for the Customer's Router Service to meet the needs of the Customer's Local Area Network ("LAN"). Specifically, Managed Service includes the following:

1. **Managed Onboarding:** Comcast will sponsor a kick-off call with the Customer to explain the Router delivery process and what is required from the Customer.
2. **Professional Network Design:** Customer will provide detailed information on its LAN to Comcast in a manner determined by Comcast. Comcast will document the technical information into an ACD and the Customer will review and either confirm that the ACD is correct or provide modifications thereto within five (5) business days of Customer's receipt of the ACD (the "Review Period"). If Comcast does not receive a response from Customer to the proposed ACD prior to the end of the Review Period, the ACD shall be deemed approved. Comcast will create the customized configuration for the Router Service, based on the Customer-approved ACD.
3. **Managed Install, Test and Turn-up:** When Comcast installs the Router, the configuration created for the Customer will be loaded on the equipment and Comcast will test the same. Following the Service Commencement Date, Comcast will provide Customer with a site birth certificate which will include service details and test results.
4. **Network Proactive Monitoring and Management:**
  - 4.1. On and after the Service Commencement Date, Comcast will proactively monitor the Router Service 24/7/365 and will pull alarms from the Router. If the Router creates an alarm, Comcast will monitor the alarm for up to fifteen (15) minutes per occurrence. If, within such fifteen (15) minutes, the alarm does not stop, Comcast will send an alert to the Customer for specific, Router Service impacting alarms and will open an internal ticket and begin to troubleshoot the issue.
  - 4.2. **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 Router Service 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.
5. **On-Going Solution Support:** Comcast will support Customer-requested configuration changes, in accordance with Comcast's then current configuration change policy (the "Configuration Change Policy") which Comcast shall provide to Customer, upon request. Customer acknowledges and agrees that the Configuration Change Policy limits the number of configuration changes that Customer may make with respect to a given Service Location in a given year. After the total allowable configuration changes permitted by the Configuration Change Policy have been exhausted, Comcast may invoice the Customer for configuration changes in accordance with the Configuration Change Policy.
6. If a Comcast vendor develops software updates and/or security patches for such vendor's Router which Comcast uses to provide the Service, 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 and will be considered emergency maintenance as described above. 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
CABLE MODEM INTERNET SERVICES**

**ATTACHMENT IDENTIFIER:** Cable Modem Internet, Version 1.2

The following additional terms and conditions are applicable to Sales Orders for Comcast's Cable Modem Internet Service offered under the Enterprise Master Service Agreement ("Agreement"):

**DEFINITIONS**

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

**"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. On-Net Services may be provisioned over a fiber optic network, or via a hybrid fiber coax network ("HFC Network"), as available through Comcast.

**"Service"** means Cable Modem Internet Service offered under the Agreement.

**ARTICLE 1. SERVICES**

This attachment shall apply to Cable Modem Internet Service offered under the Agreement.

**ARTICLE 2. PROVIDER**

On-Net Service shall be provided by the operating company subsidiary of Comcast Corporation that owns and/or operates the cable television system in the applicable service area.

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, contact your Program Manager

All Off-Net Services are provided by third-party service providers, and managed by Comcast.

**ARTICLE 3. CUSTOM INSTALLATION FEES**

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

The Service Commencement Date for On-Net Services shall be the date Comcast completes installation and connection of the necessary facilities and equipment to provide the Service at a Service Location. Comcast shall inform Customer when Service is available for all Off Net locations ("Service Commencement Date"). Charges for Service shall begin to accrue as of the Service Commencement Date.

**ARTICLE 6. TERMINATION CHARGES;  
PORTABILITY; UPGRADES**

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

**6.2 Termination Charges for On-Net Services.**

(a) In the event that Customer terminates On-Net Service 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.

(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 100% of any remaining, unpaid Custom Installation Fees.

**6.3 Termination Charges for Off-Net Services.** In the event Customer terminates Off-Net Service following Comcast’s acceptance of the applicable Sales Order but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to 100% of any remaining, unpaid Custom Installation Fees.

**6.4** 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.

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

**ARTICLE 7. PROVISION OF SERVICE/USE**

Subject to the terms and conditions herein, Internet Services are intended for commercial use only. Customer is prohibited from reselling the Services.

**ARTICLE 8: SERVICE CREDITS**

**8.1 Credit Allowances.** Comcast will allow a pro-rata credit against future payment of the net monthly recurring charge (exclusive of nonrecurring charges, other one-time charges, per call charges, measured charges, regulatory fees and surcharges, taxes, and other governmental and quasi-governmental fees) for a Service Interruption, except as specified below or as may otherwise be legally required (“Credit”). "Service Interruption" shall mean a break in transmission that renders the Service unusable for transmission and reception. For the purposes of calculating a Credit allowance, the Service Interruption period begins when the Customer reports an interruption in the portion of the Service to Comcast, a trouble ticket is opened, and the Service is released to Comcast for testing and repair. The Service Interruption ends when the affected portion of the Service has been restored and Comcast has closed the trouble ticket. Service Interruption time does not include interruptions of less than thirty (30) minutes’ duration. Credits will be as follows:

<u>Length of Service Interruption</u>	<u>Amount of Credit</u>
At least 4 hours and up to and including 24 hours	1 full day

The total number of credit allowances per month shall not exceed the total monthly recurring charge for the affected

Service. Credit allowances will not be made for less than \$1.00, unless required under applicable law. To qualify, Customer must request the Credit from Comcast within 30 days of the Service Interruption.

**8.2 Exceptions to Credit Allowances.** Except as otherwise provided in the General Terms and Conditions, a Service Interruption shall not qualify for the Credits 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 this Agreement, unless otherwise provided under applicable law. The remedies set forth in this Article 11 shall be Customer’s sole and exclusive remedy for any Service Interruption in the Services, outage, unavailability, delay or other degradation in the Services or any Comcast failure to meet the objectives of the Services.

**ARTICLE 9. RESERVED**

**ARTICLE 10: ADDITIONAL TERMS APPLICABLE TO PRIVATE WI-FI AND PUBLIC WI-FI (INCLUDING WI-FI HOTSPOT SERVICES) SERVICES**

If Customer submits a Sales Order(s) for Private Wi-Fi (“Private Wi-Fi Services”) and Public Wi-Fi (including Hot Spot Service, “Public Wi-Fi Services”) services (collectively “Wi-Fi Services”) the following terms shall also apply:

**10.1 Limitation.** Subject to service availability, Customer may order Wi-Fi Services to provide Internet connectivity to certain areas of the Service Location as further described below. Wi-Fi Services are not intended for use within residential dwellings or for multi-tenant use (i.e. common areas within a mall or office building). In order to order and retain Wi-Fi Service with Comcast, Customer must have Internet Service at the applicable Service Location. Comcast shall have no liability for loss of Wi-Fi Services which results from Customer’s failing to maintain Internet Service at the Service Location.

- (a) Private Wi-Fi Services are offered together with Public Wi-Fi Services, and may not be ordered separately.
- (b) Public Wi-Fi Services may be order with or without Private Wi-Fi Services.

**10.2 Term and Termination.** Wi-Fi Services are offered on a month to month basis. Customer shall have the right to terminate Wi-Fi Services, at any time, for any reason, upon thirty (30) days prior written notice to Comcast, subject to payment of all outstanding amounts due for the Wi-Fi Services, if any, and the return of any and all Comcast Equipment. Termination of Wi-Fi Services is not subject to

Termination Charges. Wi-Fi Services will terminate simultaneously with Customer's Internet Services.

**10.3 Supplemental Terms.** Comcast agrees to provide Wi-Fi Services pursuant to the General Terms and Conditions and the supplemental Wi-Fi Terms and Conditions located at <http://business.comcast.com/wifi/hotspot-terms> ("Wi-Fi Terms and Conditions"). Comcast may at its sole option change or modify the Wi-Fi Terms and Conditions, and any related policies from time to time ("Revisions") by posting such Revisions to the Comcast website at the above URL. The Revisions are effective upon posting.

**COMCAST ENTERPRISE SERVICES  
PRODUCT SPECIFIC ATTACHMENT  
BUSINESS VIDEO SERVICE**

**ATTACHMENT IDENTIFIER: Business Video**

The following additional terms and conditions are applicable to Comcast's Business Video Services ordered under an Enterprise Services Master Service Agreement ("Agreement"):

**DEFINITIONS**

Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Enterprise Services General Terms and Conditions ("General Terms and Conditions").

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

**"Service"** means Comcast Business private view commercial cable television services ("Private View Video"), public view commercial cable television services ("Public View Video") and Hospitality cable television services ("Hospitality Video"), (Private View Video, Public View Video and Hospitality Video, collectively "Business Video Service(s)"). Subject to service availability, Customer may order Business Video Service for use at Service Locations within Comcast's service areas.

**ARTICLE 1. SERVICES**

This attachment shall apply to Business Video Service offered under the Agreement.

**ARTICLE 2. PROVIDER**

Business Video Service shall be provided by the operating company subsidiary of Comcast Corporation that owns and/or operates the cable television system in the applicable service area.

**ARTICLE 3. CUSTOM INSTALLATION FEE**

Once Comcast accepts a Sales Order for Business Video Service, Comcast will invoice Customer for any and all Custom Installation Fee(s) unless otherwise specified on the Sales Order. 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(s) applicable to the ordered Business Video Service(s). Comcast shall use commercially reasonable efforts to provision the Business Video Service(s) on or before the Estimated Availability Date(s); provided, however, that Comcast's failure to provision by said date shall not constitute a breach of the Agreement.

**ARTICLE 5. SERVICE COMMENCEMENT DATE**

The Service Commencement Date shall be the date(s) Comcast completes installation and connection of the necessary facilities and equipment to provide the Business Video Service at a Service Location. Comcast will consider the Service installation completed if Comcast has delivered Service, regardless of whether Customer refuses or fails to be ready to receive the Service.

A single Sales Order containing multiple Service Locations may have multiple Service Commencement Dates. Any failure or refusal on the part of Customer to be ready to receive the Business Video Service on the Service Commencement Date shall not relieve Customer of its obligation to pay applicable service charges and may be treated as a termination for cause by Customer as provided under Article 5 of the General Terms and Conditions of the Agreement.

**ARTICLE 6. TERMINATION CHARGES; PORTABILITY; UPGRADES**

**6.1** The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term set forth therein. To the extent that a Service Term has not been expressly set forth in a Sales Order, the minimum Service Term for Business Video Service is twenty four (24) months.

**6.2 Termination Charges.**

A. In the event that Business Video 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 Business Video Service.

B. In the event that Business Video 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 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 Business Video Service rendered by Comcast through the date of cancellation or termination.

**6.3 Exclusions.** Termination Charges shall not apply to Business Video Service terminated by Customer as a result of Comcast’s material and uncured breach in accordance with Article 5.2 of the General Terms and Conditions.

**ARTICLE 7. USE**

Subject to the terms and conditions herein, Business Video Services are intended for commercial use only. Customer is prohibited from reselling Business Video Services.

**ARTICLE 8. SERVICE CREDITS**

**8.1 Credit Allowances.** Comcast will allow a pro-rata credit against future payment of the net monthly recurring charge (exclusive of nonrecurring charges, other one-time charges, per call charges, measured charges, regulatory fees and surcharges, taxes, and other governmental and quasi-governmental fees) for a Service Interruption, except as specified below or as may otherwise be legally required (“Credit”). "Service Interruption" shall mean a break in transmission that renders the Business Video Service unusable for transmission and reception. For the purposes of calculating a Credit allowance, the Service Interruption period begins when the Customer reports an interruption in the portion of the Business Video Service to Comcast and a trouble ticket is opened. The Service Interruption ends when the affected portion of the Business Video Service has been restored and Comcast has closed the trouble ticket. Service Interruption time does not include interruptions of less than thirty (30) minutes’ duration. Credits will be as follows:

<u>Length of Service Interruption</u>	<u>Amount of Credit</u>
At least 4 hours and up to and including 24 hours	1 full day



The total number of credit allowances per month shall not exceed the total monthly recurring charge for the affected Business Video Service. Credit allowances will not be made for less than \$1.00, unless required under applicable law. To qualify, Customer must request the Credit from Comcast within 30 days of the Service Interruption.

**8.2 Exceptions to Credit Allowances.** Except as otherwise provided in the General Terms and Conditions, a Service Interruption shall not qualify for the Credits set forth herein if the 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 this Agreement, unless otherwise provided under applicable law. The remedies set forth in this Article 8 shall be Customer's sole and exclusive remedy for any Service Interruption in the Business Video Services, outage, unavailability, delay or other degradation in the Business Video Service or any Comcast failure to meet the objectives of the Business Video Service.

## **ARTICLE 9: LIMITATION OF SERVICE**

**9.1 Redistribution Limitation.** Customer hereby acknowledges and agrees that Comcast does not have the absolute right to distribute pay-per-view video programming (including programming such as sporting events) and certain premium video services to commercial establishments. Therefore, Customer agrees that it shall not exhibit nor assist in the exhibition of any such programming unless explicitly authorized to do so, in advance and in writing, by Comcast and the applicable program or event distributor. In requesting such explicit authorization, Customer agrees to identify itself as a commercial establishment. Customer shall not, and shall not authorize or permit any other person to, and shall take all reasonable measures to prevent (e.g. encryption) (i) copy, record, dub, duplicate, alter or make or manufacture any recordings or other reproductions of Business Video Service (or any part thereof); (ii) transmit Business Video Service (or any part thereof) by any television or radio broadcast or by any other means or use Business Video Service (or any part thereof) outside of the Service Location(s). Customer acknowledges that such duplication or reproduction may subject Customer to criminal penalties under applicable copyright and/or trademark laws. Customer agrees to not move any Comcast Equipment from another location to any Service Location, or from any Service Location to any other location. Customer further agrees not to undertake any activity related to the unauthorized reception of the Business Video Service at any Service Locations.

**9.2 Additional Licenses.** Customer shall not, and shall not authorize or permit any other person to (i) charge a cover charge or admission fee to the Service Location(s) at the time Business Video Service (or any part thereof) is being or is to be performed therein; (ii) permit dancing, skating or other similar forms of entertainment or physical activity in conjunction with the performance of Business Video Service (or any part thereof) unless Customer has obtained all necessary licenses and authorizations from the applicable copyright owners (Customer acknowledges and agrees that it shall be solely responsible for the payment of any charges or fees in connection therewith); or (iii) insert any commercial announcements into Business Video Service, or interrupt any performance of Business Video Service for the making of any commercial announcements, except that public address commercial announcements may be made concerning goods or services sold or offered to the public at the Service Location provided that no compensation (whether in money or in any other form) is paid by any person or entity, directly or

indirectly, for such announcements unless pursuant to a separate written agreement which permits store-casting or ad-casting. Customer acknowledges and understands Customer may be responsible for additional music licensing or copyright fees for music contained in any or all of the Services, including, but not limited to Business Video Service.

**9.3 Provision of Service.** Customer acknowledges and agrees that Comcast has the right at any time to preempt specific Business Video Service programs, without prior notice to Customer, and to determine what substitute programming, if any, shall be made available. Comcast may in its discretion make additions, deletions or modifications to its Business Video Service channel line-ups without liability to Customer or anyone claiming through Customer. Comcast shall not be liable for failure to deliver any Business Video Service programming, which is caused, by the failure of the programmer to deliver or make such programming available to Comcast or any other reason beyond the reasonable control of Comcast.

(a) **Private View Video.** Private View Video, including without limitation HD DVR service, is for private commercial viewing venues only, and is not for use in public viewing areas such as bars, restaurants, fitness centers or at residential addresses.

(b) **Public View Video.** Public View Video is for use in commercial, public viewing areas such as bars and restaurants. In the event Comcast makes a material change to the Public View Video channel lineup, Customer will have thirty (30) days from the date of the material channel lineup change to cancel Public View Video Service without further liability beyond the termination date. Should Customer fail to cancel within this timeframe, Customer will be deemed to have accepted the modified Public View Video channel lineup. Comcast shall not be liable for failure to deliver any programming, which is caused, by the failure of the programmer to deliver or make such programming available to Comcast or any other reason beyond the reasonable control of Comcast.

(c) **Hospitality Video.** Hospitality Video is for hospitality in-room guest use at the Service Location(s) (each a "Customer Guest") only and is not for use, and should not be made available to any Customer Guest, in private commercial viewing venues, public viewing areas or at residential addresses. Comcast shall provide Hospitality Video Service to a demarcation point at the Service Location. Customer shall be responsible for any and all facilities, equipment and/or devices required to use Hospitality Video on the Customer-side of the demarcation point, and depending on the configuration of the Customer-side Service Location infrastructure, certain components of the Hospitality Video may be unavailable. Notwithstanding Customer's use of facilities, equipment and/or devices on the Customer-side of the demarcation point, Customer shall comply with all obligations and restrictions regarding Business Video Service and Hospitality Video contained in this Agreement. Notwithstanding anything to the contrary contained herein, Customer may offer Hospitality Video at the Service Locations(s) to its hospitality guests.

**9.4 Additional Sets.** Customer agrees not to add additional sets or disturb, alter or remove any portion of the Comcast Equipment. Any unauthorized connection or other tampering with Business Video Service or Comcast Equipment shall be cause for disconnection of the applicable Business Video Service, legal action and Comcast shall be entitled to recover damages, including, but not limited to, the value of any Business Video Service illegally obtained plus reasonable collection costs including reasonable attorney's fees.

**9.5 Installation of Advanced Comcast Equipment.** In the event Comcast agrees to install certain advanced Comcast Equipment (i.e. Q2Q devices), Customer acknowledges that Business

Video Service will be delivered to the demarcation point at the Service Location(s). Customer shall be responsible for any and all facilities, equipment and/or devices required to use Business Video Service on the Customer-side of the demarcation point, and depending on the configuration of the Customer-side Service Location infrastructure, certain components of the Business Video Service may be unavailable. Notwithstanding Customer's use of facilities, equipment and/or devices on the Customer-side of the demarcation point, Customer shall comply with all obligations and restrictions regarding Business Video Service contained in the Agreement.

## **ARTICLE 10: RESERVED**

## **ARTICLE 11: STATE-SPECIFIC PROVISIONS APPLICABLE TO BUSINESS VIDEO SERVICE**

11.1 **Disruption of Service.** Notwithstanding the terms of the Agreement, the following service interruption credits will apply to qualifying Customers:

(a) **Connecticut Customers.** In the event of an interruption of Business Video Service of more than twenty-four (24) consecutive hours and of which Comcast has received actual notice, a credit will be issued towards Customer's Business Video Service monthly service charge for the length of time such Business Video Service was interrupted.

(b) **New York Customers.** In the event of an interruption of Business Video Service for at least four (4) hours between 6:00pm and 12:00am, except for emergency notice events, a credit equal to one day will be issued towards Customer's Business Video Service monthly service charge. If Customer's Business Video Service is interrupted for less than four (4) hours or outside of the hours of 6:00pm and 12:00am, please call 1-860-827-2622 to request a credit.

(c) **Vermont Customers.** In the event of an interruption of Business Video Service for more than twenty-four consecutive hours and of which Comcast has received actual notice, a credit will be issued towards Customer's Business Video Service monthly service charge for the total period of the interruption in an amount proportionate to Customer's regular monthly service charge. If Comcast has not been made aware of the interruption, Customer must call 1-860-827-2622 to request a credit.

11.2 **Regulatory Contact Information.** Customer may contact the Comcast corporate offices at One Comcast Center, 1701 JFK Blvd., Philadelphia, PA 19103 with concerns and complaints.

(a) **Connecticut Customers.** If Comcast is unable to resolve Customer's problem, Customer may contact the Connecticut Department of Utility Control at 1-800-382-4586 (toll free within Connecticut) or 1-860-827-2622 (outside Connecticut) or TDD 1-860-827-2837.

(b) **Maine and New Hampshire Customers.** The Office of the Attorney General Consumer Protection and Antitrust Bureau has the authority to enforce Consumer Protection laws and provide assistance in the mediation of consumer complaints. Customers should file written complaints concerning any alleged misrepresentations and unfair and deceptive practices of a cable company to:

Maine – Office of the Attorney General, Department of Consumer Fraud and Antitrust,  
State House Station #6, Augusta, ME 04333.

New Hampshire – Office of the Attorney General, Department of Consumer Fraud and Antitrust, 25 Capital Street, Concord, NH 03301.

(c) **Maryland Customers.**

(i) **Montgomery County, MD Customers.** Under its franchise with Montgomery County, Comcast has the following rebate policy: In the event of a Business Video Service interruption (loss of picture or sound of one or more channels to any customer) Comcast shall repair the interruption as soon as possible. This obligation is satisfied if Comcast offers Customer the next available repair appointment within the 24-hour period following the interruption, or at Customer's request, to a mutually convenient later time for the repair call, and successfully repairs the interruption during the agreed upon appointment. If the Business Video Service interruption is not repaired at the time of the scheduled appointment, Customer will receive a credit equal to 10% of for the Business Video Service monthly recurring charge for each 24-hour period, or segment thereof that the Business Video Service interruption continues beyond the scheduled repair call. Customers may contact Comcast at (301) 424-4400.

(ii) **Prince Georges County, MD Customers.** In the event of a Business Video Service interruption (loss of picture or sound of one or more channel to any customer) lasting between two (2) and six (6) hours, Customer shall be entitled upon request, to a pro-rata credit for such Business Video Service interruption. In the event of a Business Video Service interruption lasting between six (6) and twenty-four (24) consecutive hours, Customer shall be entitled to a pro-rata credit equal to one day of Customer's monthly Business Video Service charge.

(d) **Massachusetts Customers.** If Comcast is unable to resolve Customer's problem, Customer may contact its local franchise authority: the Consumer Division of the Department of Telecommunications and Energy toll free at 1-800-392-6066 or write to the DTE at One South Station, Boston, MA 02110.

(e) **New York Customers.** If Comcast is unable to resolve Customer's problem, Customer may their local government or call the New York State Public Service Commission (PSC) at 1-800-342-3377, or write to: Customer Service Representative, New York State Public Service Commission, Office of Customer Service, Three Empire State Plaza, Albany, NY 12223-1350.

(f) **Vermont Customers.** The Vermont Department of Public Service can provide assistance in the resolution of consumer complaints. Customers should file complaints with the Customer Hotline at 1-800-622-4496.

**11.3 Billing Questions.** Notwithstanding the terms of the Agreement, the following billing question provisions will apply to qualifying Customers:

(a) **Sacramento, CA Customers.** If there are any billing errors or other requests for credit, Customer must inform Comcast within sixty (60) days of the time Customer receives the disputed bill, unless applicable law provides for a longer period which cannot be waived or otherwise modified. Comcast will investigate and respond to all billing complaints within five (5) business days of the receipt of the complaint. In some cases, an investigation might require a search of historical records that could take up to fourteen (14) business days. If Customer believes a payment was made which was not credited to Customer's account, a copy of a cancelled check or money order may be required and the disputed amount will be set aside for up to fourteen (14) days while Customer gather that documentation.

**11.4 Access to Customer's Premises, Credit for Missed Appointments.** Notwithstanding the terms of the Agreement, the following credit for missed appointment provisions will apply to qualifying Customers:

(a) **West Bay and San Francisco, CA Customers.** If Comcast fails to keep a scheduled Business Video Service appointment, Comcast will credit Customer's account with either free installation or a service call free of charge if the appointment was for an installation or service call for which a fee was to be charged, or a minimum credit of \$20.

(b) **Sacramento, CA Customers.** If Comcast fails to keep a scheduled Business Video Service appointment, Comcast will credit Customer's account with one (1) month of limited commercial basic up to a maximum credit equal to one month of the standard commercial cable price.

**11.5 Remedies for Late Payment/Non-Payment.** Notwithstanding the terms of the Agreement, the following late payment/nonpayment fees will apply to qualifying Customers:

(a) **Maryland Customers.** If Customer fails to make any required payment for Business Video Service by the payment due date or pays less than the full amount due for such Business Video Service, Comcast may bill fees, charges and assessments related to late payments or non-payments.

(1) EACH MARYLAND CUSTOMER WILL BE ASSESSED A LATE FEE OF \$5.00 PER MONTH FOR EACH BUSINESS VIDEO SERVICE ACCOUNT THAT HAS NOT BEEN PAID IN FULL AFTER 45 DAYS FROM THE DATE THE INVOICE WAS SENT.

(2) **Montgomery County, MD Customers Only.** CUSTOMER WILL BE ASSESSED A LATE FEE OF \$4.00 PER MONTH FOR EACH BUSINESS VIDEO SERVICE ACCOUNT THAT HAS NOT BEEN PAID IN FULL AFTER 45 DAYS FROM THE DATE THE INVOICE WAS SENT.

**11.6 Provisions specific to Prince Georges County, MD Business Video Service Customers.** Notwithstanding the terms of the Agreement, the following provisions will apply to qualifying Customers

(a) **Deposits.** If Comcast disconnects Customer's Business Video Service or is otherwise required under applicable law to a refund of any deposit, Comcast shall within thirty (30) days or Customer's next billing cycle, whichever is earlier, return a sum equal to the deposit(s) Customer paid (without interest unless otherwise required by law) minus any amounts due on Customer's account (including without limitation, any amounts owed for Business Video Service or for any Comcast Equipment that is damaged, altered, or not returned).

(b) **Termination of Business Video Service by Customer.** All applicable fees and charges will accrue until the termination of the Agreement or the date Customer requests the Business Video Service be disconnected, whichever is earlier.

## **ARTICLE 12: CHARGES**

Comcast may modify the charges for Business Video Service subject to thirty (30) days prior notice to Customer. Customer will have thirty (30) days from receipt of such notice to cancel the affected Business Video Service without further liability beyond the termination date. Should Customer fail to cancel within this timeframe, Customer will be deemed to have accepted the modified Business Video Service pricing.

## **ARTICLE 13: BUSINESS VIDEO SERVICE STREAMING**

To the extent Comcast provides Customer with the ability to stream the Business Video Services, Customer acknowledges and agrees that (i) such streaming functionality may only be used by Customer's employees at the applicable Service Location(s) on Approved Devices, (ii) Customer may register up to four hundred (400) Approved Devices; provided, that, the Business Video Services may be streamed on no more than five (5) such devices at any given time, (iii) the streamed video shall be used solely for private viewing purposes and shall not be displayed for public viewing (either in whole or in part), including, but not limited to, in any common areas and/or conference rooms and (iv) Customer shall not, and shall cause its employees not to, (A) stream, display or transmit the Business Video Services outside of the applicable Service Location(s) or (B) distribute the Business Video Services from the Customer-side of the demarcation point via a virtual private network. The following are "Approved Devices" (unless Comcast notifies Customer otherwise): (I) a PC or Apple laptop or desktop computer and (II) a tablet and/or smart phone with an iOS or Android operating system.

## **ARTICLE 14: ADDITIONAL TERMS APPLICABLE TO HOSPITALITY VIDEO**

### **14.1 Resetting of X1 TV Boxes**

(a) Customer acknowledges that unless the X1 TV Boxes used by a Customer Guest are reset to their X1 default settings, certain activity of, information provided by, and/or content accessed by, such Customer Guest in connection with its use of the Hospitality Video Service may be viewable and/or accessible by subsequent Customer Guests that are provided with access to such X1 TV Boxes. Customer shall be solely responsible for resetting any X1 TV Boxes used by a Customer Guest to their X1 default settings and Comcast shall have no obligation to reset any such X1 TV Boxes.

(b) If the Hospitality Video Services provided to Customer pursuant to this Agreement enables a Customer Guest to access certain content upon the provision of personal information (e.g., Netflix, YouTube, etc.), including, but not limited to, by way of providing login information such as a username and/or passwords, then upon, or as soon as reasonably possible after, check-out by a Customer Guest, any X1 TV Box to which such Customer Guest had access shall be reset by Customer to its X1 default settings; provided, that, Customer shall, in all events, reset any such X1 TV Box prior to the time that another Customer Guest is provided with access thereto.

(c) CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER COMCAST NOR ITS ASSOCIATED PARTIES WILL BE LIABLE FOR ANY FAILURE TO RESET ANY X1 TV BOX.

### **14.2 Netflix Services**

(a) This Article 14.2 applies to the extent Customer's Hospitality Video Service includes access to the Netflix Services. "Netflix Services" means the Netflix subscription service which will be accessible via the use of an application available on the Comcast Equipment used to deliver the Hospitality Video Service.

(b) Customer shall (i) place a remote control with a dedicated Netflix button, to be provided by Comcast, in each guest room in which the Hospitality Video Service is installed, including swapping out non-branded remote controls with remote controls featuring a dedicated Netflix button, and (ii) remove any Comcast remote controls from such guest rooms that do not have a dedicated Netflix button.

(c) In connection with the Hospitality Video Service, Comcast will provide a Property Management System (PMS) Integration application which will automatically clear viewing history and application account information on the in-room set-top boxes used by Customer Guests when

such Customer Guests check-out (“Automatic Reset Function”). Customer acknowledges and agrees that in order for Comcast to provide the Automatic Reset Function, (i) Customer’s PMS must be capable of, and be enabled to, send and receive the necessary data values which will allow Comcast to reset guest set-top boxes upon check-out and (ii) Customer will be required to provide a PMS interface (which may have to be obtained from Customer’s PMS provider) which will allow Comcast to receive and send data to the Customer PMS in connection with performing the Automatic Reset Function (the “Customer PMS Requirements”). If Customer does not satisfy the Customer PMS Requirements, then, notwithstanding anything to the contrary contained in this Article 14.2, Comcast shall have no obligation to provide the Netflix Services or the Automatic Reset Function in connection with the Hospitality Video Services.

If at any time the Automatic Reset Function is not functioning (i.e., viewing history and application account information is not being cleared from the set-top boxes upon guest check-in/check-out), Comcast may notify Customer of the same. Upon receipt of such notice and until Comcast notifies Customer that the Automatic Reset Function is functioning, Customer shall be responsible for resetting the guest room set-top boxes in accordance with Article 14.1(b) and shall be liable to Comcast in accordance with Article 14.1(c) for any failure to do so.

(d) Customer acknowledges and agrees it is expressly prohibited from:

- (i) providing free Netflix subscriptions or house accounts to Customer Guests;
- (ii) displaying the Netflix Service in any public or common areas;
- (iii) charging Customer Guests an additional fee or other charge for the use of the Netflix Service; provided the foregoing does not prohibit Customer from billing and collecting standard room charges;
- (iv) using any Netflix trademarks, service marks or other Netflix intellectual property, or any marketing materials related to Netflix without Netflix’s express written consent, except to the extent such are incorporated in the Netflix Services;
- (v) collecting data, in any manner whatsoever, about Customer Guest’s usage related to the Netflix Services; or

(vi) disclosing or making available any usage data specific to the Netflix Services provided to Customer to any third party or the public generally.

(e) CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER COMCAST NOR ITS ASSOCIATED PARTIES WILL BE LIABLE FOR ANY ISSUES RELATED TO THE NETFLIX SERVICE.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
BUSINESS VOICE SERVICES**

**ATTACHMENT IDENTIFIER:** Business Voice Services, Version 1.0

The following additional terms and conditions are applicable to Sales Orders for Comcast's Business Voice Services offered under the Comcast Enterprise Services Master Service Agreement ("Agreement"):

**DEFINITIONS**

Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Agreement.

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

**"Services"** means Business Voice Services offered under the Agreement.

**ARTICLE 1: SERVICES**

This attachment shall apply to Business Voice Service offered under the Agreement. A further description of the Service is set forth in Schedule A-1 hereto which is incorporated herein by reference. Comcast reserves the right to modify the Service descriptions without notice.

**ARTICLE 2. PROVIDER**

Service shall be provided by Comcast IP Phone, LLC or one of its applicable affiliates or subsidiaries.

**ARTICLE 3. CUSTOM INSTALLATION FEE**

Once Comcast accepts a Sales Order for Service, Comcast will invoice Customer for all applicable Custom Installation Fee(s) based on the selected Service Term. 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 Service 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.

11.

**12. ARTICLE 5. SERVICE  
COMMENCEMENT DATE**

The Service Commencement Date shall be defined as the date(s) on which Comcast first makes Service available for use by Customer. A single Service Order containing multiple Service Locations or Services may have multiple Service Commencement Dates. Comcast shall notify Customer that the Service is available for use on the Service Commencement Date. Any failure or refusal on the part of Customer to be ready to receive the Service on the Service Commencement Date shall not relieve Customer of its obligation to pay applicable Service charges and may be treated as a termination for cause by Customer as provided under Article 5.2 of the General Terms and Conditions of the Agreement. Comcast will consider the Service installation completed if Comcast has delivered Service, regardless of whether Customer refuses or fails to be ready to receive the Service.

**ARTICLE 6. TERMINATION CHARGES;  
PORTABILITY; UPGRADES**

**6.1** The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term set forth therein. To the extent that a Service Term has not been expressly set forth in a Sales Order, the minimum Service Term for Services is twenty four (24) months.

**6.2 Termination Charges.**

**A.** In the event that 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 Service.

**B.** In the event that 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 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.

**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 Article 5.2 of the General Terms and Conditions.



**ARTICLE 7: USAGE BILLING.**

**7.1** Voice Service calling plans billed as a flat monthly fee may not include certain call types. These excluded call types will instead be charged on a per-call basis (e.g., operator services) or a measured basis (e.g., international calls). Generally, for billing purposes, a measured call begins when the call is answered by the called party or an automated answering device (such as an answering machine or fax machine); it ends when one of the parties disconnects the call.

**7.2** Except as otherwise provided in these General Terms and Conditions, Voice Service measured calls are recorded in whole minutes, with partial minutes rounded up to the next whole minute. If the computed charge for a measured call or for taxes or surcharges includes a fraction of a cent, the fraction is rounded up to the nearest whole cent.

**7.3** Notwithstanding anything to the contrary in this Agreement, some providers (e.g., those involved in calls to foreign countries) charge for a completed call when the called party's line rings or after a certain number of rings. If such a provider charges Comcast or its Associated Parties, as if such a call were answered by the called party, Comcast will charge Customer for a completed call. Voice Service, including Business Voice Service, pricing lists and fees can be found at <http://www.comcast.com/corporate/about/phonetermsofservice/comcastdigitalvoice/cdvbusiness.html>.

**ARTICLE 8: USE POLICY**

**8.1 Additional Use Restrictions.** Except as otherwise provided in the General Terms and Conditions, Voice Service may only be used at Service Location(s) where such service is installed by Comcast. Customer understands and acknowledges that if Customer attempts to install or use the Comcast Equipment or Voice Service at another location, Voice Service, including but not limited to 911/E911, may fail to function or may function improperly. It will be considered a material violation of this Agreement if Customer moves Voice Service to another location without first notifying Comcast. Customer expressly agrees not to use Voice Service for auto-dialing, continuous or extensive call forwarding, telemarketing, fax broadcasting or fax blasting, or for any other use that results in excessive usage inconsistent with standard commercial calling patterns. If Comcast determines, in its sole discretion, that Customer's use of Voice Service is excessive or in violation of this Agreement, Comcast reserves the

right, among other things, to terminate or modify Voice Service immediately and without notice.

**ARTICLE 8A: SERVICE LIMITATION**

**8A.1 Disruption of Service.** Customer acknowledges and understands that Voice Service will not be available for use under certain circumstances, including without limitation when the network or facilities are not operating or if normal electrical power to the MTA, ALA or ALG is interrupted and such equipment does not have a functioning backup. Customer also understands and acknowledges that the performance of the battery backup is not guaranteed. If the battery backup does not provide power, Voice Services will not function until normal power is restored. Customer also understands that certain online features of Voice Service, where such features are available, will not be available under certain circumstances, including but not limited to the interruption of the Internet connection.

**8A.2 Provision of Service.** Subject to the terms and conditions herein, Voice Services are intended for commercial use only.

**8A.3 Nomadic Functionality of certain Voice Services and Comcast Equipment.** Comcast may sell certain Voice Services and Comcast Equipment with nomadic functionality. In such an event, Customer agrees to comply with all user guides, requirements and instructions provided by Comcast, including without limitation, updating the Service Location associated with the nomadic Voice Service or Comcast Equipment.

**ARTICLE 9: LIMITATIONS OF 911/E911**

**9.1 Limitations.** Voice Services includes a 911/Enhanced 911 function ("911/E911") that may differ from the 911 or Enhanced 911 function furnished by other providers. As such, it may have certain limitations. CUSTOMER ACKNOWLEDGES AND ACCEPTS ANY LIMITATIONS OF 911/E911.

**9.2 Correct Address.** In order for Customer's 911/E911 calls to be properly directed to emergency services, Comcast must have Customer's correct Service Location address. If Customer moves Voice Service to a different Service Location without Comcast's approval, 911/E911 calls may be directed to the wrong emergency authority, may transmit the wrong Service Location address, and/or Voice Service (including 911/E911) may fail altogether. Therefore, Customer must contact Comcast before moving Voice Service to a new Service Location. Subject to Article 20C.6, Customer acknowledges that 911 calls from nomadic Comcast Equipment assigned to the same

telephone number will reach the emergency authority associated with the registered Service Location.

**9.3 Service Interruptions.** Customer acknowledges and understands that certain Voice Service uses the electrical power in Customer's Service Location. If there is an electrical power outage, 911 calling may be interrupted if the battery backup in the associated MTA, ALA or ALG is not installed, fails, or is exhausted after several hours. Furthermore, calls, including calls to 911/E911, may not be completed if Customer exceeds its Voice Service and equipment configuration calling capacity or if there is a problem with network facilities, including network congestion, network/equipment/power failure, or another technical problem.

**9.4 Suspension and Termination by Comcast.** Customer understands and acknowledges that Voice Service, including 911/E911, as well as all online features of Voice Service, where Comcast make these features available, will be disabled if Customer's account is suspended or terminated.

## **9.5 RESERVED**

### **ARTICLE 10: VOICE EQUIPMENT REQUIREMENTS**

**10.1 MTA.** To use certain Voice Services, Customer will need a multimedia terminal adapter ("MTA"), application layer gateway ("ALG"), analog telephone adapter ("ATA") or other adapter device. Customer can lease an MTA from Comcast, in which case it will be Comcast Equipment. Or, in some areas, Comcast may permit Customer to use Voice Service with an MTA that Customer has purchased, in which case the MTA will be Customer Equipment. Customer agrees to keep the MTA plugged into a working electrical power outlet at all times.

**10.2 Incompatible Equipment and Services.** Customer acknowledges and understands that certain Voice Service may not support or be compatible with:

- (a) Non-recommended configurations including but not limited to MTAs, ATAs or ALGs not currently certified by Comcast as compatible with Voice Service;
- (b) Certain non-voice communications equipment, including certain makes or models of alarm and security systems, certain medical monitoring devices, certain fax machines, and certain "dial-up" modems;
- (c) Rotary-dial phone handsets, pulse-dial phone handsets, and models of other voice-related communications equipment such as certain private

branch exchange (PBX) equipment, answering machines, and traditional Caller ID units;

- (d) Casual/dial around (10-10) calling; 976, 900, 700, or 500 number calling;

- (e) 311, 511, or other x11 calling (other than 411, 611, 711, and 911); and

- (f) Other call types not expressly set forth in Comcast's product literature (e.g., outbound shore-to-ship calling).

### **ARTICLE 11: ADDITIONAL LIMITATIONS ON COMCAST'S LIABILITY FOR VOICE SERVICE**

**11.1 Limitations on Comcast's Liability for Directories and Directory Assistance for Voice Service Customers.** THESE LIMITATIONS SHALL APPLY WHERE COMCAST MAKES AVAILABLE AN OPTION TO LIST CUSTOMER'S NAME, ADDRESS, AND/OR TELEPHONE NUMBER IN A PUBLISHED DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, AND ONE OR MORE OF THE FOLLOWING CONDITIONS OCCURS: (i) CUSTOMER REQUESTS THAT CUSTOMER'S NAME, ADDRESS AND/OR PHONE NUMBER BE OMITTED FROM A DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, BUT THAT INFORMATION IS INCLUDED IN EITHER OR BOTH; (ii) CUSTOMER REQUESTS THAT CUSTOMER'S NAME, ADDRESS AND/OR PHONE NUMBER BE INCLUDED IN A DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, BUT THAT INFORMATION IS OMITTED FROM EITHER OR BOTH; OR (iii) THE PUBLISHED OR LISTED INFORMATION FOR CUSTOMER'S ACCOUNT CONTAINS MATERIAL ERRORS OR OMISSIONS. IF ANY OF THESE CONDITIONS PERTAIN, THEN THE AGGREGATE LIABILITY OF COMCAST AND ITS ASSOCIATED PARTIES SHALL NOT EXCEED THE MONTHLY CHARGES, IF ANY, WHICH CUSTOMER HAS ACTUALLY PAID TO COMCAST TO LIST, PUBLISH, NOT LIST, OR NOT PUBLISH THE INFORMATION FOR THE AFFECTED PERIOD. CUSTOMER SHALL HOLD HARMLESS COMCAST AND ITS ASSOCIATED PARTIES AGAINST ANY AND ALL CLAIMS FOR DAMAGES CAUSED OR CLAIMED TO HAVE BEEN CAUSED, DIRECTLY OR INDIRECTLY, BY THE ERRORS AND OMISSIONS REFERENCED ABOVE. FURTHERMORE, IF COMCAST MAKES AVAILABLE DIRECTORY ADVERTISING SERVICES, NEITHER COMCAST NOR ANY OF ITS ASSOCIATED PARTIES WILL BE LIABLE FOR ANY ACTS, ERRORS, OR

OMISSIONS RELATED TO SUCH DIRECTORY ADVERTISING.

**CUSTOMER INFORMATION.** Comcast and its suppliers reserve the right both during the term of this Agreement and upon its termination to delete Customer's voicemail, call detail, data, files, or other information that is stored on Comcast's or its suppliers' servers or systems, in accordance with our storage policies. Customer understands and acknowledges that Comcast shall have no liability whatsoever as a result of the loss or removal of any such voicemail, call detail, data, files, or other information.

**ARTICLE 11A: ADDITIONAL TERMS  
APPLICABLE TO TOLL FREE SERVICES**

**In addition to the terms of the Agreement and the terms above, the following Article 6A is specifically applicable to Toll Free Services offered by Comcast:**

**11A.1 Limitation.** Subject to service availability, Customer may order Toll Free Services. Toll Free Services are not intended for residential use. In order to purchase and retain Toll Free Service with Comcast, Customer must have Voice Services, and must map each Toll Free telephone number ("TFN") to a Voice Service telephone number ("Associated TN"). If Customer terminates an Associated TN at any time during the Toll Free Services term, Customer must immediately: (1) map the applicable TFN to another Digital Voice telephone number on Customer's Comcast account, (2) purchase a new Digital Voice telephone number to map to the TFN, (3) port out the TFN to another toll free carrier; or (4) disconnect the TFN. If Customer fails to take immediate action as indicated above, Comcast will disconnect the TFN. Comcast shall have no liability for loss of Toll Free Services which results from Customer failing to take immediate action as indicated above.

**11A.2 Term and Termination.** Toll Free Services are offered on a month to month basis. Customer shall have the right to terminate Toll Free Services, at any time, for any reason, upon thirty (30) days prior notice to Comcast, subject to payment of all outstanding amounts due for the Toll Free Services and the return of any and all Comcast Equipment. Termination of Toll Free Services is not subject to Termination Charges. Toll Free Services will terminate simultaneously with Customer's Voice Services.

**11A.3 Authorization.** When ordering Toll Free Service, as set forth or referenced in each applicable Service Order Customer authorizes Comcast to act as its agent in initiating and provisioning such Toll Free Service.

**11A.4. Toll Free Charges**

**(a) Prices.** Toll Free Service is subject to the toll free pricing identified in the applicable Service Order, or if none stated, subject to the pricing lists and fees found at

<http://www.comcast.com/corporate/about/phoneterms/ofs-service/comcastdigitalvoice/cdvbusiness.html>

**(b) Billing Increments.** Unless otherwise stated in a Service Order, usage-based charges will be billed on either a per-minute or per-message basis. Service calls invoiced on a per-minute basis will have an initial minimum call duration of one (1) minute, subsequent intervals of one (1) minute each, and will be billed by rounding to the next whole minute.

**(c) Rounding of Charges.** Comcast reserves the right to round up any and all invoice amounts to the nearest one (1) cent.

**(d) Provision of Service.** Subject to the terms and conditions herein, Toll Free Services are intended for commercial use only.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
BUSINESS VOICE SERVICES**

EXHIBIT A-1

Services description may be found at the following link:

<https://business.comcast.com/phone/business>

Comcast may update the website documents and/or URL from time to time.

**COMCAST ENTERPRISE SERVICES  
PRODUCT SPECIFIC ATTACHMENT  
BUSINESS VOICEEDGE™ SERVICE**

**ATTACHMENT IDENTIFIER: Business VoiceEdge™, Version 1.5**

The following additional terms and conditions are applicable to Comcast's Business VoiceEdge™ (BVE) Service ordered under an Enterprise Services Master Service Agreement ("Agreement"):

**DEFINITIONS**

Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Enterprise Services General Terms and Conditions ("General Terms and Conditions").

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

"**Service**" means BVE Service. Subject to service availability, Customer may order Service for use at Service Locations within Comcast's service areas.

**ARTICLE 1. SERVICES**

The Service consist of bundled and individual voice application features that are hosted on a VoIP platform. A further description of the Service is set forth in Schedule A-1 hereto which is incorporated herein by reference. Comcast reserves the right to modify the Service descriptions without notice.

**ARTICLE 2. PROVIDER**

Service shall be provided by Comcast IP Phone, LLC or one of its applicable affiliates or subsidiaries.

**(a) ARTICLE 3. CUSTOM INSTALLATION FEE**

Once Comcast accepts a Sales Order for Service, Comcast will invoice Customer for all applicable Custom Installation Fee(s) based on the selected Service Term. 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 Service Order.

**(b) 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.

**13.**

**14. ARTICLE 5. SERVICE COMMENCEMENT DATE**

The Service Commencement Date shall be defined as the date(s) on which Comcast first makes Service available for use by Customer. A single Service Order containing multiple Service Locations or Services may have multiple Service Commencement Dates. Comcast shall notify Customer that the Service is available for use on the Service Commencement Date. Any failure or refusal on the part of Customer to be ready to receive the Service on the Service Commencement Date shall not relieve Customer of its obligation to pay applicable Service charges and may be treated as a termination for cause by Comcast as provided under the General Terms and Conditions of the Agreement. Comcast will consider the Service installation completed if Comcast has delivered Service, regardless of whether Customer refuses or fails to be ready to receive the Service.

15.

## **ARTICLE 6. TERMINATION CHARGES; PORTABILITY; UPGRADES**

**6.1** The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term set forth therein. To the extent that a Service Term has not been expressly set forth in a Sales Order, the minimum Service Term for Services is twenty four (24) months.

### **6.2 Termination Charges.**

**A.** In the event that 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 Service.

**B.** In the event that 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 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.

**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.

## **ARTICLE 7. SERVICE CREDITS**

Service credits are addressed in Attachment A-2 Service Level Agreement.

## **ARTICLE 8: USE POLICY/ADDITIONAL USE RESTRICTIONS**

**A.** Service is not for residential use. Service is intended for domestic US, commercial use only. In order to purchase and retain Service with Comcast, Customer must order and retain Comcast Internet Service. Service will not operate if Customer terminates Comcast Internet Service or has improperly set the disaster recovery feature at any time during the Services Term. Comcast shall have no liability for loss of Service which results from Customer terminating Comcast Internet Service or due to feature misconfiguration.

**B.** Comcast shall not be responsible if Service or any changes in the facilities, operations or procedures utilized by Comcast in the provisioning of Service (1) renders any CE or other equipment provided by Customer obsolete, and/or (2) requires modification or alteration of such CE or Customer's system, and/or (3) otherwise affects CE use or performance.

**C.** Customer acknowledges and agrees that Service is not compatible with alarm and security systems, medical monitoring devices, certain fax machines, and certain "dial-up" modems and overhead paging systems. Customer's attempt to use any such systems in connection with the Service is solely at its own risk and Comcast shall not be liable for any damages whatsoever for any non-operation or damage to such services or devices.

**D.** Voice Service hardware may only be used at Service Location(s) where Service is installed by Comcast. Customer understands and acknowledges that if Customer attempts to install or use the Comcast Equipment or Service at another location, the Service, including but not limited to 911/E911, may fail to function or may function improperly. It will be considered a material violation of the Agreement if Customer moves Service to another location without first notifying Comcast. Comcast prohibits use of the Service for high-volume auto-dialing, continuous or extensive call forwarding, high-volume telemarketing (including, without limitation, charitable or political solicitation or polling), fax or voicemail broadcasting or blasting for services with unlimited local and long distance calling plans. Comcast reserves the right to immediately suspend, disconnect or modify Customer's use of the Service if, in its sole

discretion, Comcast determines or reasonably suspects that Customer or its end users are using the Service for any of the aforementioned or similar activities.

## **ARTICLE 9: SERVICE LIMITATION**

**9.1 Service Disruption.** Customer acknowledges and understands that the Service may not be available for use under certain circumstances, including without limitation when the network or facilities are not operating or if normal electrical power is interrupted and Customer-provided Equipment and/or Comcast Equipment does not have a functioning backup power. Customer also understands and acknowledges that the performance of the battery backup is not guaranteed. If the battery backup does not provide power, Service, including calls to 911, will not function until normal power is restored. Customer also understands that certain online features of the Service, where such features are available, will not be available under certain circumstances, including but not limited to the interruption of the Internet connection.

**9.2 Nomadic Functionality of certain Voice Service and Comcast Equipment.** Comcast may sell or provide certain Service and/or Comcast Equipment with nomadic functionality. In such an event, Customer agrees to comply with all user guides, requirements and instructions provided by Comcast, including without limitation, updating the Service Location associated with the nomadic Service and/or Comcast Equipment. Customer updates to the Service Location must be made a minimum of 72 hours prior to moving nomadic Services and/or Comcast Equipment to a new location.

**9.3 COUNTRIES NOT SERVED – FRAUD PREVENTION.** In order to prevent international long distance fraud and reduce toll-fraud risks to Voice Service customers, Comcast does not include direct dialing to the following countries for all Voice Services: Comoros Island; Djibouti; Eritrea; Guinea; Guinea Bissau; Guyana; Ivory Coast; Liechtenstein; Maldives; Moldova; Niue Island; Sao Tome; Senegal; Sierra Leone; Somalia; Suriname; Tuvalu; Vanuatu; Yemen; Zimbabwe; Algeria; Morocco; Nauru; Papua New Guinea; Saint Helena; Solomon Islands; and Western Samoa. Customers may still make calls to the foregoing countries by making operator assisted calls, which may be subject to an additional fee.

## **ARTICLE 10: LIMITATIONS OF 911/E911**

**10.1 Limitations.** Service includes a 911/ Enhanced 911 function (“911/E911”) that may differ from the 911 or Enhanced 911 function furnished by other providers. As such, it may have certain limitations. CUSTOMER ACKNOWLEDGES AND ACCEPTS ANY LIMITATIONS OF SERVICE WITH 911/E911.

**10.2 Correct Address.** MANY STATES REQUIRE BUSINESSES USING MULTI-LINE TELEPHONE SYSTEMS TO PROGRAM THEIR SYSTEMS TO TRANSMIT SPECIFIC LOCATION INFORMATION FOR 911 CALLS. CUSTOMER ACKNOWLEDGES AND UNDERSTANDS THAT IT, AND NOT COMCAST, BEARS SOLE RESPONSIBILITY TO ENSURE THAT IT IDENTIFIES AND COMPLIES WITH ALL SUCH APPLICABLE LAWS, AND ANY FAILURE TO DO SO IS A BREACH OF THE AGREEMENT. In order for 911/E911 calls to be properly directed to emergency services, Comcast must have the correct Service Location address for each telephone number and extension used by the Customer. If Customer moves the Service to a different Service Location or a different location within a Service Location without providing the correct information to Comcast, 911/E911 calls may be directed to the wrong emergency authority, may transmit the wrong Service Location address, and/or Service (including 911/E911) may fail altogether. Therefore, except as otherwise explicitly identified herein, Customer must contact Comcast before moving the Service to a new Service Location, or a new location within a Service Location. All changes in Service Location require Comcast’s prior approval. Customer is solely responsible for programming its telephone system to map each telephone number and extension to the correct location, and for updating the system as necessary to reflect moves or additions of stations within the Service Location. Updates can be made via the Business VoiceEdge web portal by the User or Group Administrator or by calling Customer Care. Updates to Service take up to 72 hours to complete.

**10.3 Service Interruptions.** Customer acknowledges and understands that the Service uses the electrical power in Customer’s Service Location. If there is an electrical power outage, 911 calling may be interrupted if the battery backup in the Customer-provided Equipment and/or Comcast Equipment is not installed, fails, or is exhausted after

several hours. Customer also understands and acknowledges that Comcast does not provide a battery backup for any such Service devices and Customer is urged to arrange for their own backup power supply. The duration of Service during a power outage will depend on Customer's backup power choice and proper configuration of the Customer's disaster recovery feature. Comcast bears no responsibility for such loss of Service.

**10.4 Network Facilities.** Calls, including calls to 911/E911, may not be completed if Customer exceeds its Service and equipment configuration calling capacity or if there is a problem with network facilities, including network congestion, network/equipment/power failure, or another technical problem.

**10.5 Address updates.** Failure by Customer to make Service Location updates, including updates to restore the service address to the original registered Service Location, or failure to allot sufficient time for the Service Location update provisioning to complete may result in emergency services being dispatched to the incorrect Service Location.

**10.6 911/E911 Limitations for Nomadic Users.** Comcast only supports 911/E911 calls in those areas of the U.S. where Comcast can direct Customer's 911 calls to the appropriate PSAP in a manner consistent with applicable laws, rules and regulations, including, without limitation, FCC rules and requirements. Customer acknowledges that 911 calls from nomadic Comcast Equipment will reach the emergency authority associated with the original registered Service Location unless Customer updates the Service Location address as described in Article 10.2 above. Comcast will be unable to register any Service Location provided in conjunction with the use of nomadic Service and/or Comcast Equipment that is outside its 911/E911 Service support area. . In such instances, Customer must use an alternative means of accessing 911/E911.

**10.7 Reserved.**

**10.8 Teleworkers Users.** Comcast Equipment used for teleworking is intended for primary use at Customer's registered Service Location. However, such equipment may operate from any location where Customer or Customer's authorized end user is able to access a broadband connection. In order for 911/E911 calls to be properly directed to emergency services from such Comcast Equipment, Customer must update the Service Location as instructed in Article 10.2, above.

**10.9 Customer-Initiated 911 Testing.** If Customer chooses to make test calls to 911 from multiple stations within a Service Location, it agrees to obtain prior approval from the relevant emergency communications center and assumes all responsibility for the placement of such calls.

**10.10 Suspension and Termination by Comcast.** Customer understands and acknowledges that the Service, including 911/E911, as well as all online features of the Service, where Comcast make these features available, will be disabled if Customer's account is suspended or terminated.

**10.11 LIMITATION OF LIABILITY.** CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER COMCAST NOR ITS ASSOCIATED PARTIES WILL BE LIABLE FOR ANY SERVICE OUTAGE, INABILITY TO DIAL 911 USING THE SERVICE, AND/OR INABILITY TO ACCESS EMERGENCY SERVICE PERSONNEL.

## **ARTICLE 11: EQUIPMENT REQUIREMENTS**

### **11.1 Equipment**

**A. Network Hardware Equipment.** To use the Service, Customer may need a multimedia terminal adapter ("MTA"), Enterprise Services Gateway ("ESG"), or other adapter device. Customer can lease an MTA or ESG from Comcast, in which case it will be Comcast Equipment. Customer agrees to keep the MTA plugged into a working electrical power outlet at all times. Mean Time to Repair (MTTR) information may be found on the Comcast website ("Comcast Website or Website"). The current URL for the Website is <http://business.comcast.com>. Comcast may update the Website documents and/or URL from time to time.



**B. Premise Hardware Equipment.** To use the Service, Customer may need an IP phone handset, conference device, or analog telephone adapter (“ATA”) or other adapter device. Customer can lease an IP Phone, conference device or ATA from Comcast, in which case it will be Comcast Equipment. Comcast supports next business day (“NBD”) replacement for devices Comcast determines need replacement.

**11.2 Incompatible Equipment and Services.** Customer acknowledges and understands Service may not support or be compatible with:

- (a) Non-recommended configurations including but not limited to MTAs, ATAs or ESGs not currently certified by Comcast as compatible with Service;
- (b) Certain non-voice communications equipment, including certain makes or models of alarm and security systems, certain medical monitoring devices, certain fax machines, and certain “dial-up” modems;
- (c) Rotary-dial phone handsets, pulse-dial phone handsets, and models of other voice-related communications equipment such as certain private branch exchange (PBX) equipment, answering machines, and traditional Caller ID units;
- (d) Casual/dial around (10-10) calling; 976, 900, 700, or 500 number calling;
- (e) 311, 511, or other x11 calling (other than 411, 611, 711, and 911); and
- (f) Other call types not expressly set forth in Comcast’s product literature (e.g., outbound shore-to-ship calling). Customer’s attempt to use any such systems in connection with the Services is solely at its own risk and Comcast shall not be liable for any damages whatsoever for any non-operation or damage to such services or devices.

**11.3** Comcast will support N11 dialing service in areas where the service is made available by the local municipality.

**11.4** Customer’s attempt to use any such systems in connection with the Service is solely at its own risk and Comcast shall not be liable for any damages whatsoever for any non-operation or damage to such services or devices.

## **ARTICLE 12: ADDITIONAL LIMITATIONS ON COMCAST’S LIABILITY FOR VOICE SERVICE**

**12.1 Limitations on Comcast’s Liability for Directories and Directory Assistance for Service Customers.** THESE LIMITATIONS SHALL APPLY WHERE COMCAST MAKES AVAILABLE AN OPTION TO LIST CUSTOMER’S NAME, ADDRESS, AND/OR TELEPHONE NUMBER IN A PUBLISHED DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, AND ONE OR MORE OF THE FOLLOWING CONDITIONS OCCURS: (i) CUSTOMER REQUESTS THAT CUSTOMER’S NAME, ADDRESS AND/OR PHONE NUMBER BE OMITTED FROM A DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, BUT THAT INFORMATION IS INCLUDED IN EITHER OR BOTH; (ii) CUSTOMER REQUESTS THAT CUSTOMER’S NAME, ADDRESS AND/OR PHONE NUMBER BE INCLUDED IN A DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, BUT THAT INFORMATION IS OMITTED FROM EITHER OR BOTH; OR (iii) THE PUBLISHED OR LISTED INFORMATION FOR CUSTOMER’S ACCOUNT CONTAINS MATERIAL ERRORS OR OMISSIONS. IF ANY OF THESE CONDITIONS PERTAIN, THEN THE AGGREGATE LIABILITY OF COMCAST AND ITS ASSOCIATED PARTIES SHALL NOT EXCEED THE MONTHLY CHARGES, IF ANY, WHICH CUSTOMER HAS ACTUALLY PAID TO COMCAST TO LIST, PUBLISH, NOT LIST, OR NOT PUBLISH THE INFORMATION FOR THE AFFECTED PERIOD. FURTHERMORE, IF COMCAST MAKES AVAILABLE DIRECTORY ADVERTISING SERVICES, NEITHER COMCAST NOR ANY OF ITS ASSOCIATED PARTIES WILL BE LIABLE FOR ANY ACTS, ERRORS, OR OMISSIONS RELATED TO SUCH DIRECTORY ADVERTISING.

**12.2 Customer Information.** Comcast and its suppliers reserve the right both during the term of the Agreement and upon its termination to delete Customer’s voicemail, call detail, data, files, or other information that is stored on Comcast’s or its suppliers’ servers or systems, in accordance with our storage policies. Customer understands and

acknowledges that Comcast shall have no liability whatsoever as a result of the loss or removal of any such voicemail, call detail, data, files, or other information.

### **ARTICLE 13: SERVICE CHARGES**

- (a) **Prices.** The Service is subject to the service pricing identified in the applicable Service Order, and subject to the pricing lists and guides found at: <http://www.comcast.com/corporate/about/phonetermsofservice/comcastdigitalvoice/cdvbusiness.html>. Comcast may update the website documents and/or URL from time to time.
- (b) Service calling plans billed as a flat monthly fee may not include certain call types. These excluded call types will instead be charged on a per-call basis (e.g., operator services) or a measured basis (e.g., outbound, international calls). Generally, for billing purposes, a measured call begins when the call is answered by the called party or an automated answering device (such as an answering machine or fax machine); it ends when one of the parties disconnects the call.
- (c) Notwithstanding anything to the contrary in this Agreement, some providers (e.g., those involved in calls to foreign countries) charge for a completed call when the called party's line rings or after a certain number of rings. If such a provider charges Comcast or its Associated Parties, as if such a call were answered by the called party, Comcast will charge Customer for a completed call. Voice Service pricing lists and fees can be found at <http://www.comcast.com/corporate/about/phonetermsofservice/comcastdigitalvoice/cdvbusiness.html>. Except as otherwise prohibited by law, calls invoiced on a per-minute basis will have an initial minimum call duration of one (1) minute, subsequent intervals of one (1) minute each, and will be billed by rounding to the next whole minute. Comcast reserves the right to round up any and all Voice Service invoice amounts to the nearest one (1) cent.
- (d) **Billing Increments.** Billing increment for Service are identified in the Service Description. Comcast may update the website documents and/or URL from time to time
- (e) **Rounding of Charges.** Except as otherwise provided in the Agreement, Voice Service measured calls are recorded in whole minutes, with partial minutes rounded up to the next whole minute. If the computed charge for a measured call or for taxes or surcharges includes a fraction of a cent, the fraction is rounded up to the nearest whole cent.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
Business VoiceEdge™**

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

Services description may be found at the following link: <http://businesshelp.comcast.com/welcome> or <http://business.comcast.com/phone/voiceedge/included-features>.

Comcast may update the website documents and/or URL from time to time.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
Business VoiceEdge™**

**SCHEDULE A-2  
SERVICE LEVEL AGREEMENT**

**a)**

Comcast's Service is backed by the following Service Level Agreement ("SLA"):

**(a)**

**(b) Definitions**

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

**"Monthly Recurring Charge (MRC)"**– The recurring charges for Service as identified on the invoice and in Article 3.1 of the General Terms and Conditions.

**Service Level Agreement (SLA)**

Comcast's liability for any Total Service Interruption of its Service shall be limited to the amounts set forth below. Multiple events will require multiple trouble tickets to be opened.

**Credit Allowances**. Unless otherwise addressed in a service level agreement attached to the Agreement, Comcast will allow a pro-rata credit against future payment of the net monthly recurring charge (exclusive of nonrecurring charges, other one-time charges, per call charges, measured charges, regulatory fees and surcharges, taxes, and other governmental and quasi-governmental fees) for a Service Interruption, except as specified below or as may otherwise be legally required ("Credit"). "Service Interruption" shall mean a break in transmission that renders the Service unusable for transmission and reception. For the purposes of calculating a Credit allowance, the Service Interruption period begins when the Customer reports an interruption in the portion of the Service to Comcast, a trouble ticket is opened, and the Service is released to Comcast for testing and repair. The Service Interruption ends when the affected portion of the Service has been restored and Comcast has closed the trouble ticket. Service Interruption time does not include interruptions of less than thirty (30) minutes' duration. Credits will be as follows:

<b>Length of Service Interruption</b>	<b>Amount of Credit</b>
---------------------------------------	-------------------------

At least 4 hours and up to and including

24 hours

1 full day

The total number of credit allowances per month shall not exceed the total monthly recurring charge for the affected Service. Credit allowances will not be made for less than \$1.00, unless required under applicable law. To qualify, Customer must request the Credit from Comcast within thirty (30) days of the Service Interruption.

**Exceptions to Credit Allowances**. Except as otherwise provided in the General Terms and Conditions, a Service Interruption shall not qualify for the Credit 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 this Agreement, unless otherwise provided under applicable law. The remedies set forth in this Schedule shall be Customer's sole and exclusive remedy for any Service Interruption in the Service, outage, unavailability, delay or other degradation in the Services or any Comcast failure to meet the objectives of the Service.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
CORPORATE NETWORK ACCESS SERVICE**

**ATTACHMENT IDENTIFIER: Corporate Network Access Service, Version 1.0**

The following additional terms and conditions are applicable to Sales Orders for Comcast's Corporate Network Access Service. A further description of the Service is set forth in Schedule A-1 hereto.

**DEFINITIONS**

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

**"Access Point(s)"** means networking hardware device(s) that enable other Wi-Fi devices (e.g., cell phone and laptops) to connect to a wired network. For the avoidance of doubt, such Access Points are Comcast Equipment.

**"End User(s)"** means Customer's employees that utilize the Service at their respective residences in the United States.

**"End User Service Location"** means the End User location(s) where Comcast provides the Service.

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

**"Service"** means the Comcast Corporate Network Access Service.

**"Underlay Connectivity Service"** means connectivity to the Internet or a private Ethernet network.

**"VPN"** means virtual private network.

**ARTICLE 1. CUSTOM INSTALLATION FEES**

Once Comcast accepts a Sales Order for Service, 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 2. PROVISIONING INTERVAL**

Following Comcast's 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 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 3. SERVICE COMMENCEMENT DATE**

The Service Commencement Date shall be the date Comcast informs Customer that the Service is available and performing at the Service Location in accordance with the "Performance Standards" set forth in Schedule A-1 hereto. Comcast will deliver the Access Points (as defined below) to Customer (a) prior to, or on the date of, the installation of the VPN Concentrator (as defined below) for the initial Sales Order or (b) after Comcast's acceptance of any subsequent Sales Orders.

Charges for Service shall begin to accrue as of the Service Commencement Date. Customer shall be charged for each End User, as set forth in more detail in the Sales Order.

Customer acknowledges and agrees that if Comcast is the provider of the Underlay Connectivity Service, charges may begin to accrue with respect to the Underlay Connectivity Service and the Service at different times. For the avoidance of doubt, if Comcast is the provider of the Underlay Connectivity Service, charges will begin to accrue with respect to the Underlay Connectivity Service provided by Comcast and the Router Service in accordance with the applicable PSA.

**ARTICLE 4. SERVICE REQUIREMENTS**

In order to provide the Service at a Service Location and an End User Service Location, Customer is responsible for ensuring that the Service Location and the End User Service Location have the Underlay Connectivity Service. The Underlay Connectivity Service may be pre-existing or ordered in conjunction with the Service. For the avoidance of doubt, with respect to the Access Points only, the Underlay Connectivity Service may be provided by Comcast or a third-party provider. With respect to the VPN Concentrators only, the Underlay Connectivity Service must be provided by Comcast.

**IF THE UNDERLAY CONNECTIVITY SERVICE IS TERMINATED AT A SERVICE LOCATION OR UNAVAILABLE FOR ANY REASON AT ANY TIME, THE SERVICE AT THE SERVICE LOCATION AND**

**THE END USER SERVICE LOCATIONS WILL BE INOPERABLE.**

Access Point and shall ensure that each End User uses the Service, including the Access Points, in accordance with the Agreement and this Product-Specific Attachment.

**ARTICLE 5. TERMINATION CHARGES**

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

**5.2 Termination Charges for Services.**

- 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 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 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 100% of any remaining, unpaid installation fees (including construction charges).

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

**5.3 Portability.** Each Sales Order Customer submits to Comcast shall state the amount of Access Points that Customer is ordering. As such, Customer acknowledges and agrees that each Access Point that Customer orders pursuant to a Sales Order has its own Service Term, as set forth in the applicable Sales Order. Customer may transfer an Access Point to another End User or multiple End Users during the applicable Service Term. At all times, Customer shall remain responsible for each

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
CORPORATE NETWORK ACCESS SERVICE**

**SCHEDULE A-1**

**CORPORATE NETWORK ACCESS SERVICE  
SERVICE DESCRIPTIONS & TECHNICAL SPECIFICATIONS**

Comcast's Corporate Network Access Service will be provided in accordance with the service descriptions and technical specifications set forth below.

**1. Service Description**

The Service is an integrated solution that provides Customer's End Users with VPN, security features and Wi-Fi services to the End User Service Locations. The Service is managed by Comcast via the Comcast Business Cloud SaaS.

- a. VPN.** The Service includes basic VPN functions that provide End Users with the ability to securely connect to a Service Location. In order to access VPN, (i) Customer must have a Comcast-provided VPN concentrator at the Service Location (the "VPN Concentrator") and (ii) each End User must have one (1) Comcast-provided access point at each End User Service Location (the "Access Points" and, collectively with the VPN Concentrator, the "Network Access Equipment"). The initial VPN Concentrator is included with the Service (a non-recurring installation charge is assessed), however, if Customer requires more than one (1) VPN Concentrator, then such additional VPN Concentrators will result in additional charges to Customer, as set forth in more detail in the applicable Sales Order. The Service provides a VPN tunnel between the VPN Concentrator and each Access Point and in order to access VPN, VPN must be enabled on both the VPN Concentrator and the Access Point. Comcast will provide initial VPN configuration and ongoing configuration support (as described in more detail under "Corporate Network Access Service Delivery and Service Managed" below) for each End User Service Location.

No more than one (1) active VPN tunnel from the VPN Concentrator to each Access Point can be supported as part of the Service.

- b. Security Features.** The Service provides Customer with the ability to enable certain security features on the Network Access Equipment, including a stateful firewall. The stateful firewall feature will not be active unless Customer contacts Comcast to enable such features. Customer can request that Comcast enable such security feature during the technical interview (as described in more detail under "Corporate Network Access Service Delivery and Service Managed" below). If Customer does not request that this feature be enabled during the technical interview, Customer can contact Comcast Support at 1-844-276-0684 (the "Comcast Support Number") to request that Comcast enable this feature.
- i. Stateful Firewall.** The Service includes a Layer 3/4 stateful firewall feature. The stateful firewall monitors each active network connection in the state table and will allow or deny Internet and application traffic based on a set of policies or rules established in the firewall. Such policies and rules are based on configuration instructions provided by Customer. The number of policies and rules that can be established in the firewall under the Service is a maximum of twenty (20). Customer acknowledges that if the stateful firewall is enabled, the configuration instructions established by Customer shall apply to all Access Points. Customer acknowledges and agrees that if, at any point, the stateful firewall is disabled, Customer will not have access to this feature of the Service and the Service will not allow or deny certain Internet and application traffic in accordance with the policies and rules established in the firewall.
- c. Wi-Fi.** The Service includes basic Wi-Fi service at the End User Service Locations. This feature enables End Users to be on a wireless network separate from a residential wireless network (if any).
- d. LAN Service (VLAN, DHCP and PoE).** The Service includes basic LAN service at the End User Service Locations. This feature enables End Users to connect devices such as desktops, laptops, Voice over IP (VoIP) handsets or printers to a wired network separate from a residential wired network (if any) to be part of the VPN.
- i. LAN Service (VLAN and DHCP).** The Service provides Customer with the ability to specify Virtual Local Area Network ("VLAN") identifiers and Dynamic Host Configuration Protocol ("DHCP") parameters to provide IP address, network mask and Domain Name Server ("DNS") information to all devices connected to an Access Point via Ethernet.
- ii. Power Over Ethernet ("PoE").** The Service also provides End Users with the ability to connect devices that require Power Over Ethernet (each, a "PoE Device") such as IP phones directly to the Access Point while the Access Point provides power to the PoE Device. Customer acknowledges and agrees that if an End User connects a PoE Device, such End User is responsible for following the Access Point manufacturer's recommended usage of the PoE capabilities and the related power requirement for such PoE Device.

## 2. Technical Specifications

- a. **Underlay Connectivity Service.** The Service leverages public Internet to provide connectivity between the Service Location and each End User Service Location.
- b. **Corporate Network Access Overlay.** The Service uses the Underlay Connectivity Service access to establish Internet Protocol Security (IPsec) VPN tunnels using AES-256 encryption between the VPN Concentrator and each Access Point.
- c. **Equipment Access.** Comcast will have read / write access to the Network Access Equipment. Customer will only be provided read-only access via the Comcast Business Cloud SaaS.
- d. **Service Set Identifiers (“SSIDs”).** The Service supports up to two (2) SSIDs. All End User Service Locations must have the same SSID configuration (i.e., 1 or 2 SSIDs for all Access Points). The Service provides Customer with RADIUS authenticated SSIDs with static user role derivation. If Customer does not request that Comcast enable any of the features set forth in this Section 2d during the technical interview (as described in more detail under “Corporate Network Access Service Delivery and Service Managed” below) or following the technical interview by contacting the Comcast Support Number, Customer will not have access to such features of the Service.

## 3. Corporate Network Access Delivery and Service Management

- a. **Technical Interview.** Comcast will engage Customer in one or several interviews related to Customer’s technical implementation details and network design initiatives, including the VPN configuration. Comcast will document the technical information discovered through the interview process into an Architectural Confirmation Document (the “ACD”) and the Customer will review and confirm that the ACD is correct. If no changes are requested within five (5) business days, Customer will be deemed to have accepted the ACD and Comcast will begin configuration.
  - i. **VPN Concentrator Configuration.** Based upon the technical implementation details and network design initiatives provided by Customer during the technical interview, Comcast will generate a configuration for the VPN Concentrator and shall complete such configuration prior to the delivery of the VPN Concentrator to the Service Location.
  - ii. **Access Point Configuration.** Based upon the technical implementation details and network design initiatives provided by Customer during the technical interview, Comcast will generate a configuration for the Access Points and shall complete such configuration prior to the shipment of the Access Points to the Service Location. Access Points will download their respective configurations from Comcast once they are installed at the End User Service Location and able to access the Internet.
- b. **Delivery and Installation Process.**
  - i. With respect to each End User Service Location, Comcast will ship an Access Point to Customer. It shall be Customer’s obligation to ship the Access Points to each applicable End User. The End User will be responsible for installing the Access Point at the End User Service Location. In no event shall a Comcast technician be dispatched to an End User Service Location in connection with installing the service or to repair the Service.
  - ii. With respect to the Service Location, Comcast will ship the VPN Concentrator to the Service Location. Comcast shall be responsible for installing the VPN Concentrator at the Service Location and shall dispatch a technician, at such time as may be agreed upon by the parties, to complete such install.
- c. **Network Monitoring and Management.** On and after the Service Commencement Date, Comcast will monitor and manage the VPN Concentrator(s) related to the availability and certain performance aspects of the Service. Customer will be responsible for providing technical support to the End Users and will work directly with the End Users to ascertain whether the root cause of such alarm is the Network Access Equipment or the Service. If Customer reasonably determines that the root cause of such issue is attributable to the Network Access Equipment or the Service, Customer should open a trouble ticket with Comcast by calling the Comcast Support Number. Under no circumstance will Comcast provide support directly to End Users.



**d. On-Going Solution Support.**

- i. Comcast will support Customer's 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. This includes any changes to the Service configuration as initially outlined in the ACD. Comcast has the following configuration change response objectives:

<b>Category</b>	<b>Objective</b>
Simple Configuration Change	4 business hours
Complex Configuration Change	10 business days

"Simple Configuration Change" means any change that enables or disables functionality in the Service that does not affect a Service Location's, an End User Service Location's or an Access Point's ability to route application traffic. Examples of a Simple Configuration Change include updating the name of a SSID, changing a pre-shared password key, enabling or disabling content filtering or adding or removing firewall rules.

"Complex Configuration Change" means any change that enables or disables functionality in the Service that affects a Service Location's, an End User Service Location's or an Access Point's ability to route application traffic. Examples of a Complex Configuration Change include adding additional VPN concentrators, changing IP addressing, changing the manner in which End User's authenticate a device, adding or removing IP traffic routes (e.g., allowing or blocking traffic to specific networks or interfaces), adding or removing interfaces or changing IPsec parameters.

- ii. If a Comcast vendor develops software updates and/or security patches for such vendor's equipment which Comcast uses to provide the Service, Comcast will upload such software updates and/or security patches to the applicable Network Access 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.

**4. Security Monitoring and Mitigation**

The exact security policies and configuration of the Network Access Equipment will be as requested by Customer and as reflected in the final ACD. **COMCAST DOES NOT PROVIDE MONITORING OF SECURITY EVENTS, ANY SECURITY EVENT MITIGATION OR ADVICE REGARDING SECURITY ISSUES OR THREATS.** Comcast will work with Customer to modify the configuration of the Network Access Equipment to attempt to mitigate security events and security threats identified by Customer and therefore Comcast's sole obligation is to implement the configuration settings requested by Customer. 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.

**5. Technical Support and Maintenance**

Comcast provides Service Level Objectives for the Service, including mean time to respond, and mean time to restore.

**a. Mean Time to Respond.**

Mean Time to Respond is the average time required for Comcast to begin troubleshooting a reported fault. The Mean Time to Respond objective is fifteen (15) minutes from the time a trouble ticket is opened with Comcast.

**b. Mean Time to Replace.**

Mean Time to Replace is the average time required to ship replacement Network Access Equipment to the Service Location. The Mean Time to Replace objective is as stated below for Network Access Equipment failure from the time a trouble ticket is opened with Comcast.

Mean Time to Replace Equipment	
Access Points	2 business days
VPN Concentrators	5 business days

**c. Technical Support.**

Comcast provides a toll-free trouble reporting telephone number to Comcast Support, the Comcast Support Number, 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 Customer-Provided Equipment (“CPE”) or other equipment not provided by Comcast.

- **Escalation.** Service issues should be directed to the Comcast Support Number. Service issue escalations may be escalated by Customer within Comcast Support to a Supervisor after twenty-four (24) hours, to a Manager twenty-four (24) hours following the escalation to a Supervisor, and to a Director twenty-four (24) hours following the escalation to a Manager.
- **Maintenance.** Comcast’s standard maintenance window is Monday to Friday from 6:00am to 8:00am ET. Scheduled maintenance is performed during the maintenance window and will be coordinated between Comcast and the Customer as required. Emergency maintenance is performed as needed.
- **Network Access Equipment.** Comcast provides certain Comcast Equipment (the Network Access Equipment) for provisioning its Service. Comcast will retain ownership and management responsibility for this Comcast Equipment. This Comcast Equipment must only be used for delivering Service.

**6. Customer Responsibilities.**

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

- Providing a copy of the applicable rack layout diagram to Comcast at least thirty (30) days prior to installation;
- Providing necessary contiguous rack space (3U);
- Ensuring all racks are properly grounded (Comcast requires permanent power for each VPN Concentrator installed);
- Providing, and to cause its End Users to provide, interior space within the applicable Service Location and End User Service Locations for the Network Access Equipment to reside that has 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 eight-fifty (85) degrees Fahrenheit;
- With respect to the VPN Concentrator, providing a public IP and applying all required network address translation (“NAT”), firewall and port configurations to the Customer’s existing network;
- Implementing all required IP addressing;
- Configuring all required network routing on the Customer’s router/firewall;
- Providing emergency local generator or battery backup service;
- Storing any packages delivered for the installation of the Services in a secure, temperature-controlled location that will not be opened by anyone other than Comcast;
- Securing all applicable approvals for Comcast to access the Service Location (if any);
- Providing an escort that can enable Comcast’s access to the buildings and Demarcation Point at the Service Location to allow Comcast. Provide access to each Service Location for regular (8am - 5pm) and emergency (24 hour) service and maintenance of Comcast’s equipment and facilities;
- Providing a point of contact (“POC”) and backup POC for installation, service activation and any maintenance activities;
- Providing SSID authentication-sensitive information (e.g., pre-shared key and RADIUS server information) prior to activation of the Services;
- Receive and ship Access Points to the End Users;
- Provide tier one support to the End Users. Under no circumstances will Comcast provide direct support to the

- Customer End Users; and
- With respect to the Access Points, notify Comcast of any faulty units that require replacement and return faulty units back to Comcast.

Customer acknowledges and agrees that it is responsible for all use of the Service by its End Users, including, but not limited to, compliance with the General Terms and Conditions and ensuring that the Service is only used in the United States. Any breach or violation of the Agreement by an End User shall constitute a breach or violation of the agreement by Customer.

Customer shall prohibit any End User from making any claims directly against Comcast related to the Service and, instead, any claims related to the Service must be made by Customer directly, on behalf of its End User, pursuant to the terms of the Agreement.

## **7. Emergency Blocking**

The parties agree that if either party hereto, in its reasonable 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
DDoS MITIGATION SERVICE**

**ATTACHMENT IDENTIFIER: DDoS Mitigation Service, Version 1.3**

The following additional terms and conditions are applicable to Sales Orders for Comcast's DDoS Mitigation Service:

**DEFINITIONS**

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

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

"**Service(s)**" means Comcast DDoS Mitigation Service.

**ARTICLE 1. SERVICES**

This attachment shall apply to Comcast's DDoS Mitigation Service. A further description of the Service is set forth in **Schedule A-1** hereto which is incorporated herein by reference.

**ARTICLE 2. PROVIDER**

Service shall be provided by Comcast Business Communications, LLC.

**ARTICLE 3. 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 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 4. 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 7); 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 5. SERVICE REQUIREMENTS**

- A. Notwithstanding anything to the contrary contained herein (including, but not limited to, Articles 6.3, 6.4 and 6.5), in order to provide the Service at a Service Location, (i) the Service Location must have Comcast Ethernet Dedicated Internet Service ("Underlay EDI Service"), which must be ordered from Comcast and may be pre-existing or ordered in conjunction with the Service and (ii) the Service and the applicable Underlay EDI Service (i.e., the applicable EDI circuit) must have the same bandwidth capacity. The Service is provided on a per circuit basis. For the purposes of an example only, if Customer has two EDI circuits each at a different Service Location and desires to have the Service with respect to both circuits, it will be required to order the Service with respect to each circuit and each ordered Service will constitute a separate Service for the purposes of the agreement.
- B. Customer acknowledges and agrees that charges may begin to accrue with respect to Underlay EDI Service and the Service at different times. For the avoidance of doubt, charges will begin to accrue with respect to the Underlay EDI Service in accordance with the PSA applicable thereto.

**ARTICLE 6. TERMINATION CHARGES;  
PORTABILITY; UPGRADES**

**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.**

- A. Subject to Section 6.2(B) and (C), in the event that 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 any remaining, unpaid non-recurring charges.

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.

B. 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.

C. Customer acknowledges and agrees that termination of the Underlay EDI Service shall constitute a termination of the Service and Customer shall pay Termination Charges with respect to the Service as provided herein; provided, that, (i) if Customer terminated the Underlay EDI Service as a result of Comcast's material and uncured breach in accordance with the Agreement or (ii) the Underlay EDI Service is terminated by either party on or after the expiration of the initial Service Term applicable to the Underlay EDI Service, then Customer will not be obligated to pay Termination Charges with respect to the Service.

**6.3 Portability.** Customer may terminate an existing Service (an "Existing Service") and turn up a replacement 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 monthly recurring charges equal to or greater than the monthly recurring charges for the Existing Service; and (b) 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.

**6.4 Bandwidth Upgrades.** Customer may upgrade bandwidth 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.

**6.5 Subscription Changes.** As further described in Schedule A-1 attached hereto, the Service is available to Customer on an emergency basis, incident-based subscription basis or an unlimited subscription basis. If Customer has the Unlimited Subscription Service or the Incident-Based Subscription Service (each as defined in Schedule A-1), Customer may change to the other

subscription service (e.g., if Customer has the Unlimited Subscription Service it may switch to the Incident-Based Subscription Service) without incurring Termination Charges; provided, that, the new subscription service (the "New Subscription Service") must assume the remaining Service Term of the Existing Service, but in no event less than twelve (12) months; (b) the New Subscription 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 New Subscription 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 New Subscription Service.

## **ARTICLE 7. 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
DDoS MITIGATION SERVICES**

**SCHEDULE A-1  
SERVICE DESCRIPTIONS AND TECHNICAL SPECIFICATIONS  
COMCAST DDoS MITIGATION SERVICES**

Comcast's DDoS Mitigation Service will be provided in accordance with the service descriptions and technical specifications set forth below.

**Service Descriptions**

**DDoS Mitigation Service ("DDoS Service").**

The DDoS Service is a managed security service that includes threat mitigation functionality to respond to certain types of distributed denial of service ("DDoS") attacks, including volumetric and flood attacks. The DDoS Service is available to Customer on an emergency, incident-based subscription or unlimited subscription basis, all of which require Customer to have Comcast provided EDI Underlay Service at the applicable Service Location which has the same bandwidth capacity as the DDoS Service.

**1. Emergency DDoS Mitigation Service ("Emergency Service")**

- A. Upon notification of suspicious traffic from Customer, Comcast will analyze traffic for anomaly detection and patterns to determine whether the business is under a DDoS attack. In performing this analysis, Comcast will gather the appropriate network information (*e.g.*, routable IP addresses). When authorized by Customer via the execution of a Sales Order, which will include relevant fees, Comcast will redirect Customer's incoming Internet traffic to Comcast scrubbing centers where malicious traffic matching specific attack vectors will be filtered and legitimate traffic will be re-routed back to Customer's network.
- B. For those Customers receiving the Emergency Service, applicable charges shall apply with respect to each Mitigation Incident. With respect to Emergency Services, a "Mitigation Incident" is defined as one (1) twenty-four (24) hour window in which Comcast provides Customer with DDoS mitigation assistance as set forth above regardless of whether Comcast provides such assistance for the full twenty-four (24) hours or less than twenty-four (24) hours. Customer acknowledges and agrees that Comcast will discontinue mitigation efforts upon the expiration of each Mitigation Incident unless instructed by Customer to continue mitigation efforts, which Customers may do by contacting the Comcast Security Assurance Team at 877-215-5529. Each twenty-four (24) hour period in which Comcast provides mitigation assistance shall constitute a separate Mitigation Incident subject to additional charges. For illustrative purposes only, if Comcast provides mitigation assistance (i) for twenty-four (24) or fewer hours, there will have been one Mitigation Incident, (ii) for thirty (30) hours, there will have been two Mitigation Incidents and (iii) for forty-nine (49) hours, there will have been three Mitigation Incidents.

**2. Unlimited Subscription DDoS Mitigation Service ("Unlimited Subscription Service")**

- A. The Unlimited Subscription Service is a subscription-based Service offering that provides Customer with proactive network detection of DDoS attack traffic, alert notifications, and mitigation of attacks. Upon receipt of complete and accurate Customer contact and network information, Comcast will configure Customer's site(s), related IP addresses, and countermeasure options. Following Comcast's completion of such configuration, the parties will conduct an on-boarding call during which Customer will conduct an acceptance test to confirm that the DDoS Service is configured in accordance with Customer's preferences after activation and to verify the operation of DDoS Service.
- B. Comcast monitors the Customer network traffic and will automatically drop or rate limit Layer 3 and Layer 4 traffic at the closest peering edge router using filtering rules. If Comcast detects DDoS attack traffic after applying such filtering rules, an alert will be sent to Customer via email and/or SMS notifying Customer that mitigation is required. During the mitigation, Comcast will leverage Border Gateway Protocol (BGP) to route any traffic that is not filtered to Comcast scrubbing centers where malicious traffic will be filtered and legitimate traffic will be routed back to Customer's network. After mitigation is terminated, all traffic is directed back to Customer's network via normal paths.

C. Customer has a choice of On-Demand or Automatic mitigation options under the Unlimited Subscription Service:

- a. On-Demand. Customer must authorize Comcast by phone to initiate mitigation. Time to mitigate (the “Mitigation Interval”) is the elapsed time from when the customer authorizes Comcast to enable mitigation until Comcast initiates mitigation of any attack traffic. Mitigation ceases when attack traffic is no longer detected.
- b. Automatic. With the Automatic mitigation option, no Customer intervention is required. Comcast’s scrubbing platform automatically initiates mitigation when an alert is generated due to the detection of attack traffic exceeding pre-set thresholds. The Mitigation Interval is the elapsed time from when the alert is generated to when Comcast initiates mitigation of any attack traffic. Mitigation ceases when attack traffic is no longer detected.

### 3. Incident-Based Subscription DDoS Mitigation Service (“Incident-Based Subscription Service”)

- A. The Incident-Based Subscription Service is a subscription-based Service offering that provides Customer with proactive network detection of DDoS attack traffic, alert notifications, and mitigation of attacks. Upon receipt of complete and accurate Customer contact and network information, Comcast will configure Customer’s site(s), related IP addresses, and countermeasure options. Following Comcast’s completion of such configuration, the parties will conduct an on-boarding call during which Customer will conduct an acceptance test to confirm that the DDoS Service is configured in accordance with Customer’s preferences after activation and to verify the operation of DDoS Service.
- B. Comcast monitors the Customer network traffic and will automatically drop or rate limit Layer 3 and Layer 4 traffic at the closest peering edge router using filtering rules. If Comcast detects DDoS attack traffic after applying such filtering rules, an alert will be sent to both the Comcast operations center and the Customer via email and/or SMS notifying Customer that mitigation is required. Customer must authorize Comcast by phone to initiate mitigation (i.e. On-Demand) and the Mitigation Interval shall be the elapsed time from when the customer authorizes Comcast to enable mitigation until Comcast initiates mitigation of any attack traffic. Comcast will continue its mitigation efforts until instructed by Customer to terminate mitigation. During the mitigation, Comcast will leverage BGP to route any traffic that is not filtered to Comcast scrubbing centers where malicious traffic will be filtered and legitimate traffic will be routed back to Customer’s network. After mitigation is terminated, all traffic is re-directed back to Customer’s network via normal paths.
- C. For those Customers receiving the Incident-Based Subscription Service, additional charges (in addition to the monthly recurring charges (MRC)) shall apply with respect to each Mitigation Incident. With respect to the Incident-Based Subscription Service, A “Mitigation Incident” is defined as one (1) twelve-hour (12) hour window in which Comcast provides Customer with DDoS mitigation assistance as set forth above regardless of whether Comcast provides such assistance for the full twelve (12) hours or less than twelve (12) hours. Customer acknowledges and agrees that Comcast will discontinue mitigation efforts upon the expiration of each Mitigation Incident unless instructed by Customer to continue mitigation efforts, which Customers may do by contacting the Comcast Security Assurance Team at 877-215-5529. Each twelve (12) hour period in which Comcast provides mitigation assistance shall constitute a separate Mitigation Incident subject to additional charges. For illustrative purposes only, if Comcast provides mitigation assistance (i) for twelve (12) or fewer hours, there will have been one Mitigation Incident, (ii) for fifteen (15) hours, there will have been two Mitigation Incidents and (iii) for twenty-five (25) hours, there will have been three Mitigation Incidents.

### 4. Disclaimer. Customer acknowledges the following additional terms for the DDoS Mitigation Service

- A. NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, WHILE COMCAST CAN PROVIDE DETECTION AND NOTIFICATION OF DDOS ATTACKS WITH RESPECT TO IPv6, COMCAST DOES NOT SUPPORT, AND SHALL HAVE NO OBLIGATION TO PROVIDE, MITIGATION WITH RESPECT TO IPv6.
- B. When Customer Internet traffic is traversing Comcast mitigation platform, Comcast makes no guarantees that only DDoS attack traffic will be prevented from reaching the Service Location nor that only legitimate traffic will be allowed to reach Customer.

- C. Comcast mitigation constitutes only one component of Customer's overall security program and is not a comprehensive security solution; instead the DDoS Mitigation Service is intended to mitigate the impacts of certain types of DDoS attacks that are already underway.
- D. Comcast makes no warranty, express or implied, that: (i) all DDoS attacks will be detected (for Customers receiving a Subscription Service); (ii) the mitigation efforts implemented by Comcast in response to such DDoS attacks will be successful in mitigating the overall impact of the incident; or (iii) or that Comcast detection, alerting, and/or mitigation will be uninterrupted or error-free. Customer also understands that there may be volumetric-based attacks that exceed the amount of traffic volume that Comcast can successfully divert.
- E. Comcast's ability to provide the DDoS Mitigation Services is contingent on (i) Customer providing accurate and timely information to Comcast, including the provision of IP addresses and (ii) Customer provided equipment and software being compatible with the Service as determined by Comcast in its sole discretion (e.g., Comcast will not be able to provide a 3GB DDoS Mitigation Service if Customer has a 1GB Firewall).



**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
DDoS MITIGATION SERVICES**

**SCHEDULE A-2  
SERVICE LEVEL AGREEMENT**

Comcast's DDoS Mitigation Service is 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 DDoS Mitigation Services PSA or the General Terms and Conditions.

"Subscription Service" means, as applicable, the Unlimited Subscription Service or Incident Based Subscription Service.

**B. DDoS Mitigation Services - Service Level Agreement**

**a. Service Delivery Interval**

For a customer adding Unlimited Subscription Service or Incident-Based Subscription Service to a new Comcast EDI service, the Subscription Service delivery interval will be the same as the EDI service delivery interval. For a customer with existing EDI service, Comcast will configure and activate Customer's Subscription Service within ten (10) business days of submitting the order for the Subscription Service.

Service Delivery Option	Service Delivery Interval	Remedy
Add Subscription Service to New EDI Service	At time of EDI service delivery	No Credit
	More than twenty-four (24) hours after EDI service delivery	50% of the DDoS Service Activation Fee
Add Subscription Service to Existing EDI Service	Less than or equal to 10 business days	No Credit
	More than 10 business days	50% of the DDoS Service Activation Fee

**b. Mitigation Interval**

Service	Mitigation Option	Mitigation Interval	Remedy
Emergency DDoS Mitigation	N/A	Less than or equal to 60 minutes	No Credit
		Greater than 60 minutes	One day of Daily Mitigation fee
Unlimited Subscription DDoS Mitigation	On-Demand	Less than or equal to 15 minutes from Customer authorization*	No Credit
		Greater than 15 minutes from Customer authorization*	1/30 of DDOS MRC

	Automatic	Less than or equal to 5 minutes from discovery of attack traffic**	No Credit
		Greater than 5 minutes from discovery of attack traffic**	1/30 of DDOS MRC
Incident-based Subscription      DDoS Mitigation	On Demand	Less than or equal to 15 minutes from Customer authorization*	No Credit
		Greater than 15 minutes from Customer authorization*	1/30 of DDOS MRC

\*Comcast will notify Customer of any high severity Internet traffic incidents. To commence mitigation, after notification from Comcast, Customer must contact Comcast's Customer Security Assurance team to authorize incident mitigation. Upon Customer's authorization for incident mitigation, the "Mitigation Interval" will commence.

\*\*Upon Comcast's identification of a high severity Internet traffic incident, the Mitigation Interval will commence.

Customer shall be entitled to up to one credit per day and, for any billing month, Credits may not exceed fifty percent (50%) of the total MRC of the applicable Subscription Service.

In order to receive a Credit for Comcast's failure to meet the DDoS Mitigation SLA detailed above, Customer must open a trouble ticket with Comcast. Customer must request a credit within thirty (30) days following the initial attack event.

## **B. 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**

Comcast failure to meet the service objectives or the Mitigation Intervals shall not qualify for the remedies set forth herein if such failures 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 and Mitigation Intervals.

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

**ATTACHMENT IDENTIFIER: Ethernet Dedicated Internet, Version 1.13**

The following additional terms and conditions are applicable to Sales Orders for Comcast's Ethernet 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.

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

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

**"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. 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 and Off-Net Dedicated Internet Access.

**ARTICLE 1. SERVICES**

This attachment shall apply to Ethernet 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.

On-Net Service provided over the HFC Network and Off-

Net Services are available in a number of markets. For 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.

**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 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.** In the event Customer terminates Off-Net Service following Comcast's acceptance of the applicable Sales Order but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to 100% of any remaining, unpaid Custom Installation Fees.

**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.

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

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

Comcast's Ethernet 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.**

**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.

**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. 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.** For EDI 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. 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. 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.

## **9. 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.



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

**SCHEDULE A-2  
SERVICE LEVEL AGREEMENT**

Comcast's Ethernet 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 Ethernet 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.

**"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 Tables 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 for Services provided over On-Net or Off-Net Fiber (99.99% Availability)**

<b>Length of Service Interruption:</b>	<b>Amount of Credit:</b>
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

**TABLE 2: Availability SLA for Services provided over On-Net HFC or Off-Net Non-Fiber (99.9% Availability)**

<b>Length of Service Interruption:</b>	<b>Amount of Credit:</b>
Less than 40 minutes	None
At least 40 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
ETHERNET TRANSPORT SERVICES**

**ATTACHMENT IDENTIFIER: Ethernet Transport, Version 1.12**

The following additional terms and conditions are applicable to Sales Orders for Comcast's Ethernet Transport Services. A further description of the Service is set forth in Schedule A-1 hereto.

**DEFINITIONS**

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

**"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 an HFC Network (**"On-Net HFC"**), as available through Comcast.

**"Service(s)"** means Ethernet Transport Services.

**ARTICLE 1. REGULATORY APPROVAL; TRAFFIC MIX**

Comcast's pricing for Service may be subject to FCC, public service commission or other regulatory approval. Further, Customer represents that its use of Service hereunder will be jurisdictionally interstate.

**ARTICLE 2. 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 3. 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 4. 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 9) 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 5. TERMINATION CHARGES; PORTABILITY; UPGRADES; OFF-NET SERVICES**

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

**5.2 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.

**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 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.** In the event Customer terminates Off-Net Service following Comcast's acceptance of the applicable Sales Order but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to 100% of any remaining, unpaid Custom Installation Fees.

**5.3 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.

**5.4 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.

**5.5 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.

**5.6 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 6. 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 7. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS; 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.

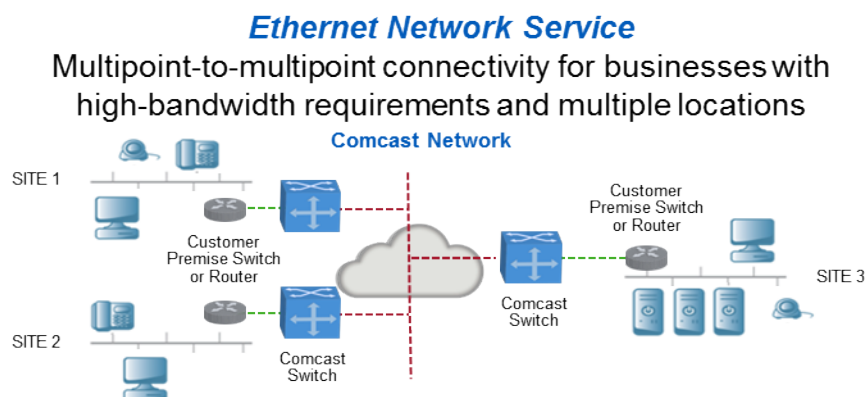
## COMCAST ENTERPRISE SERVICES PRODUCT-SPECIFIC ATTACHMENT ETHERNET TRANSPORT SERVICES

### SCHEDULE A-1 SERVICE DESCRIPTIONS, TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS COMCAST ETHERNET TRANSPORT SERVICES

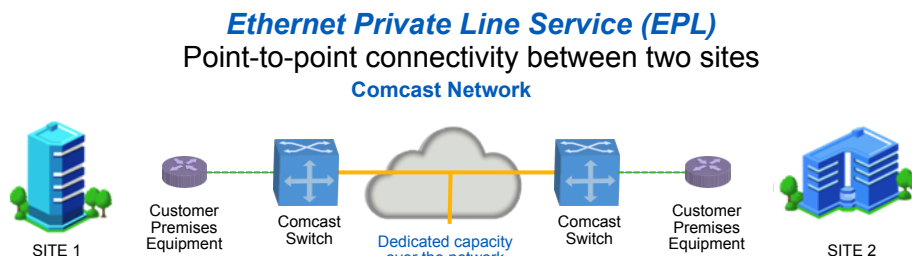
Comcast's Ethernet Transport Services will be provided in accordance with the service descriptions, technical specifications and performance standards set forth below:

#### Service Descriptions

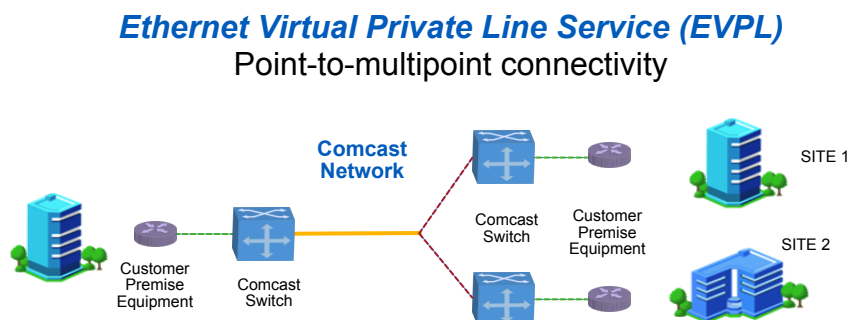
**Ethernet Network Service (ENS)** enables Customer to connect physically distributed locations across a Metropolitan Area Network (MAN) or Wide Area Network (WAN) as if they are on the same Local Area Network (LAN). The Service provides VLAN transparency enabling Customer to implement their own VLANs without any coordination with Comcast. ENS is a highly scalable service that enables customers to connect Customer Premises Equipment (CPE) using industry standard 100 Mbps, 1 Gbps or 10 Gbps Ethernet User-to-Network Interfaces (UNI) and is available with flexible bandwidth options from at 1 Mbps to 10 Gbps. Comcast ENS provides an Ethernet Virtual Connection (EVC) between Customer Service Locations that enables Customer to use any VLANs without coordination with Comcast. Comcast ENS offers three Classes of Service (CoS), as described below.



**Ethernet Private Line (EPL)** is a point-to-point transport service that provides secure, high-performance network connectivity between two Customer Service Locations. EPL is a highly scalable service that enables the Customer to connect their Customer Premises Equipment (CPE) using industry standard 100 Mbps, 1 Gbps or 10 Gbps Ethernet User-to-Network Interfaces (UNI) and is available with flexible bandwidth options from 1 Mbps to 10 Gbps. Comcast EPL provides an Ethernet Virtual Connection (EVC) between Customer Service Locations that enables the Customer to use any VLANs without coordination with Comcast. Comcast EPL offers three Classes of Service (CoS), as described below.



**Ethernet Virtual Private Line (EVPL)** service provides an Ethernet Virtual Connection (EVC) between two or more Customer Service Locations and supports the added flexibility to multiplex multiple services (EVCs) on a single UNI at the Customer's hub or aggregation site. The Service multiplexing capability is not available at sites served by the Comcast On-Net HFC. It is a highly scalable service that enables the Customer to connect their Customer Premises Equipment (CPE) using industry standard 100 Mbps, 1 Gbps or 10 Gbps Ethernet User-to-Network Interfaces (UNI) and is available with flexible bandwidth options from 1 Mbps to 10 Gbps. Comcast EVPL offers three Classes of Service (CoS), as described below.



## Multiple Access Options

Comcast Ethernet Transport Services are available with the following access options:

- On-Net Fiber Access – Connectivity to Customer Service Locations is enabled via Comcast On-Net fiber Infrastructure.
- On-Net Hybrid Fiber Coax (HFC) Access – Connectivity to Customer Service Locations is enabled via Comcast On-Net Hybrid Fiber Coax (HFC) infrastructure.
- Off-Net Access (both Fiber and Non-Fiber) – Connectivity to Customer Service Locations is enabled through a network-to-network interface (NNI) via third-party network provider.

## Ethernet Virtual Circuit (EVC) Area Types

Comcast Ethernet Transport Services are available both within and between certain major metropolitan areas throughout the United States. Each EVC is assigned an EVC Area Type based upon the proximity of respective A and Z locations.

- **Metro** – EVC enables connectivity between customer locations within a Comcast defined Metro.
- **Regional** – EVC enables connectivity between customer locations that are in different Comcast defined Metros, but within Comcast defined geographic Regions.
- **Continental** – EVC enables connectivity between customer locations that are in different Comcast defined geographic Regions.

## Ethernet Transport Technical Specifications

### 1. Ethernet User-to-Network Interface

Comcast Ethernet Transport Services provide bidirectional, full duplex transmission of Ethernet frames using a standard IEEE 802.3 Ethernet interface. Comcast implements ingress policies at CPE UNI interfaces to enforce subscribed bandwidth levels. Each ingress policing policy is created utilizing Committed Information Rate (CIR) and Committed Burst Size (CBS) components. The following table provides a list of available UNI physical interfaces and their available Committed Information Rate (CIR) bandwidth increments and Committed Burst Sizes (CBS).

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

## 2. Class of Service (CoS) Options

Comcast Ethernet Transport Services are available with three different class of service (CoS) options that allow for differentiated service performance levels for different types of network traffic. This includes Basic (Low), Priority (Medium) and Premium (High). CoS is used to prioritize customer mission-critical traffic from lesser priority traffic in the network. The Customer must specify a CIR for each CoS to indicate how much bandwidth should be assigned to that CoS. The performance metrics associated with each CoS are described in the Ethernet Transport Service Level Agreement on Schedule A-2 of this PSA. As described in the following table, permissible CoS options vary by access type.

Access Type	CoS Options
On-Net Fiber	Basic, Priority & Premium
On-Net HFC	Basic & Priority
Off-Net Fiber	Basic, Priority & Premium
Off-Net Non-Fiber	Basic & Priority

## 3. CoS Identification and Marking

Customer traffic classification and forwarding is based upon Comcast CoS prioritization that must be specified in the Customer's Sales Order. It is the Customer's responsibility to shape traffic to ordered bandwidth. If the Customer only orders a single CoS solution, they are not required to mark their packets and all Customer packets will be forwarded based upon 802.1p value associated with the CoS level specified in the Sales order. All packets, tagged or untagged, will be mapped into the subscribed CoS. If Customer implements a multi-CoS solution or for EVPL ports with service multiplexing, the Customer must mark all packets using C-tag 802.1p CoS values as specified in the table below to ensure the Service will provide the intended CoS performance objectives. For multi-CoS solutions, untagged packets will be treated as if they are marked with a 0. Packets with other 802.1p values are mapped to the lowest subscribed CoS. For EVPL ports with service multiplexing, untagged packets will be discarded and C-tag VLAN ID values are used to map traffic to applicable EVC's. Based on Ethernet Frame 802.1p values, Customer's traffic is mapped to the Comcast forwarding classes traffic accordingly to the table below:

CoS Type	802.1p Marking
Basic (Low)	0-1
Priority (Medium)	2-3
Premium (High)	5

## 4. Mac Learning and Forwarding (ENS Service)

The ENS Service is capable of learning up to 2500 MAC addresses from all interfaces connecting to the Service. It is highly recommended that routing equipment be utilized to minimize the number of MAC addresses exposed directly to the Service in larger networks. Any addresses in excess of 2500 will not be learned and traffic directed to these addresses will be treated as "unknown unicast".

## 5. Traffic Management

Comcast's Network traffic-policing policies restrict traffic flows to the subscribed CIR for each service class. If the Customer-transmitted bandwidth rate for any CoS exceeds the subscribed committed information rate (CIR) and committed burst size (CBS), Comcast will discard the non-conformant packets. For packets marked with a non-conformant CoS marking, the Service will transmit them using the Basic CoS without altering the Customer's CoS markings. Traffic management policies associated with Off-Net Services will conform to the policies enforced by the third-party service provider.

## 6. Maximum Frame Size

Services delivered via Fiber support a Maximum Transmission Unit (MTU) frame size of 1600 bytes to support untagged, tagged and Q-in-Q traffic with 802.1q or 802.1ad encapsulation types. Services delivered via On-Net Fiber can, upon request, support a MTU up to 9100 bytes to support untagged, tagged and Q-in-Q frame sizes. Services delivered via Off-Net Fiber may, upon request, support a MTU up to 9100 bytes to support untagged, tagged and Q-in-Q frame sizes, but only, and solely, to the extent the applicable Off-Net provider can support such MTU frame size. Services delivered via HFC support a Maximum Transmission Unit (MTU) frame size of 1522 bytes. All frames that exceed specifications shall be dropped.

Transport Type	MTU Size
Fiber	1600-9100 bytes
HFC	1522 bytes

## 7. Customer Traffic Transparency

All fields within customers Ethernet frames (unicast, multicast and broadcast, except L2CP) from the first bit of payload are preserved and transparently transported over UNI to UNI connections, as long as they are mapped into the EVC.

## 8. Ethernet Service Frame Disposition

The Comcast Transport Services process different types of Ethernet frames differently. Frames may pass unconditionally through the Network or may be limited, as indicated in the table below, to ensure acceptable service performance. The following table illustrates Comcast's service frame disposition for each service frame type.

Service Frame Type	ENS Frame Delivery	EPL & EVPL Frame Delivery
Unicast	All frames delivered unconditionally	All frames delivered unconditionally
Multicast	All frames delivered conditionally	All frames delivered unconditionally
Broadcast	All frames delivered conditionally	All frames delivered unconditionally

### *ENS Services only:*

- Unicast Traffic. Unicast traffic must be bi-directional in order to facilitate mac-learning and avoid restriction.
- Multicast Traffic. By default, every ENS port is able to support up to 2 Mbps of multicast traffic. ENS customer who requires greater than 2 Mbps of multicast bandwidth must uniquely specify the bandwidth they require for each root site and associated Class of Service.
- Broadcast Traffic. Broadcast and unknown unicast traffic are restricted to 1.2mb or 300pps on ingress to the network.

### *EVPL Services only:*

- Customer is responsible for mapping multicast, broadcast and unknown unicast traffic to specific C-VLAN.



## **Monitoring, Technical Support and Maintenance**

1. **Network Monitoring.** Comcast monitors On-Net Services on a 24x7x365 basis.
2. **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. Comcast Business Services Network Operations Center will not offer consulting or advice on issues relating to CPE or other equipment not provided by Comcast.
  - (a) **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.
  - (b) **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 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.
3. **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 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.
4. **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 A Month	Escalation (see above)
<i>Mean Time to Restore On-Net Comcast Equipment</i>	4 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore Off-Net Equipment</i>	4 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore On-Net Services</i>	6 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore Off-Net Services</i>	6 hours	Averaged Over A 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.

## **Customer Responsibilities**

Comcast provides an Ethernet terminating device for provisioning its services and the delivery of the UNI. Comcast will retain ownership and management responsibility for this equipment. As a result, it must only be used for delivering Comcast Services. Customer is responsible for providing customer premises equipment (CPE) to connect to this device. 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 Customer facilities, no further than fifty feet from the Customer router or switch 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 Customer location.
- The Customer is responsible for coring of the building's outside wall and internal walls. Upon request, Comcast can perform this activity on an 'as needed' basis for an additional one-time fee.
- Provide UPS AC power equipment, circuit sizing to be determined, if applicable.
- Emergency local generator backup service, if applicable.
- Provide access to the buildings and Demarcation Point at each Customer location to allow Comcast and its approved Contractors to install fiber for service installation. Provide access to each location 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 Local Area Network (LAN).
- Customer must provide a point of contact (POC) for installation, service activation and any maintenance activities.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
ETHERNET TRANSPORT SERVICES**

**SCHEDULE A-2  
SERVICE LEVEL AGREEMENT**

Comcast's Ethernet Transport Services 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 Ethernet Transport Services PSA or the General Terms and Conditions.

**Definitions**

**"Jitter"** means the short-term variations for a portion of successfully delivered service frames. Jitter may also be referred to as Frame Delay Variation.

**"Latency"** means the maximum delay for a portion of successfully delivered service frames. Latency may also be referred to as Frame Delay.

**"Market"** means the Comcast geographic region where the applicable Service Location is located, as identified on the Sales Order.

**"Packet Loss"** means the difference between the number of service frames transmitted at the ingress UNI and the total number of service frames received at the egress UNI. Packet Loss may also be referred to as Frame Loss.

**"Planned Service Interruption"** means any Service Interruption caused by planned work such as scheduled maintenance or planned enhancements or upgrades to the network.

**"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. Ethernet Transport Service Level Agreements**

**1. Availability SLA**

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 Tables 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 for Services provided over On-Net or Off-Net Fiber (99.99% Availability)**

<b>Length of Service Interruption:</b>	<b>Amount of Credit:</b>
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

**TABLE 2: Availability SLA for Services provided over On-Net HFC or Off-Net Non-Fiber Transport (99.9% Availability)**

<b>Length of Service Interruption:</b>	<b>Amount of Credit:</b>
Less than 40 minutes	None
At least 40 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

SEPARATELY OCCURRING SERVICE INTERRUPTIONS ARE NOT AGGREGATED FOR THE PURPOSES OF DETERMINING CREDIT ALLOWANCES.

## **2. Performance Objectives SLA**

Comcast Ethernet Transport Services are available both within and between major metropolitan areas throughout the United States. The performance objectives associated with traffic flows between any two Customer Service Locations are dependent upon the locations of the respective sites, designated as Service Location A and Service Location Z on the applicable Sales Order.

### ***Access Types***

- 1. On-Net Access.** If On-Net Service Location A and On-Net Service Location Z reside within the same Market, Performance Tier 1 objectives will apply. If the On-Net Service Locations are in different Markets, a different Performance Tier will apply. The applicable Performance Tier will appear on/with the respective Sales Order.
- 2. Off-Net Access.** In addition to On-Net Access, Comcast enables Off-Net Access to Ethernet Transport Services via multiple third party providers. The Performance Tier for Off-Net Service is based upon the location of the Off-Net Service Location, the location of the Network to Network Interface (NNI) between Comcast and the third party provider and the performance commitment from the third party provider. The applicable Performance Tier will appear on the respective Sales Order.

### ***Performance Tiers and Performance Objectives***

Comcast collects continuous in-band performance measurements for its Ethernet Transport Services. The calculation of all Latency, Jitter and Packet Loss Performance Metrics for each calendar month for purposes of this Performance Objectives SLA are based upon the average of sample one-way measurements taken by Comcast during the applicable calendar month, excluding any period during which there is a Service Interruption. The below charts indicate the Performance Standard that should be achieved for each of the Performance Metrics over each calendar month based on the applicable Performance Tier and Class of Service.

## 1. Performance Tier 1 (PT1) Agreements – Within Market

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (One-Way Network Delay)	45ms	23ms	7ms
Jitter (Network Delay Variation)	20ms	10ms	2ms
Packet Loss	<1%	<0.01%	<0.001%

## 2. Performance Tier 2 (PT2) Agreements

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (One-Way Network Delay)	80ms	45ms	23ms
Jitter (Network Delay Variation)	25ms	15ms	5ms
Packet Loss	<1%	<.02%	<.01%

## 3. Performance Tier 3 (PT3) Agreements

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (One-Way Network Delay)	100ms	80ms	45ms
Jitter (Network Delay Variation)	30ms	20ms	10ms
Packet Loss	<1%	<.04%	<.02%

## 4. Performance Tier 4 (PT4) Agreements

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (One-Way Network Delay)	120ms	100ms	80ms
Jitter (Network Delay Variation)	35ms	25ms	15ms
Packet Loss	<1%	<.05%	<.04%

## 5. Best Effort Performance Tier (BE)

No performance commitments will apply. Best Effort Performance Tier will appear on the associated Comcast Sales Order.

### *Credit Allowance*

Customer's sole remedy for Comcast's failure to achieve the applicable Performance Metric standards above over a given calendar month for the Service are the receipt of the following credit amounts with the stated percentages to be applied against the MRC associated with the impacted portion of the Service set forth in the Sales Order ("**Performance Objective Credits**").

**TABLE 1: Credit Allowance for Latency Performance Metric**

		Performance Tier							
		PT1		PT2		PT3		PT4	
		Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit
Class of Service	Premium	0 - 7	No Credit	0 - 23	No Credit	0 - 45	No Credit	0 to 80	No Credit
		7.01 - 23	10%	23.01 - 45	10%	45.01 - 80	10%	80.01 - 100	10%
		23.01 - 45	25%	45.01 - 80	25%	80.01 - 100	25%	100.01 - 120	25%
		>45	50%	>80.01	50%	>100	50%	>120	50%
	Priority	0 - 23	No Credit	0 - 45	No Credit	0 to 80	No Credit	0 to 100	No Credit
		23.01 - 45	10%	45.01 - 80	10%	80.01 - 100	10%	100.01 - 120	10%
		45.01 - 80	25%	80.01 - 100	25%	100.01 - 120	25%	120.01 - 150	25%
		>80.01	50%	>100	50%	>120	50%	>150	50%
	Basic	0 - 45	No Credit	0 to 80	No Credit	0 to 100	No Credit	0 to 120	No Credit
		45.01 - 80	10%	80.01 - 100	10%	100.01 - 120	10%	120.01 - 150	10%
		80.01 - 100	25%	100.01 - 120	25%	120.01 - 150	25%	150.01 - 180	25%
		>100	50%	>120	50%	>150	50%	>180	50%

**TABLE 2: Credit Allowance for Jitter Performance Metric**

		Performance Tier							
		PT1		PT2		PT3		PT4	
		Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit
Class of Service	Premium	0 - 2	No Credit	0 - 5	No Credit	0 - 10	No Credit	0 - 15	No Credit
		2.01 - 3	10%	5.01 - 10	10%	10.01 - 15	10%	15.01 - 20	10%
		3.01 - 5	25%	10.01 - 15	25%	15.01 - 20	25%	20.01 - 30	25%
		>5	50%	>15	50%	>20	50%	>30	50%
	Priority	0 - 10	No Credit	0 - 15	No Credit	0 - 20	No Credit	0 - 25	No Credit
		10.01 - 15	10%	15.01 - 20	10%	20.01 - 30	10%	25.01 - 40	10%
		15.01 - 20	25%	20.01 - 30	25%	30.01 - 50	25%	40.01 - 60	25%
		>20	50%	>30	50%	>50	50%	>60	50%
	Basic	0 - 20	No Credit	0 - 25	No Credit	0 - 30	No Credit	0 - 35	No Credit
		20.01 - 30	10%	25.01 - 40	10%	30.01 - 50	10%	35.01 - 60	10%
		30.01 - 50	25%	40.01 - 60	25%	50.01 - 80	25%	60.01 - 90.01	25%
		>50	50%	>60	50%	>80	50%	>90	50%

**TABLE 3: Credit Allowance for Packet Loss Performance Metric**

		Performance Tier							
		PT1		PT2		PT3		PT4	
		Measurement	Credit	Measurement	Credit	Measurement	Credit	Measurement	Credit
Class of Service	Premium	0% - 0.001%	No Credit	0% - 0.01%	No Credit	0% - 0.02%	No Credit	0% - 0.04%	No Credit
		0.001% - 2.00%	10%	0.01% - 2.00%	10%	0.02% - 2.00%	10%	0.04% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%
	Priority	0% - 0.01%	No Credit	0% - 0.02%	No Credit	0% - 0.04%	No Credit	0% - 0.05%	No Credit
		0.01% - 2.00%	10%	0.02% - 2.00%	10%	0.04% - 2.00%	10%	0.05% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%
	Basic	0% - 1.00%	No Credit	0% - 1.00%	No Credit	0% - 1%	No Credit	0% - 1%	No Credit
		1.01% - 2.00%	10%	1.01% - 2.00%	10%	1.01% - 2.00%	10%	1.01% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%

Customer shall only be entitled to receive a Performance Objective Credit for one Performance Metric failure per affected portion of the Service per calendar month. For example, if the applicable metric for Jitter and Latency were missed for the same transport connection (Service Location A to Service Location Z) in a given calendar month, Customer will only be entitled to the Performance Objective Credit associated with either the Jitter or Latency failure for such portion of the Service. To qualify for a Performance Objective Credit, Customer must request the applicable Performance Objective Credit from Comcast within thirty (30) days of the end of the applicable calendar month in which the applicable Performance Metric standard was not achieved. Comcast shall not incur any Liability, including Performance Objective Credit, for any failure of the Services caused by force majeure events, Planned Service Interruptions, Customer actions, omissions or equipment, CPE or any other items set forth in the "Exceptions to Credit Allowances" section below.

### **C. Exceptions and Terms Applicable to All SLAs**

#### **1. 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.

#### **2. Remedy Processes**

All claims and rights arising under this Service Level Agreement must be exercised by Customer in writing within the time period set forth in Sections B.1 and B.2, as applicable. 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.

#### **3. Exceptions to Credit Allowances**

Comcast's failure to meet either of the SLAs set forth on this Schedule A-2 shall not qualify for the remedies set forth herein if such failure is related to, associated with, or caused by: Planned Service Interruptions or other 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.

#### **4. Other Limitations**

THE TOTAL CREDIT ALLOWANCES PER CALENDAR MONTH UNDER THIS SCHEDULE A-2 IS CAPPED AT 50% OF THAT MONTH'S MRC FOR THE IMPACTED PORTIONS OF SERVICE. In addition, the remedies set forth in this Service Level Agreement shall be Customer's sole and exclusive remedies for any Service Interruption, outage, unavailability, delay, or other degradation, or any Comcast failure to meet the service objectives.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
TRUNK SERVICES**

**ATTACHMENT IDENTIFIER: Trunk Services, Version 1.5**

The following additional terms and conditions are applicable to Sales Orders for Comcast's Trunk Services:

**DEFINITIONS**

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

**"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 provided by a local exchange company or other communications company).

**"Services"** means Trunk Services.

**ARTICLE 1. SERVICES**

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

**ARTICLE 2. PROVIDER**

Service shall be provided by Comcast IP Phone, LLC or one of its applicable affiliates or subsidiaries.

(c) **ARTICLE 3. CUSTOM INSTALLATION FEE**

Once Comcast accepts a Sales Order for Service, 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 Service Order.

(d) **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.

**16.**

**17. ARTICLE 5. SERVICE COMMENCEMENT DATE**

The Service Commencement Date shall be defined as the date(s) on which Comcast first makes Service available for use by Customer. A single Service Order containing multiple Service Locations or Services may have multiple Service Commencement Dates. Comcast shall notify Customer that the Services are available for use on the Service Commencement Date. Any failure or refusal on the part of Customer to be ready to receive the Service on the Service Commencement Date shall not relieve Customer of its obligation to pay applicable Service charges.

**ARTICLE 6. TERMINATION CHARGES; PORTABILITY; UPGRADES**

**6.1** The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term set forth therein. To the extent that a Service Term has not been expressly set forth in a Sales Order, the minimum Service Term for Services is twenty four (24) months.



## **6.2 Termination Charges.**

**A.** In the event that 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 Service.

**B.** In the event that 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 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.

**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 Service (an "Existing Service") and turn up a replacement Service (i.e., having different termination points on Comcast's network) (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 the remaining Service Term of the Existing Service; (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 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.

## **ARTICLE 7. SERVICE CREDITS**

Service credits are addressed in Attachment A-2 Service Level Agreement.

## **ARTICLE 8: USE POLICY**

**8.1 Additional Use Restrictions.** The Service may only be used at Service Location(s) where Service is installed by Comcast. Customer understands and acknowledges that if Customer attempts to install or use the Comcast Equipment or Service at another location, Service, including but not limited to 911/E911, may fail to function or may function improperly. It will be considered a material violation of the Agreement if Customer moves Service to another location without first notifying Comcast. Customer expressly agrees not to use the Service for auto-dialing, continuous or extensive call forwarding, telemarketing, fax broadcasting or fax blasting, or for any other use that results in excessive usage inconsistent with standard commercial calling patterns. If Comcast determines, in its sole discretion, that Customer's use of the Service is excessive or in violation of this Agreement, Comcast reserves the right, among other things, to terminate or modify the Service immediately and without notice.

## **ARTICLE 9: SERVICE LIMITATION**

**9.1 Service Disruption.** Customer acknowledges and understands that the Service will not be available for use under certain circumstances, including without limitation when the network or facilities are not operating or if normal electrical power to the MTA, ALA or ALG is interrupted and such equipment does not have a functioning backup. Customer also understands and acknowledges that the performance of the battery backup is not guaranteed. If the battery backup does not provide power, Services will not function until normal power is restored. Customer also understands that certain online features of the Service, where such features are available, will not be available under certain circumstances, including but not limited to the interruption of the Internet connection.

**9.2 Provision of Service.** Subject to the terms and conditions herein, the Services are intended for commercial use only.

**9.3 COUNTRIES NOT SERVED – FRAUD PREVENTION.** In order to prevent international long distance fraud and reduce toll-fraud risks to Voice Service customers, Comcast does not include direct dialing to the following countries for all Voice Services: Comoros Island; Djibouti; Eritrea; Guinea; Guinea Bissau; Guyana; Ivory Coast; Liechtenstein; Maldives; Moldova; Niue Island; Sao Tome; Senegal; Sierra Leone; Somalia; Suriname; Tuvalu; Vanuatu; Yemen; Zimbabwe; Algeria;

Morocco; Nauru; Papua New Guinea; Saint Helena; Solomon Islands; and Western Samoa. Customers may still make calls to the foregoing countries by making operator assisted calls, which may be subject to an additional fee.

#### **ARTICLE 10: LIMITATIONS OF 911/E911**

**10.1 Limitations.** Services includes a 911/ Enhanced 911 function ("911/E911") that may differ from the 911 or Enhanced 911 function furnished by other providers. As such, it may have certain limitations. CUSTOMER ACKNOWLEDGES AND ACCEPTS ANY LIMITATIONS OF 911/E911.

**10.2 Correct Address.** In order for Customer's 911/E911 calls to be properly directed to emergency services, Comcast must have Customer's correct Service Location address. If Customer moves the Service to a different Service Location without Comcast's approval, 911/E911 calls may be directed to the wrong emergency authority, may transmit the wrong Service Location address, and/or Service (including 911/E911) may fail altogether. Therefore, Customer must contact Comcast at least five (5) days before moving the Service to a new Service Location. All changes in Service Location require Comcast's prior approval.

**10.3 Service Interruptions.** Customer acknowledges and understands that the Service uses the electrical power in Customer's Service Location. If there is an electrical power outage, 911 calling may be interrupted if the battery backup in the associated MTA, ALA or ALG is not installed, fails, or is exhausted after several hours. Furthermore, calls, including calls to 911/E911, may not be completed if Customer exceeds its Service and equipment configuration calling capacity or if there is a problem with network facilities, including network congestion, network/equipment/power failure, or another technical problem.

**10.4 Suspension and Termination by Comcast.** Customer understands and acknowledges that the Service, including 911/E911, as well as all online features of the Service, where Comcast make these features available, will be disabled if Customer's account is suspended or terminated.

**10.5 LIMITATION OF LIABILITY.** CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER COMCAST NOR ITS ASSOCIATED PARTIES WILL BE LIABLE FOR ANY SERVICE OUTAGE, INABILITY TO DIAL 911 USING THE SERVICES, AND/OR INABILITY TO ACCESS EMERGENCY SERVICE PERSONNEL.

**10.6 911 Notice for Trunk Services.** Customer expressly acknowledges and agrees that it has reviewed, understands, and agrees to the terms set forth below.

(a) **Customer action is essential to the protection of its employees and other users of the Services, as described below.** Multi-line telephone systems, such as PBX systems, ordinarily only transmit the same, generic location information for all 911 calls placed from any handset connected to the PBX or other system. For example, in the case of a business with telephone extensions in three buildings and multiple floors in each building, the E911 call taker would only see the same main telephone number and location that the customer has identified, regardless of which station was used to place the call. **If Customer does not take action as described below, fire, police and other emergency responders may be delayed or even prevented from timely reaching its location in response to a 911 call.**

(b) Comcast offers the opportunity for a Customer to designate up to 1000 different locations within its premises that would be separately identified to the E911 call taker, such as a specific floor, side of a building, room number, cubicle number, or other identifying information that could assist emergency responders to more quickly reach the appropriate location. To utilize this option, Customer must in the initial or a subsequent Service Order request the assignment of Emergency Location Information numbers and provide location information for each telephone number exactly as it should appear to the 911 call taker. For each requested telephone number, up to 1000, Customer will provide the specific location information (floor, room, and/or cubicle number). Customer is solely responsible for programming its telephone system to map each station to one of these numbers, and for updating the system as necessary to reflect moves or additions of stations within the premises.

(c) Many states now require businesses using multi-line telephone systems to program their systems to transmit specific location information for 911 calls. Customer acknowledges and understands that it, and not Comcast, bears sole responsibility to ensure that it identifies and complies with all such applicable laws, and any failure to do so is a breach of the Agreement. Customer represents, warrants and covenants that it will utilize the Comcast Emergency Location Information numbers described above at least to the extent required by law, and that Customer does not require the use of more than 1000 different location identifiers or other features not currently offered under this Agreement in order to comply with applicable

laws. Customer also warrants that it does not currently have “Private Switch/Automatic Location Identification” service in connection with its existing telephone service from another provider at the location(s) for which it has ordered Services from Comcast.

(d) Comcast will post only the main billing telephone number in the 911 database or databases using Customer’s billing address as the Registered Location, unless Customer requests the assignment of Emergency Location Information as set forth above. Customer must notify Comcast at least five (5) days prior to moving the Trunk Service to another location. Customer acknowledges that if they move prior to providing such notice and a 911 call is placed using the Services, or if Customer when using Emergency Location Information numbers does not timely update their telephone system to account for internal moves, adds and changes, the E911 call taker may see incorrect or incomplete location information and the caller may need to confirm their actual location information to the call taker.

(e) Some businesses elect to make test calls to 911 from multiple stations to verify that the 911 call taker receives the desired location information and is able to call back one or more of the telephone numbers that they receive to confirm it rings to the station from which the 911 call was placed. If Customer chooses to do so, it agrees to obtain prior approval from the relevant emergency communications center and assumes all responsibility for the placement of such calls.

#### **10.7 Recommended Battery Back-Up is NOT Included.**

Customer acknowledges and understands that the Services use the electrical power from the Service Location. Customer understands and acknowledges that they may lose access to and use of the Services, including 911/E911, if electrical power to the Integrated Access Device (IAD), PBX switch, and/or handsets is interrupted and such devices are not supported by a working battery backup. Customer also understands and acknowledges that Comcast does not provide a battery backup for such devices and Customer is urged to arrange for their own backup power supply to these devices. In the event of a power outage, the duration of Trunk Service during a power outage using the Comcast Equipment installed to provide Trunk Service will depend on Customer’s backup power choice. If the IAD is disconnected or removed and/or a battery is not charged, Trunk Service, including access to 911, will not be available. Customer acknowledges and agrees that in the event of a power failure, Comcast bears no responsibility for such loss of service.

### **ARTICLE 11: EQUIPMENT REQUIREMENTS**

**11.1 MTA.** To use the Service, Customer will need a multimedia terminal adapter (“MTA”), application layer gateway (“ALG”), analog telephone adapter (“ATA”) or other adapter device. Customer can lease an MTA from Comcast, in which case it will be Comcast Equipment. Or, in some areas, Comcast may permit Customer to use Service with an MTA that Customer has purchased, in which case the MTA will be Customer Equipment. Customer agrees to keep the MTA plugged into a working electrical power outlet at all times.

**11.2 Incompatible Equipment and Services.** Customer acknowledges and understands Service may not support or be compatible with:

- (a) Non-recommended configurations including but not limited to MTAs, ATAs or ALGs not currently certified by Comcast as compatible with Service;
- (b) Certain non-voice communications equipment, including certain makes or models of alarm and security systems, certain medical monitoring devices, certain fax machines, and certain “dial-up” modems;
- (c) Rotary-dial phone handsets, pulse-dial phone handsets, and models of other voice-related communications equipment such as certain private branch exchange (PBX) equipment, answering machines, and traditional Caller ID units;
- (d) Casual/dial around (10-10) calling; 976, 900, 700, or 500 number calling;
- (e) 311, 511, or other x11 calling (other than 411, 611, 711, and 911); and
- (f) Other call types not expressly set forth in Comcast’s product literature (e.g., outbound shore-to-ship calling).

Customer’s attempt to use any such systems in connection with the Services is solely at its own risk and Comcast shall not be liable for any damages whatsoever for any non-operation or damage to such services or devices.

### **11.3 Customer Responsibility for Customer-Provided Equipment.**

- (a) Customer is solely responsible for providing and maintaining working PBX equipment and handsets (Customer-Provided Equipment), notifying and training its users regarding proper use of the system in accordance with applicable, including regulatory, requirements, and for any programming to its telephone system that may be necessary to enable direct dialing of N11 numbers such as 911 or 711 and to enable calls to be connected to new area codes. Comcast will support N11 dialing service in areas where the service is made available by the local municipality. Customer also acknowledges and accepts that Comcast does not support seven-digit local calling even in areas of the country that still permit that option, and Customer will program its system as necessary to support ten-digit dialing for local calls.
- (b) Comcast shall not be responsible to the Customer if changes in any of the facilities, operations or procedures of Comcast utilized in the provision of Trunk Service render any Customer-Provided Equipment or other equipment provided by a Customer obsolete or require modification or alteration of such equipment or system or otherwise affect its use or performance.
- (c) Customer must arrange its Customer-Provided Equipment to provide for the interception of assigned but unused station numbers. A call intercepted by the attendant will be considered to be completed and subject to a charge for the call.

## **ARTICLE 12: ADDITIONAL LIMITATIONS ON COMCAST'S LIABILITY FOR VOICE SERVICE**

**12.1 Limitations on Comcast's Liability for Directories and Directory Assistance for Service Customers.** THESE LIMITATIONS SHALL APPLY WHERE COMCAST MAKES AVAILABLE AN OPTION TO LIST CUSTOMER'S NAME, ADDRESS, AND/OR TELEPHONE NUMBER IN A PUBLISHED DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, AND ONE OR MORE OF THE FOLLOWING CONDITIONS OCCURS: (i) CUSTOMER REQUESTS THAT CUSTOMER'S NAME, ADDRESS AND/OR PHONE NUMBER BE OMITTED FROM A DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, BUT THAT INFORMATION IS INCLUDED IN EITHER OR BOTH; (ii) CUSTOMER REQUESTS THAT CUSTOMER'S NAME, ADDRESS AND/OR PHONE NUMBER BE INCLUDED IN A DIRECTORY OR DIRECTORY ASSISTANCE DATABASE, BUT THAT INFORMATION IS OMITTED FROM EITHER OR BOTH; OR (iii) THE PUBLISHED OR LISTED INFORMATION FOR CUSTOMER'S ACCOUNT CONTAINS MATERIAL ERRORS OR OMISSIONS. IF ANY OF THESE CONDITIONS PERTAIN, THEN THE AGGREGATE LIABILITY OF COMCAST AND ITS ASSOCIATED PARTIES SHALL NOT EXCEED THE MONTHLY CHARGES, IF ANY, WHICH CUSTOMER HAS ACTUALLY PAID TO COMCAST TO LIST, PUBLISH, NOT LIST, OR NOT PUBLISH THE INFORMATION FOR THE AFFECTED PERIOD. FURTHERMORE, IF COMCAST MAKES AVAILABLE DIRECTORY ADVERTISING SERVICES, NEITHER COMCAST NOR ANY OF ITS ASSOCIATED PARTIES WILL BE LIABLE FOR ANY ACTS, ERRORS, OR OMISSIONS RELATED TO SUCH DIRECTORY ADVERTISING.

**12.2 Customer Information.** Comcast and its suppliers reserve the right both during the term of the Agreement and upon its termination to delete Customer's voicemail, call detail, data, files, or other information that is stored on Comcast's or its suppliers' servers or systems, in accordance with our storage policies. Customer understands and acknowledges that Comcast shall have no liability whatsoever as a result of the loss or removal of any such voicemail, call detail, data, files, or other information.

## **ARTICLE 13: SERVICE CHARGES**

- (a) **Prices.** The Service is subject to the trunk service pricing identified in the applicable Service Order, and subject to the pricing lists and fees found at

<http://www.comcast.com/corporate/about/phonetermsofservice/comcastdigitalvoice/cdvbusiness.html>.

- (b) **Billing Increments.** Unless otherwise stated in a Service Order, domestic long distance calls, and in-bound domestic calls to toll-free numbers associated with the Services will be billed on basis of six (6) second increments with a minimum call duration of six (6) seconds. All other calls will be billed in accordance with the increments identified in the pricing lists and fees found at <http://www.comcast.com/corporate/about/phonetermsofservice/comcastdigitalvoice/cdvbusiness.html>. For purposes of this section, "domestic long distance" means non-local calls to the fifty (50) United States, Washington, D.C., Puerto Rico, US Virgin Islands, Guam, Saipan, N. Mariana Islands and American Samoa.

(c) **Pooled Minutes**. Each channel purchased in connection with Trunk Service includes a monthly allotment of 200 minutes of domestic long distance. These minutes shall be pooled at the Service Location level within an account. Any usage in excess of the earned amount shall be considered overage and be rated at the then current rate. Unused minutes expire at the end of the billing period and are not carried forward or otherwise creditable to Customer's account.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
TRUNK SERVICES**

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

Trunk Service is a switched voice trunk service with ISDN / PRI connectivity from a customer's Private Branch Exchange (PBX) to the Comcast network. The Service is delivered by Comcast Equipment installed at the Customer Location. The Comcast Equipment provides a PRI interface with the customer's Private Branch Exchange, and connects to the Comcast DOCSIS or Fiber fed facilities (determined by Comcast). The Service supports the following standard variants of ISDN: NI-2, ATT 4ESS, ATT 5ESS, NT DMS-100, NT DMS-250. As with other Comcast voice services, Trunk Services are supported by Comcast's own network, and like other voice traffic is provided the highest Quality of Service (QoS) with respect to traffic prioritization and bandwidth allocation.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
TRUNK SERVICES**

**SCHEDULE A-2  
SERVICE LEVEL AGREEMENT**

Comcast's Trunk Services is backed by the following Service Level Agreement ("SLA"):

- (a)
- (b) Definitions

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

**"Monthly Recurring Charge (MRC)"** means the monthly recurring charges for Service.

**"Service Interruption"** means a break in transmission that renders the Service unusable for transmission and reception.

**Service Level Agreement (SLA)**

Comcast will allow a pro-rata credit against future payment of the net monthly recurring charge (exclusive of nonrecurring charges, other one-time charges, per call charges, measured charges, regulatory fees and surcharges, taxes, and other governmental and quasi-governmental fees) for a Service Interruption, except as specified below or as may otherwise be legally required ("Credit"). For the purposes of calculating a Credit allowance, the Service Interruption period begins when the Customer reports an interruption in the portion of the Service to Comcast, a trouble ticket is opened, and the Service is released to Comcast for testing and repair. The Service Interruption ends when the affected portion of the Service has been restored and Comcast has closed the trouble ticket. Service Interruption time does not include interruptions of less than thirty (30) minutes' duration. Credits will be as follows:

<u>Length of Service Interruption</u>	<u>Amount of Credit</u>
Less than 30 minutes	None
At least 30 minutes but less than 3 hours	1/8 of a day
At least 3 hours but less than 6 hours	1/4 of a day
At least 6 hours but less than 9 hours	2/5 of a day
At least 9 hours but less than 12 hours	1/2 of a day
At least 12 hours but less than 15 hours	4/5 of a day
At least 15 hours and up to and including 24 hours	1 full day

The total number of credit allowances per month shall not exceed the total monthly recurring charge for the affected Service. Credit allowances will not be made for less than \$1.00, unless required under applicable law. Service Interruptions will not be aggregated for purposes of determining credit allowances. To qualify, Customer must request the Credit from Comcast within 30 days of the interruption.

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.

**Emergency Blocking**

The parties agree that if either party hereto, in its reasonable 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; (c) Trouble Ticket number(s) opened by the customer, and (d) 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 Credits 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 this Agreement, unless otherwise provided under applicable law.

### **Other Limitations**

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



COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
INTRASTATE ETHERNET TRANSPORT SERVICES

ATTACHMENT IDENTIFIER: Intrastate Ethernet Transport, Version 1.23

The following additional terms and conditions are applicable to Sales Orders for Comcast’s Intrastate Ethernet Transport Services. A further description of the Service is set forth on Schedule A-1 hereto.

DEFINITIONS

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

“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 an HFC Network (“On-Net HFC”), as available through Comcast.

“Service(s)” means Intrastate Ethernet Transport Services.

ARTICLE 1. SERVICE AVAILABILITY

Comcast offers the Service in the following states:

Alabama	Arkansas
	California
Colorado	Connecticut
Florida	Delaware
	Georgia
Indiana	Illinois
	Maryland
	Massachusetts
Michigan	Minnesota
	Mississippi
New Hampshire	New Jersey
	Oregon
Pennsylvania	Tennessee
	Texas

Utah

Vermont

Washington  
West Virginia  
Virginia

ARTICLE 2. REGULATORY APPROVAL; TRAFFIC MIX

Comcast’s pricing for Service may be subject to FCC, public service commission or other regulatory approval. Further, Customer represents that its use of Service hereunder will be jurisdictionally intrastate. If Customer’s use of the Service now or at any time in the future is jurisdictionally interstate, Customer shall immediately notify Comcast of the same in writing. Further, Comcast reserves the right, in its reasonable sole discretion, to reclassify Customer’s use of Service as jurisdictionally interstate or intrastate, as appropriate.

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 9) 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.

**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 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.** In the event Customer terminates Off-Net Service following Comcast's acceptance of the applicable Sales Order but prior to the end of the applicable Service Term, Customer shall pay Termination Charges equal to 100% of any remaining, unpaid Custom Installation Fees.

**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 AND  
PERFORMANCE STANDARDS; 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.



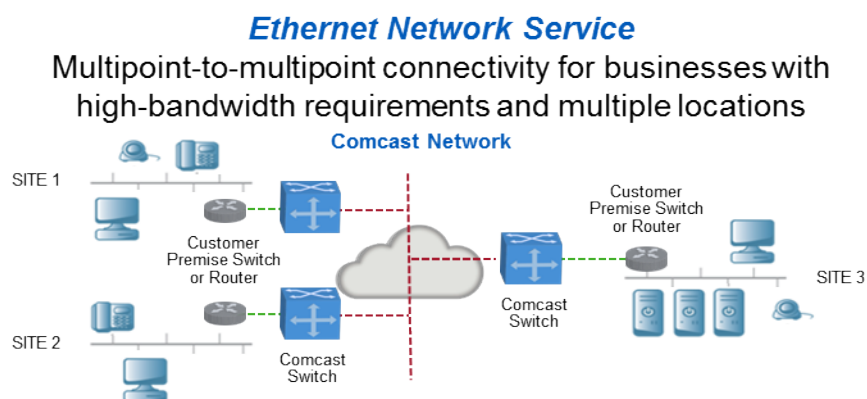
## COMCAST ENTERPRISE SERVICES PRODUCT-SPECIFIC ATTACHMENT INTRASTATE ETHERNET TRANSPORT SERVICES

### SCHEDULE A-1 SERVICE DESCRIPTIONS, TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS COMCAST INTRASTATE ETHERNET TRANSPORT SERVICES

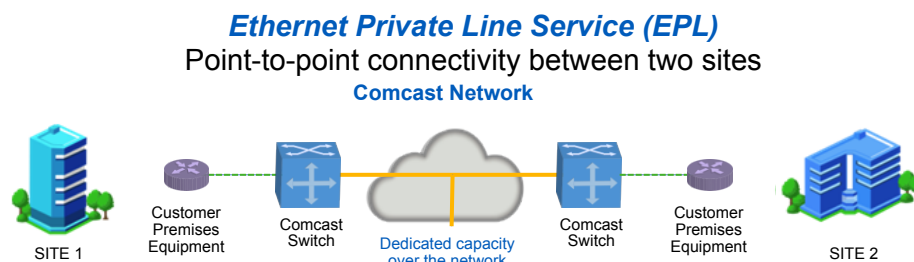
Comcast's Intrastate Ethernet Transport Services will be provided in accordance with the service descriptions, technical specifications and performance standards set forth below:

#### Service Descriptions

**Ethernet Network Service (ENS)** enables Customer to connect physically distributed locations across a Metropolitan Area Network (MAN) or Wide Area Network (WAN) as if they are on the same Local Area Network (LAN). The Service provides VLAN transparency enabling Customer to implement their own VLANs without any coordination with Comcast. ENS is a highly scalable service that enables customers to connect Customer Premises Equipment (CPE) using industry standard 100 Mbps, 1 Gbps or 10 Gbps Ethernet User-to-Network Interfaces (UNI) and is available with flexible bandwidth options from at 1 Mbps to 10 Gbps. Comcast ENS provides an Ethernet Virtual Connection (EVC) between Customer Service Locations that enables Customer to use any VLANs without coordination with Comcast. Comcast ENS offers three Classes of Service (CoS), as described below.

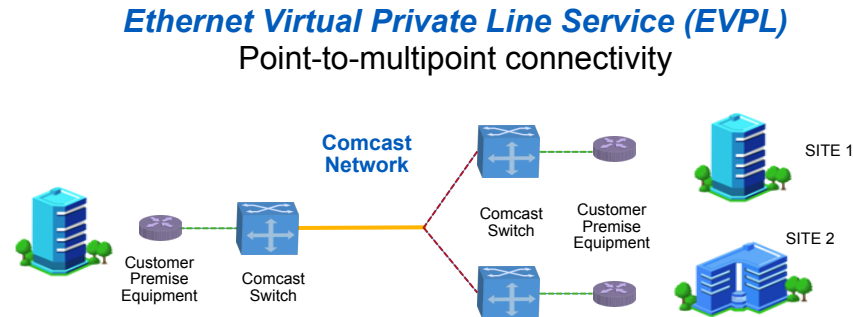


**Ethernet Private Line (EPL)** is a point-to-point transport service that provides secure, high-performance network connectivity between two Customer Service Locations. EPL is a highly scalable service that enables the Customer to connect their Customer Premises Equipment (CPE) using industry standard 100 Mbps, 1 Gbps or 10 Gbps Ethernet User-to-Network Interfaces (UNI) and is available with flexible bandwidth options from 1 Mbps to 10 Gbps. Comcast EPL provides an Ethernet Virtual Connection (EVC) between Customer Service Locations that enables the Customer to use any VLANs without coordination with Comcast. Comcast EPL offers three Classes of Service (CoS), as described below.



**Ethernet Virtual Private Line (EVPL)** service provides an Ethernet Virtual Connection (EVC) between two or more Customer Service Locations and supports the added flexibility to multiplex multiple services (EVCs) on a single UNI at the Customer's hub or aggregation

site. The Service multiplexing capability is not available at sites served by the Comcast On-Net HFC. It is a highly scalable service that enables the Customer to connect their Customer Premises Equipment (CPE) using industry standard 100 Mbps, 1 Gbps or 10 Gbps Ethernet User-to-Network Interfaces (UNI) and is available with flexible bandwidth options from 1 Mbps to 10 Gbps. Comcast EVPL offers three Classes of Service (CoS), as described below.



### Multiple Access Options

Comcast Ethernet Transport Services are available with the following access options:

- On-Net Fiber Access – Connectivity to Customer Service Locations is enabled via Comcast On-Net fiber Infrastructure.
- On-Net Hybrid Fiber Coax (HFC) Access – Connectivity to Customer Service Locations is enabled via Comcast On-Net Hybrid Fiber Coax (HFC) infrastructure.
- Off-Net Access (both Fiber and Non-Fiber) – Connectivity to Customer Service Locations is enabled through a network-to-network interface (NNI) via third-party network provider.

### Ethernet Virtual Circuit (EVC) Area Types

Comcast Ethernet Transport Services are available both within and between certain major metropolitan areas throughout the United States. Each EVC is assigned an EVC Area Type based upon the proximity of respective A and Z locations.

- **Metro** – EVC enables connectivity between customer locations within a Comcast defined Metro.
- **Regional** – EVC enables connectivity between customer locations that are in different Comcast defined Metros, but within Comcast defined geographic Regions.
- **Continental** – EVC enables connectivity between customer locations that are in different Comcast defined geographic Regions.

### Ethernet Transport Technical Specifications

#### 9. Ethernet User-to-Network Interface

Comcast Ethernet Transport Services provide bidirectional, full duplex transmission of Ethernet frames using a standard IEEE 802.3 Ethernet interface. Comcast implements ingress policies at CPE UNI interfaces to enforce subscribed bandwidth levels. Each ingress policing policy is created utilizing Committed Information Rate (CIR) and Committed Burst Size (CBS) components. The following table provides a list of available UNI physical interfaces and their available Committed Information Rate (CIR) bandwidth increments and Committed Burst Sizes (CBS).

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

## 10. Class of Service (CoS) Options

Comcast Ethernet Transport Services are available with three different class of service (CoS) options that allow for differentiated service performance levels for different types of network traffic. This includes Basic (Low), Priority (Medium) and Premium (High). CoS is used to prioritize customer mission-critical traffic from lesser priority traffic in the network. The Customer must specify a CIR for each CoS to indicate how much bandwidth should be assigned to that CoS. The performance metrics associated with each CoS are described in the Ethernet Transport Service Level Agreement on Schedule A-2 of this PSA. As described in the following table, permissible CoS options vary by access type.

Access Type	CoS Options
On-Net Fiber	Basic, Priority & Premium
On-Net HFC	Basic & Priority
Off-Net Fiber	Basic, Priority & Premium
Off-Net Non-Fiber	Basic & Priority

## 11. CoS Identification and Marking

Customer traffic classification and forwarding is based upon Comcast CoS prioritization that must be specified in the Customer's Sales Order. It is the Customer's responsibility to shape traffic to ordered bandwidth. If the Customer only orders a single CoS solution, they are not required to mark their packets and all Customer packets will be forwarded based upon 802.1p value associated with the CoS level specified in the Sales order. All packets, tagged or untagged, will be mapped into the subscribed CoS. If Customer implements a multi-CoS solution or for EVPL ports with service multiplexing, the Customer must mark all packets using C-tag 802.1p CoS values as specified in the table below to ensure the Service will provide the intended CoS performance objectives. For multi-CoS solutions, untagged packets will be treated as if they are marked with a 0. Packets with other 802.1p values are mapped to the lowest subscribed CoS. For EVPL ports with service multiplexing, untagged packets will be discarded and C-tag VLAN ID values are used to map traffic to applicable EVC's. Based on Ethernet Frame 802.1p values, Customer's traffic is mapped to the Comcast forwarding classes traffic accordingly to the table below:

CoS Type	802.1p Marking
Basic (Low)	0-1
Priority (Medium)	2-3
Premium (High)	5

## 12. Mac Learning and Forwarding (ENS Service)

The ENS Service is capable of learning up to 2500 MAC addresses from all interfaces connecting to the Service. It is highly recommended that routing equipment be utilized to minimize the number of MAC addresses exposed directly to the Service in larger networks. Any addresses in excess of 2500 will not be learned and traffic directed to these addresses will be treated as "unknown unicast".

### 13. Traffic Management

Comcast's Network traffic-policing policies restrict traffic flows to the subscribed CIR for each service class. If the Customer-transmitted bandwidth rate for any CoS exceeds the subscribed committed information rate (CIR) and committed burst size (CBS), Comcast will discard the non-conformant packets. For packets marked with a non-conformant CoS marking, the Service will transmit them using the Basic CoS without altering the Customer's CoS markings. Traffic management policies associated with Off-Net Services will conform to the policies enforced by the third-party service provider.

### 14. Maximum Frame Size

Services delivered via Fiber support a Maximum Transmission Unit (MTU) frame size of 1600 bytes to support untagged, tagged and Q-in-Q traffic with 802.1q or 802.1ad encapsulation types. Services delivered via On-Net Fiber can, upon request, support a MTU up to 9100 bytes to support untagged, tagged and Q-in-Q frame sizes. Services delivered via Off-Net Fiber may, upon request, support a MTU up to 9100 bytes to support untagged, tagged and Q-in-Q frame sizes, but only, and solely, to the extent the applicable Off-Net provider can support such MTU frame size. Services delivered via HFC support a Maximum Transmission Unit (MTU) frame size of 1522 bytes. All frames that exceed specifications shall be dropped.

Transport Type	MTU Size
Fiber	1600-9100 bytes
HFC	1522 bytes

### 15. Customer Traffic Transparency

All fields within customers Ethernet frames (unicast, multicast and broadcast, except L2CP) from the first bit of payload are preserved and transparently transported over UNI to UNI connections, as long as they are mapped into the EVC.

### 16. Ethernet Service Frame Disposition

The Comcast Transport Services process different types of Ethernet frames differently. Frames may pass unconditionally through the Network or may be limited, as indicated in the table below, to ensure acceptable service performance. The following table illustrates Comcast's service frame disposition for each service frame type.

Service Frame Type	ENS Frame Delivery	EPL & EVPL Frame Delivery
Unicast	All frames delivered unconditionally	All frames delivered unconditionally
Multicast	All frames delivered conditionally	All frames delivered unconditionally
Broadcast	All frames delivered conditionally	All frames delivered unconditionally

#### *ENS Services only:*

- Unicast Traffic. Unicast traffic must be bi-directional in order to facilitate mac-learning and avoid restriction.
- Multicast Traffic. By default, every ENS port is able to support up to 2 Mbps of multicast traffic. ENS customer who requires greater than 2 Mbps of multicast bandwidth must uniquely specify the bandwidth they require for each root site and associated Class of Service.
- Broadcast Traffic. Broadcast and unknown unicast traffic are restricted to 1.2mb or 300pps on ingress to the network.

#### *EVPL Services only:*

- Customer is responsible for mapping multicast, broadcast and unknown unicast traffic to specific C-VLAN.



## **Monitoring, Technical Support and Maintenance**

5. **Network Monitoring.** Comcast monitors On-Net Services on a 24x7x365 basis.
6. **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. Comcast Business Services Network Operations Center will not offer consulting or advice on issues relating to CPE or other equipment not provided by Comcast.
- (c) **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.
- (d) **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 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.
7. **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 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.
8. **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 A Month	Escalation (see above)
<i>Mean Time to Restore On-Net Comcast Equipment</i>	4 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore Off-Net Equipment</i>	4 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore On-Net Services</i>	6 hours	Averaged Over A Month	Escalation (see above)
<i>Mean Time to Restore Off-Net Services</i>	6 hours	Averaged Over A 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.

## **Customer Responsibilities**

Comcast provides an Ethernet terminating device for provisioning its services and the delivery of the UNI. Comcast will retain ownership and management responsibility for this equipment. As a result, it must only be used for delivering Comcast Services. Customer is responsible for providing customer premises equipment (CPE) to connect to this device. 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 Customer facilities, no further than fifty feet from the Customer router or switch 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 Customer location.
- The Customer is responsible for coring of the building's outside wall and internal walls. Upon request, Comcast can perform this activity on an 'as needed' basis for an additional one-time fee.
- Provide UPS AC power equipment, circuit sizing to be determined, if applicable.
- Emergency local generator backup service, if applicable.
- Provide access to the buildings and Demarcation Point at each Customer location to allow Comcast and its approved Contractors to install fiber for service installation. Provide access to each location 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 Local Area Network (LAN).
- Customer must provide a point of contact (POC) for installation, service activation and any maintenance activities.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
INTRASTATE ETHERNET TRANSPORT SERVICES**

**SCHEDULE A-2  
SERVICE LEVEL AGREEMENT**

Comcast's Intrastate Ethernet Transport Services are backed by the following Service Level Agreement ("SLA"):

**D. Definitions:**

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

**Definitions**

**"Jitter"** means the short-term variations for a portion of successfully delivered service frames. Jitter may also be referred to as Frame Delay Variation.

**"Latency"** means the maximum delay for a portion of successfully delivered service frames. Latency may also be referred to as Frame Delay.

**"Market"** means the Comcast geographic region where the applicable Service Location is located, as identified on the Sales Order.

**"Packet Loss"** means the difference between the number of service frames transmitted at the ingress UNI and the total number of service frames received at the egress UNI. Packet Loss may also be referred to as Frame Loss.

**"Planned Service Interruption"** means any Service Interruption caused by planned work such as scheduled maintenance or planned enhancements or upgrades to the network.

**"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.

**E. Ethernet Transport Service Level Agreements**

**3. Availability SLA**

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 Tables 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 for Services provided over On-Net or Off-Net Fiber (99.99% Availability)**

<b>Length of Service Interruption:</b>	<b>Amount of Credit:</b>
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

**TABLE 2: Availability SLA for Services provided over On-Net HFC or Off-Net Non-Fiber Transport (99.9% Availability)**

<b>Length of Service Interruption:</b>	<b>Amount of Credit:</b>
Less than 40 minutes	None
At least 40 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

SEPARATELY OCCURRING SERVICE INTERRUPTIONS ARE NOT AGGREGATED FOR THE PURPOSES OF DETERMINING CREDIT ALLOWANCES.

#### **4. Performance Objectives SLA**

Comcast Intrastate Ethernet Transport Services are available both within and between major metropolitan areas throughout the United States. The performance objectives associated with traffic flows between any two Customer Service Locations are dependent upon the locations of the respective sites, designated as Service Location A and Service Location Z on the applicable Sales Order.

##### ***Access Types***

- 3. On-Net Access.** If On-Net Service Location A and On-Net Service Location Z reside within the same Market, Performance Tier 1 objectives will apply. If the On-Net Service Locations are in different Markets, a different Performance Tier will apply. The applicable Performance Tier will appear on/with the respective Sales Order.
- 4. Off-Net Access.** In addition to On-Net Access, Comcast enables Off-Net Access to Ethernet Transport Services via multiple third party providers. The Performance Tier for Off-Net Service is based upon the location of the Off-Net Service Location, the location of the Network to Network Interface (NNI) between Comcast and the third party provider and the performance commitment from the third party provider. The applicable Performance Tier will appear on the respective Sales Order.

##### ***Performance Tiers and Performance Objectives***

Comcast collects continuous in-band performance measurements for its Ethernet Transport Services. The calculation of all Latency, Jitter and Packet Loss Performance Metrics for each calendar month for purposes of this Performance Objectives SLA are based upon the average of sample one-way measurements taken by Comcast during the applicable calendar month, excluding any period during which there is a Service Interruption. The below charts indicate the Performance Standard that should be achieved for each of the Performance Metrics over each calendar month based on the applicable Performance Tier and Class of Service.

**6. Performance Tier 1 (PT1) Agreements – Within Market**

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (One-Way Network Delay)	45ms	23ms	7ms
Jitter (Network Delay Variation)	20ms	10ms	2ms
Packet Loss	<1%	<0.01%	<0.001%

**7. Performance Tier 2 (PT2) Agreements**

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (One-Way Network Delay)	80ms	45ms	23ms
Jitter (Network Delay Variation)	25ms	15ms	5ms
Packet Loss	<1%	<.02%	<.01%

**8. Performance Tier 3 (PT3) Agreements**

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (One-Way Network Delay)	100ms	80ms	45ms
Jitter (Network Delay Variation)	30ms	20ms	10ms
Packet Loss	<1%	<.04%	<.02%

**9. Performance Tier 4 (PT4) Agreements**

Performance Metric	Class of Service (CoS)		
	Basic	Priority	Premium
Latency (One-Way Network Delay)	120ms	100ms	80ms
Jitter (Network Delay Variation)	35ms	25ms	15ms
Packet Loss	<1%	<.05%	<.04%

**10. Best Effort Performance Tier (BE)**

No performance commitments will apply. Best Effort Performance Tier will appear on the associated Comcast Sales Order.

***Credit Allowance***

Customer's sole remedy for Comcast's failure to achieve the applicable Performance Metric standards above over a given calendar month for the Service are the receipt of the following credit amounts with the stated percentages to be applied against the MRC associated with the impacted portion of the Service set forth in the Sales Order ("**Performance Objective Credits**").

TABLE 1: Credit Allowance for Latency Performance Metric

		Performance Tier							
		PT1		PT2		PT3		PT4	
		Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit
Class of Service	Premium	0 - 7	No Credit	0 - 23	No Credit	0 - 45	No Credit	0 to 80	No Credit
		7.01 - 23	10%	23.01 - 45	10%	45.01 - 80	10%	80.01 - 100	10%
		23.01 - 45	25%	45.01 - 80	25%	80.01 - 100	25%	100.01 - 120	25%
		>45	50%	>80.01	50%	>100	50%	>120	50%
	Priority	0 - 23	No Credit	0 - 45	No Credit	0 to 80	No Credit	0 to 100	No Credit
		23.01 - 45	10%	45.01 - 80	10%	80.01 - 100	10%	100.01 - 120	10%
		45.01 - 80	25%	80.01 - 100	25%	100.01 - 120	25%	120.01 - 150	25%
		>80.01	50%	>100	50%	>120	50%	>150	50%
	Basic	0 - 45	No Credit	0 to 80	No Credit	0 to 100	No Credit	0 to 120	No Credit
		45.01 - 80	10%	80.01 - 100	10%	100.01 - 120	10%	120.01 - 150	10%
		80.01 - 100	25%	100.01 - 120	25%	120.01 - 150	25%	150.01 - 180	25%
		>100	50%	>120	50%	>150	50%	>180	50%

TABLE 2: Credit Allowance for Jitter Performance Metric

		Performance Tier							
		PT1		PT2		PT3		PT4	
		Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit	Measurement (ms)	Credit
Class of Service	Premium	0 - 2	No Credit	0 - 5	No Credit	0 - 10	No Credit	0 - 15	No Credit
		2.01 - 3	10%	5.01 - 10	10%	10.01 - 15	10%	15.01 - 20	10%
		3.01 - 5	25%	10.01 - 15	25%	15.01 - 20	25%	20.01 - 30	25%
		>5	50%	>15	50%	>20	50%	>30	50%
	Priority	0 - 10	No Credit	0 - 15	No Credit	0 - 20	No Credit	0 - 25	No Credit
		10.01 - 15	10%	15.01 - 20	10%	20.01 - 30	10%	25.01 - 40	10%
		15.01 - 20	25%	20.01 - 30	25%	30.01 - 50	25%	40.01 - 60	25%
		>20	50%	>30	50%	>50	50%	>60	50%
	Basic	0 - 20	No Credit	0 - 25	No Credit	0 - 30	No Credit	0 - 35	No Credit
		20.01 - 30	10%	25.01 - 40	10%	30.01 - 50	10%	35.01 - 60	10%
		30.01 - 50	25%	40.01 - 60	25%	50.01 - 80	25%	60.01 - 90.01	25%
		>50	50%	>60	50%	>80	50%	>90	50%

TABLE 3: Credit Allowance for Packet Loss Performance Metric

		Performance Tier							
		PT1		PT2		PT3		PT4	
		Measurement	Credit	Measurement	Credit	Measurement	Credit	Measurement	Credit
Class of Service	Premium	0% - 0.001%	No Credit	0% - 0.01%	No Credit	0% - 0.02%	No Credit	0% - 0.04%	No Credit
		0.001% - 2.00%	10%	0.01% - 2.00%	10%	0.02% - 2.00%	10%	0.04% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%
	Priority	0% - 0.01%	No Credit	0% - 0.02%	No Credit	0% - 0.04%	No Credit	0% - 0.05%	No Credit
		0.01% - 2.00%	10%	0.02% - 2.00%	10%	0.04% - 2.00%	10%	0.05% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%
	Basic	0% - 1.00%	No Credit	0% - 1.00%	No Credit	0% - 1%	No Credit	0% - 1%	No Credit
		1.01% - 2.00%	10%	1.01% - 2.00%	10%	1.01% - 2.00%	10%	1.01% - 2.00%	10%
		2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%	2.01% - 4.00%	25%
		>4.00%	50%	>4.00%	50%	>4.00%	50%	>4.00%	50%

Customer shall only be entitled to receive a Performance Objective Credit for one Performance Metric failure per affected portion of the Service per calendar month. For example, if the applicable metric for Jitter and Latency were missed for the same transport connection (Service Location A to Service Location Z) in a given calendar month, Customer will only be entitled to the Performance Objective Credit associated with either the Jitter or Latency failure for such portion of the Service. To qualify for a Performance Objective Credit, Customer must request the applicable Performance Objective Credit from Comcast within thirty (30) days of the end of the applicable calendar month in which the applicable Performance Metric standard was not achieved. Comcast shall not incur any liability, including Performance Objective Credit, for any failure of the Services caused by force majeure events, Planned Service Interruptions, Customer actions, omissions or equipment, CPE or any other items set forth in the “Exceptions to Credit Allowances” section below.

## **F. Exceptions and Terms applicable to all SLAs**

### **5. 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.

### **6. Remedy Processes**

All claims and rights arising under this Service Level Agreement must be exercised by Customer in writing within the time period set forth in Sections B.1 and B.2, as applicable. 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.

### **7. Exceptions to Credit Allowances**

Comcast’s failure to meet the either of the SLAs set forth on this Schedule A-2 shall not qualify for the remedies set forth herein if such failure is related to, associated with, or caused by: Planned Service Interruptions or other 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.

### **8. Other Limitations**

THE TOTAL CREDIT ALLOWANCES PER CALENDAR MONTH UNDER THIS SCHEDULE A-2 IS CAPPED AT 50% OF THAT MONTH’S MRC FOR THE IMPACTED PORTIONS OF SERVICE. In addition, the remedies set forth in this Service Level Agreement shall be Customer’s sole and exclusive remedies for any Service Interruption, outage, unavailability, delay, or other degradation, or any Comcast failure to meet the service objectives.

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

**ATTACHMENT IDENTIFIER: SD-WAN, Version 2**

The following additional terms and conditions are applicable to Sales Orders for Comcast's Standard and Advanced SD-WAN Services:

**DEFINITIONS**

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

**"Advanced SD-WAN Service"** includes the Standard SD-WAN Service plus the additional features described in Section 1.B. of Schedule A-1.

**"Architectural Confirmation Document"** or **"ACD"** means a document that contains the initial configuration for the SD-WAN Service, 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 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.

**"Service(s)"** for purposes of this PSA means the Standard and/or Advanced SD-WAN Services, as applicable.

**"Standard SD-WAN Service"** or **"SD-WAN Service"** means the Standard SD-WAN Service as described in Schedule A-1, excluding the Advanced SD-WAN features.

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

**ARTICLE 1. SERVICES**

This attachment shall apply to Standard and Advanced 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, 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 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 a minimum of two Service Locations in accordance with the "Performance Standards" set forth in Schedule A-1 hereto. 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 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, 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 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 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. 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 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 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.

## **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 AND PERFORMANCE STANDARDS; SERVICE LEVEL AGREEMENT**

The technical specifications and performance standards 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 (90) days immediately following the Service Commencement Date at any Service Location. Any remedies, including service level credits, set forth in Schedule A-2 and, where applicable, in any SOW shall be the Customer's sole and exclusive remedy for any failure to meet the specified service levels.

## **ARTICLE 8. PAYMENT CARD INDUSTRY COMPLIANCE**

Subject to the terms outlined herein and below, the Standard SD-WAN Service provided under this PSA is compliant with the current Payment Card Industry Data Security Standard ("**PCI DSS**") as set forth by the PCI Security Standards Council®. The Attestation of Compliance ("**AOC**") is limited to Comcast applications, software, infrastructure, network, and IT support of the SD-WAN with unified security (Versa Unified Threat Management) and uCPE provided by Comcast. All other Comcast Equipment and Customer-Provided Equipment are outside the scope of the AOC.

The obligations of each Party are outlined in the Responsibility Matrix set forth in Appendix A-3 to this PSA. Any variance to the Responsibility Matrix shall be identified in the ACD. Any Customer failure to meet an obligation set forth in the Responsibility Matrix, and/or any change to the Services may result in the Standard SD-WAN Service no longer being deemed compliant with PCI DSS.

For clarity, PCI DSS compliance is ultimately the responsibility of the Customer. Comcast does not store, process, or transmit cardholder data on behalf of Customer or its end users in delivery of the Standard SD-WAN service, nor does Comcast have access to Customer's or its end users' cardholder data, the protection of which is the sole responsibility of Customer. Customer is responsible for security issues resulting from Customer change requests that deviate from Comcast's compliant configuration and all changes should be reviewed and documented through the Customer's internal change order process for PCI purposes and the configuration should be validated by the Customer's auditor for Customer to ensure PCI DSS compliance. Comcast cannot provide PCI DSS compliance-related guidance or advice on any Customer-requested changes to the Services as Customer is responsible for its own network operation and internal processes.

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

**SCHEDULE A-1  
SERVICE DESCRIPTIONS, TECHNICAL SPECIFICATIONS, AND PERFORMANCE STANDARDS**

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

**2. Service Descriptions**

- A. **Standard SD-WAN Service.** This Service provides a secure connection, both point-to-point and point-to-multi-point, 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 Service enables network abstraction and the separation of the control plane and data plane. The following features are also included with SD-WAN 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 provides secure VPNs and has the ability to integrate additional network services and offload Internet-destined traffic closer to the edge of the network.
  - v. SD-WAN Service monitors the uCPE and circuits for "up/down" status, and alerts Customers based on configuration.
  - vi. 24x7 email and phone support.
  - vii. Access to the Portal (defined below), which provides analytics that show the performance and utilization of the Customer's network applications and elements.
- B. **Advanced SD-WAN Service.** Advanced SD-WAN Service includes the Standard SD-WAN Service features described in this Schedule A-1 as well as the following additional services:
- i. Comcast will create a custom configuration for Customer's Standard SD-WAN Service based on the Customer-approved ACD.
  - ii. Following the Service Commencement Date, Comcast will provide Customer with a site birth certificate which will include service details and test results; and during the first thirty (30) days after the Service Commencement Date, Comcast will provide Customer with a curation period during which Comcast will perform network tuning to Customer's SD-WAN Service.
  - iii. The Advanced SD-WAN Service configuration response objectives set forth in Section 4.E.i. below.

**3. Service Requirements**

In order to provide the Services to a Customer 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, or 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.

**4. Standard SDWAN Service 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.** This 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.

### COMCAST ENTERPRISE SERVICES

- 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 uCPEs as well as to provide control plane access from the uCPE 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 uCPE.** Comcast will provide robust and flexible, Universal Customer Premise Equipment (“uCPEs”) which is “x86” hardware that is service-agnostic and can deploy certain Virtualized Network Functions (“VNFs”) made available by Comcast, as needed based on Customer requirements.
- e. **SD-WAN Firewall.** Comcast will provide a Layer 3/Layer 4 Stateful Firewall VNF as part of this Service.
- f. **Local Internet Breakout.** Comcast can configure a local Internet breakout at each Customer 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 uCPE to allow local hosts to bypass the VPN tunnel and access the internet using the local underlay directly.
- 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”).
- i. **Dynamic WAN utilization.** 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.
- j. **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 (uCPE) level. Two (2) uCPEs are placed at the Service Location, both connected to the network and functioning in Active/Active mode.
- k. **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.

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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:

STANDARD SD-WAN SERVICE	
Category	Objective
Simple Configuration Change	4 hours
Complex Configuration Change	48 hours

ADVANCED SD-WAN SERVICE	
Category	Objective
Simple Configuration Change	30 minutes
Complex Configuration Change	12 hours

"Simple Configuration Change" means changes such as firewall updates, traffic steering policies, quality of service changes, adding and removing IP addresses, and NAT and PAT changes.

"Complex Configuration Change" means changes such as WAN/LAN reconfiguration, DHCP scope changes, DNS changes, and changes to routing policies.

- 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 Customer Enterprise Technical Support (ETS) 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 ETS AC Ops to meet the standard restoration interval described in the Service Level Objectives. For hard down incidents, troubles are escalated within the Comcast ETS AC Ops as follows: Supervisor at the end of the standard interval plus one hour; to the Manager at the end of the standard interval plus two hours, and to the Director at the end of the standard interval, plus four hours.
- v. **Maintenance.** Comcast's standard maintenance window is Sunday to Saturday from 12:00am to 6:00am 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.

Unified Threat Management

ver.

### **COMCAST ENTERPRISE SERVICES**

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.

#### **6. 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 uCPE. Provide access to each location for regular (8am - 5pm) 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 ActiveCore uCPE. Customer shall have sole responsibility for installing, configuring, providing and maintaining all customer LAN equipment.
- K. IP SEC Tunnels to Third-Party Peers:
  - Customer must provide all third-party technical information required for establishing IP Sec tunnel connectivity, and ensure that the Proxy-ID is identically configured for both Customer's and the third party peer's network.
  - Customer must establish and maintain all required accounts and infrastructure with the applicable third-party peer prior to any technical discussions with the ActiveCore 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.

**COMCAST ENTERPRISE SERVICES****COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
SD-WAN SERVICES****SCHEDULE A-2  
SERVICE LEVEL AGREEMENTS AND OBJECTIVES**

The SD-WAN Service is backed by the following Service Level Objectives:

**1. Definitions:**

Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the SD-WAN 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.

**“Service Interruption”** means the complete unavailability of the Service outside of Planned Service Interruption(s).

**2. Performance Standards**

“Performance Standards” are set forth in Schedule A-1 to the Product-Specific Attachment for SD-WAN.

**3. SD-WAN Service Level Agreement (SLA)**

The Credit allowance available to Customer for Service Interruptions shall be limited to the amounts set forth in the table below (“Credits”). For the purposes of calculating Credits for any such Service Interruption, the Service Interruption begins when the Customer reports to Comcast an interruption in the Service, provided that the interruption is reported by Customer during the duration of the interruption and a trouble ticket is opened; the Service Interruption shall be deemed resolved upon closing of the same trouble ticket or, if sooner, the termination of the interruption, less any time Comcast is awaiting additional information or premises testing from the Customer. In no event shall the total amount of 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. Service Interruptions will not be aggregated for purposes of determining credit allowances. To qualify, Customer must request the Credit from Comcast within thirty (30) days of the Service Interruption. Customer will not be entitled to any additional credits for Service Interruptions.

<b>Length of Service Interruption:</b>	<b>Amount of Credit:</b>
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
24 hours or greater	50% of Total MRC

THE TOTAL CREDIT ALLOWANCES PER 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.

## COMCAST ENTERPRISE SERVICES

### 4. Additional Service Level Objectives

Comcast provides Service Level Objectives for the Service, including mean time to respond, and mean time to restore. These service objectives are measured, on a calendar month basis, from the Comcast point of demarcation. Service availability is also affected by the choice of Underlay Service.

- A. **Mean Time to Respond.** The Mean Time to Respond objective is the average time required for Comcast to begin troubleshooting a Service Interruption. The Mean Time to Respond objective is fifteen (15) minutes from the earlier of Comcast's receipt of a fault notification or from the time a trouble ticket is opened with Comcast.
- B. **Mean Time to Restore.** The Mean Time to Restore objective is the average time required to restore Service after a Service Interruption to an operational condition as defined by the technical specifications in Section 1 of this document. The Mean Time to Restore objective is as follows:
  - i. **for Service Locations within the Comcast franchise footprint:** Comcast will endeavor to restore the Service, including any required repair or replacement of uCPE, within 4 hours of the time a customer reported trouble ticket is opened with Comcast.
  - ii. **for Service Locations outside the Comcast franchise footprint:** Comcast will endeavor to restore the Service, including any required repair or replacement of uCPE, the next Business Day after the day on which a customer reported trouble ticket is opened with Comcast; provided the trouble ticket is opened before 1:00pm EST on a Business Day. For trouble tickets opened on Saturday, Sunday, a holiday, or after 1:00pm EST on a Business Day, Comcast will endeavor to restore the Service the second Business Day thereafter. "Business Days" are Monday through Friday, excluding federal holidays.

### 5. Emergency Blocking

The parties agree that if either party hereto, in its reasonable 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.

### 6. 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.

### 7. Exceptions to Credit Allowances

Comcast shall not be liable for any Service Interruption, and a Service Interruption shall not qualify for the remedies set forth herein, if such Service Interruption is related to, associated with, or caused by: force majeure events, Planned Service Interruptions, Customer actions or inactions; Customer-Provided Equipment or power; 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.

### 8. Eligibility for Credit Allowances

## **COMCAST ENTERPRISE SERVICES**

In order to be eligible for Credits, each Service Location must have at least two primary WAN interfaces from at least two Underlay Service providers, or two Comcast Primary WAN interfaces with both Comcast Business Internet and MetroE (ENS) services.

### **9. Other Limitations**

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



**COMCAST ENTERPRISE SERVICES  
SCHEDULE A-3  
RESPONSIBILITY MATRIX**

Req.	PCI DSS v3.2.1 Requirements		Responsibility (Comcast / Customer / Shared)	Responsibility Summary
<b>1</b>	<b><i>Requirement 1: Install and maintain a firewall configuration to protect cardholder data</i></b>			
<b>1.1</b>	<b>1.1</b> Establish and implement firewall and router configuration standards that include the following:		Shared	Comcast is responsible for configuration standards for the uCPE and backend system components. Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.
<b>1.1.1</b>		<b>1.1.1</b> A formal process for approving and testing all network connections and changes to the firewall and router configurations	Shared	Comcast is responsible for configuration standards for the uCPE and backend system components. Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.
<b>1.1.2</b>		<b>1.1.2</b> Current network diagram that identifies all connections between the cardholder data environment and other networks, including any wireless networks	Shared	Comcast is responsible for configuration standards for the uCPE and backend system components. Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.
<b>1.1.3</b>		<b>1.1.3</b> Current diagram that shows all cardholder data flows across systems and networks	Customer	Though configuration standards are a shared responsibility, Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>1.1.4</b>		<b>1.1.4</b> Requirements for a firewall at each Internet connection and between any demilitarized zone (DMZ) and the internal network zone	Shared	Comcast is responsible for configuration standards for the uCPE and backend system components. Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.
<b>1.1.5</b>		<b>1.1.5</b> Description of groups, roles, and responsibilities for management of network components	Shared	Comcast is responsible for configuration standards for the uCPE and backend system components. Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.
<b>1.1.6</b>		<b>1.1.6</b> Documentation and business justification for use of all services, protocols, and ports allowed, including documentation of security features implemented for those protocols considered to be insecure.	Shared	Comcast is responsible for configuration standards for the uCPE and backend system components. Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.
<b>1.1.7</b>		<b>1.1.7</b> Requirement to review firewall and router rule sets at least every six months	Shared	Comcast is responsible for configuration standards for the uCPE and backend system components. Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.

## COMCAST ENTERPRISE SERVICES

Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
1.2	<p><b>1.2</b> Build firewall and router configurations that restrict connections between untrusted networks and any system components in the cardholder data environment.</p> <p><i>Note: An “untrusted network” is any network that is external to the networks belonging to the entity under review, and/or which is out of the entity's ability to control or manage.</i></p>	Shared	<p>Comcast is responsible for building configurations that restrict connections between untrusted networks and its backend system components.</p> <p>Customer is responsible for building configurations that restrict connections between untrusted networks and the uCPE and its CDE.</p>
1.2.1	<p><b>1.2.1</b> Restrict inbound and outbound traffic to that which is necessary for the cardholder data environment, and specifically deny all other traffic.</p>	Shared	<p>Comcast is responsible for building configurations that restrict connections between untrusted networks and its backend system components.</p> <p>Customer is responsible for building configurations that restrict connections between untrusted networks and the uCPE and its CDE.</p>
1.2.2	<p><b>1.2.2</b> Secure and synchronize router configuration files.</p>	Shared	<p>Comcast is responsible for building configurations that restrict connections between untrusted networks and its backend system components.</p> <p>Customer is responsible for building configurations that restrict connections between untrusted networks and the uCPE and its CDE.</p>
1.2.3	<p><b>1.2.3</b> Install perimeter firewalls between all wireless networks and the cardholder data environment, and configure these firewalls to deny or, if traffic is necessary for business purposes, permit only authorized traffic between the wireless environment and the cardholder data environment.</p>	Shared	<p>Comcast is responsible for building configurations that restrict connections between untrusted networks and its backend system components.</p> <p>Customer is responsible for building configurations that restrict connections between untrusted networks and the uCPE and its CDE.</p>
1.3	<p><b>1.3</b> Prohibit direct public access between the Internet and any system component in the cardholder data environment.</p>	Shared	<p>Comcast is responsible for prohibiting direct public access between the Internet and its backend system components.</p> <p>Customer is responsible for prohibiting direct public access between the Internet and the uCPE and its CDE.</p>
1.3.1	<p><b>1.3.1</b> Implement a DMZ to limit inbound traffic to only system components that provide authorized publicly accessible services, protocols, and ports.</p>	Shared	<p>Comcast is responsible for prohibiting direct public access between the Internet and its backend system components.</p> <p>Customer is responsible for prohibiting direct public access between the Internet and the uCPE and its CDE.</p>
1.3.2	<p><b>1.3.2</b> Limit inbound Internet traffic to IP addresses within the DMZ.</p>	Shared	<p>Comcast is responsible for prohibiting direct public access between the Internet and its backend system components.</p> <p>Customer is responsible for prohibiting direct public access between the Internet and the uCPE and its CDE.</p>
1.3.3	<p><b>1.3.3</b> Implement anti-spoofing measures to detect and block forged source IP addresses from entering the network. (For example, block traffic originating from the Internet with an internal source address.)</p>	Shared	<p>Comcast is responsible for prohibiting direct public access between the Internet and its backend system components.</p> <p>Customer is responsible for prohibiting direct public access between the Internet and the uCPE and its CDE.</p>
1.3.4	<p><b>1.3.4</b> Do not allow unauthorized outbound traffic from the cardholder data environment to the Internet.</p>	Shared	<p>Comcast is responsible for prohibiting direct public access between the Internet and its backend system components.</p> <p>Customer is responsible for prohibiting direct public access between the Internet and the uCPE and its CDE.</p>
1.3.5	<p><b>1.3.5</b> Permit only “established” connections into the network.</p>	Shared	<p>Comcast is responsible for prohibiting direct public access between the Internet and its backend system components.</p> <p>Customer is responsible for prohibiting direct public access between the Internet and the uCPE and its CDE.</p>

## COMCAST ENTERPRISE SERVICES

Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
1.3.6	<b>1.3.6</b> Place system components that store cardholder data (such as a database) in an internal network zone, segregated from the DMZ and other untrusted networks.	Customer	Though prohibiting direct public access from the Internet is a shared responsibility, Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
1.3.7	<b>1.3.7 Do not disclose private IP addresses and routing information to unauthorized parties.</b> <b>Note:</b> Methods to obscure IP addressing may include, but are not limited to: · Network Address Translation (NAT) · Placing servers containing cardholder data behind proxy servers/firewalls, · Removal or filtering of route advertisements for private networks that employ registered addressing, · Internal use of RFC1918 address space instead of registered addresses.	Shared	Comcast is responsible for prohibiting direct public access between the Internet and its backend system components. Customer is responsible for prohibiting direct public access between the Internet and the uCPE and its CDE.
1.4	<b>1.4</b> Install personal firewall software or equivalent functionality on any portable computing devices (including company and/or employee-owned) that connect to the Internet when outside the network (for example, laptops used by employees), and which are also used to access the CDE. Firewall (or equivalent) configurations include: · Specific configuration settings are defined. · Personal firewall (or equivalent functionality) is actively running. · Personal firewall (or equivalent functionality) is not alterable by users of the portable computing devices.	Shared	Comcast is responsible for installing personal firewall software or equivalent functionality on any portable computing devices that connects to the Internet when outside the network, and which are also used to access the uCPE and backend system components. Customer is responsible for installing personal firewall software or equivalent functionality on any portable computing devices that connect to the Internet when outside the network, and which are also used to access the uCPE and its CDE.
1.5	<b>1.5</b> Ensure that security policies and operational procedures for managing firewalls are documented, in use, and known to all affected parties.	Shared	Comcast is responsible for security policies and operational procedures for managing the uCPE and backend system components. Customer is responsible for security policies and operational procedures for managing components in its CDE and components that connect to the uCPE.
2	<b>Requirement 2: Do not use vendor-supplied defaults for system passwords and other security parameters</b>		
2.1	<b>2.1</b> Always change vendor-supplied defaults and remove or disable unnecessary default accounts <b>before</b> installing a system on the network. This applies to ALL default passwords, including but not limited to those used by operating systems, software that provides security services, application and system accounts, <i>point-of-sale</i> (POS) terminals, Simple Network Management Protocol (SNMP) community strings, etc.).	Shared	Comcast is responsible for changing vendor-supplied defaults and removing or disabling unnecessary default accounts on the uCPE and backend system components. Customer is responsible for changing vendor-supplied defaults and removing or disabling unnecessary default accounts on components in its CDE and on components that connect to the uCPE.
2.1.1	<b>2.1.1</b> For wireless environments connected to the cardholder data environment or transmitting cardholder data, change ALL wireless vendor defaults at installation, including but not limited to default wireless encryption keys, passwords, and SNMP community strings.	Customer	Though changing and/or removing defaults is a shared responsibility, Comcast does not deploy a wireless environment as part of the SD-WAN product, so this requirement is the sole responsibility of the customer.

## COMCAST ENTERPRISE SERVICES

Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
2.2	<p><b>2.2</b> Develop configuration standards for all system components. Assume that these standards address all known security vulnerabilities and are consistent with industry-accepted system hardening standards.</p> <p>Sources of industry-accepted system hardening standards may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>· Center for Internet Security (CIS)</li> <li>· International Organization for Standardization (ISO)</li> <li>· SysAdmin Audit Network Security (SANS) Institute</li> <li>· National Institute of Standards Technology (NIST).</li> </ul>	Shared	<p>Comcast is responsible for configuration standards for the uCPE and backend system components.</p> <p>Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.</p>
2.2.1	<p><b>2.2.1</b> Implement only one primary function per server to prevent functions that require different security levels from co-existing on the same server. (For example, web servers, database servers, and DNS should be implemented on separate servers.)</p> <p><i>Note: Where virtualization technologies are in use, implement only one primary function per virtual system component.</i></p>	Shared	<p>Comcast is responsible for configuration standards for the uCPE and backend system components.</p> <p>Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.</p>
2.2.2	<p><b>2.2.2</b> Enable only necessary services, protocols, daemons, etc., as required for the function of the system.</p>	Shared	<p>Comcast is responsible for configuration standards for the uCPE and backend system components.</p> <p>Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.</p>
2.2.3	<p><b>2.2.3</b> Implement additional security features for any required services, protocols, or daemons that are considered to be insecure.</p> <p><b>Note:</b> Where SSL/early TLS is used, the requirements in Appendix A2 must be completed.</p>	Shared	<p>Comcast is responsible for configuration standards for the uCPE and backend system components.</p> <p>Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.</p>
2.2.4	<p><b>2.2.4</b> Configure system security parameters to prevent misuse.</p>	Shared	<p>Comcast is responsible for configuration standards for the uCPE and backend system components.</p> <p>Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.</p>
2.2.5	<p><b>2.2.5</b> Remove all unnecessary functionality, such as scripts, drivers, features, subsystems, file systems, and unnecessary web servers.</p>	Shared	<p>Comcast is responsible for configuration standards for the uCPE and backend system components.</p>

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
			Customer is responsible for configuration standards for the components in its CDE and components that connect to the uCPE.
2.3	2.3 Encrypt all non-console administrative access using strong cryptography.	Shared	Comcast is responsible for encrypting all non-console administrative access to the uCPE and backend system components. Customer is responsible for encrypting all non-console administrative access to components in its CDE and components that connect to the uCPE.
2.4	2.4 Maintain an inventory of system components that are in scope for PCI DSS.	Shared	Comcast is responsible for maintaining an inventory of the uCPEs and backend system components. Customer is responsible for maintaining an inventory of components in its CDE and components that connect to the uCPE.
2.5	2.5 Ensure that security policies and operational procedures for managing vendor defaults and other security parameters are documented, in use, and known to all affected parties.	Shared	Comcast is responsible for security policies and operational procedures for managing the uCPE and backend system components. Customer is responsible for security policies and operational procedures for managing components in its CDE and components that connect to the uCPE.
2.6	2.6 Shared hosting providers must protect each entity's hosted environment and cardholder data. These providers must meet specific requirements as detailed in Appendix A1: Additional PCI DSS Requirements for Shared Hosting Providers.	N/A	
3	<b>Requirement 3: Protect stored cardholder data</b>		
3.1	3.1 Keep cardholder data storage to a minimum by implementing data retention and disposal policies, procedures and processes that include at least the following for all cardholder data (CHD) storage: · Limiting data storage amount and retention time to that which is required for legal, regulatory, and/or business requirements · Specific retention requirements for cardholder data · Processes for secure deletion of data when no longer needed · A quarterly process for identifying and securely deleting stored cardholder data that exceeds defined retention.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.2	3.2 Do not store sensitive authentication data after authorization (even if encrypted). If sensitive authentication data is received, render all data	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	<p>unrecoverable upon completion of the authorization process.</p> <p><i>It is permissible for issuers and companies that support issuing services to store sensitive authentication data if:</i></p> <ul style="list-style-type: none"> <li>· There is a business justification and</li> <li>· The data is stored securely.</li> </ul> <p>Sensitive authentication data includes the data as cited in the following Requirements 3.2.1 through 3.2.3:</p>		
3.2.1	<p><b>3.2.1</b> Do not store the full contents of any track (from the magnetic stripe located on the back of a card, equivalent data contained on a chip, or elsewhere). This data is alternatively called full track, track, track 1, track 2, and magnetic-stripe data.</p> <p><b>Note:</b> <i>In the normal course of business, the following data elements from the magnetic stripe may need to be retained:</i></p> <ul style="list-style-type: none"> <li>· The cardholder's name</li> <li>· Primary account number (PAN)</li> <li>· Expiration date</li> <li>· Service code</li> </ul> <p><i>To minimize risk, store only these data elements as needed for business.</i></p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.2.2	<p><b>3.2.2</b> Do not store the card verification code or value (three-digit or four-digit number printed on the front or back of a payment card) used to verify card- not-present transactions after authorization.</p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.2.3	<p><b>3.2.3</b> Do not store the personal identification number (PIN) or the encrypted PIN block after authorization.</p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.3	<p><b>3.3</b> Mask PAN when displayed (the first six and last four digits are the maximum number of digits to be displayed), such that only personnel with a legitimate business need can see more than the first six/last four digits of the PAN.</p> <p><b>Note:</b> This requirement does not supersede stricter requirements in place for displays of cardholder data—for example, legal or payment card brand requirements for point-of-sale (POS) receipts.</p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.4	<p><b>3.4</b> Render PAN unreadable anywhere it is stored (including on portable digital media, backup media, and in logs) by using any of the following approaches:</p> <ul style="list-style-type: none"> <li>· One-way hashes based on strong cryptography, (hash must be of the entire PAN)</li> <li>· Truncation (hashing cannot be used to replace the truncated segment of PAN)</li> </ul>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.



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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	<ul style="list-style-type: none"> <li>Index tokens and pads (pads must be securely stored)</li> <li>Strong cryptography with associated key-management processes and procedures.</li> </ul> <p><b>Note:</b> <i>It is a relatively trivial effort for a malicious individual to reconstruct original PAN data if they have access to both the truncated and hashed version of a PAN. Where hashed and truncated versions of the same PAN are present in an entity's environment, additional controls should be in place to ensure that the hashed and truncated versions cannot be correlated to reconstruct the original PAN.</i></p>		
3.4.1	<p><b>3.4.1</b> If disk encryption is used (rather than file- or column-level database encryption), logical access must be managed separately and independently of native operating system authentication and access control mechanisms (for example, by not using local user account databases or general network login credentials). Decryption keys must not be associated with user accounts.</p> <p><b>Note:</b> This requirement applies in addition to all other PCI DSS encryption and key-management requirements.</p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.5	<p><b>3.5</b> Document and implement procedures to protect keys used to secure stored cardholder data against disclosure and misuse:</p> <p><b>Note:</b> <i>This requirement applies to keys used to encrypt stored cardholder data, and also applies to key-encrypting keys used to protect data-encrypting keys— such key-encrypting keys must be at least as strong as the data-encrypting key.</i></p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.5.1	<p><b>3.5.1</b> Additional requirement for service providers only: Maintain a documented description of the cryptographic architecture that includes:</p> <ul style="list-style-type: none"> <li>Details of all algorithms, protocols, and keys used for the protection of cardholder data, including key strength and expiry date</li> <li>Description of the key usage for each key</li> <li>Inventory of any HSMs and other SCDs used for key management</li> </ul> <p><b>Note:</b></p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.5.2	<p><b>3.5.2</b> Restrict access to cryptographic keys to the fewest number of custodians necessary.</p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.5.3	<p><b>3.5.3</b> Store secret and private keys used to encrypt/decrypt cardholder data in one (or more) of the following forms at all times:</p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	<ul style="list-style-type: none"> <li>· Encrypted with a key-encrypting key that is at least as strong as the data-encrypting key, and that is stored separately from the data-encrypting key</li> <li>· Within a secure cryptographic device (such as a host security module (HSM) or PTS-approved point-of-interaction device)</li> <li>· As at least two full-length key components or key shares, in accordance with an industry-accepted method</li> </ul> <p><i>Note: It is not required that public keys be stored in one of these forms.</i></p>		
3.5.4	3.5.4 Store cryptographic keys in the fewest possible locations.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.6	3.6 Fully document and implement all key-management processes and procedures for cryptographic keys used for encryption of cardholder data, including the following: <i>Note: Numerous industry standards for key management are available from various resources including NIST, which can be found at <a href="http://csrc.nist.gov">http://csrc.nist.gov</a>.</i>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.6.1	3.6.1 Generation of strong cryptographic keys	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.6.2	3.6.2 Secure cryptographic key distribution	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.6.3	3.6.3 Secure cryptographic key storage	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.6.4	3.6.4 Cryptographic key changes for keys that have reached the end of their cryptoperiod (for example, after a defined period of time has passed and/or after a certain amount of ciphertext has been produced by a given key), as defined by the associated application vendor or key owner, and based on industry best practices and guidelines (for example, NIST Special Publication 800-57).	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.6.5	3.6.5 Retirement or replacement (for example, archiving, destruction, and/or revocation) of	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of



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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	<p>keys as deemed necessary when the integrity of the key has been weakened (for example, departure of an employee with knowledge of a clear-text key component), or keys are suspected of being compromised.</p> <p><i>Note: If retired or replaced cryptographic keys need to be retained, these keys must be securely archived (for example, by using a key-encryption key). Archived cryptographic keys should only be used for decryption/verification purposes.</i></p>		the customer.
3.6.6	<p><b>3.6.6</b> If manual clear-text cryptographic key-management operations are used, these operations must be managed using split knowledge and dual control.</p> <p><i>Note: Examples of manual key- management operations include, but are not limited to: key generation, transmission, loading, storage and destruction.</i></p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.6.7	<b>3.6.7</b> Prevention of unauthorized substitution of cryptographic keys.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.6.8	<b>3.6.8</b> Requirement for cryptographic key custodians to formally acknowledge that they understand and accept their key-custodian responsibilities.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
3.7	<b>3.7</b> Ensure that security policies and operational procedures for protecting stored cardholder data are documented, in use, and known to all affected parties.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
4	<b>Requirement 4: Encrypt transmission of cardholder data across open, public networks</b>		
4.1	<p><b>4.1</b> Use strong cryptography and security protocols to safeguard sensitive cardholder data during transmission over open, public networks, including the following:</p> <ul style="list-style-type: none"> <li>· Only trusted keys and certificates are accepted.</li> <li>· The protocol in use only supports secure versions or configurations.</li> <li>· The encryption strength is appropriate for the encryption methodology in use.</li> </ul> <p><b>Note:</b> Where SSL/early TLS is used, the requirements in Appendix A2 must be completed. Examples of open, public networks include but are not limited to:</p> <ul style="list-style-type: none"> <li>· The Internet</li> <li>· Wireless technologies, including 802.11 and Bluetooth</li> <li>· Cellular technologies, for example, Global System for Mobile communications (GSM), Code division multiple access (CDMA)</li> <li>· General Packet Radio Service (GPRS)</li> </ul>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	· Satellite communications		
4.1.1	4.1.1 Ensure wireless networks transmitting cardholder data or connected to the cardholder data environment, use industry best practices to implement strong encryption for authentication and transmission.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
4.2	4.2 Never send unprotected PANs by end-user messaging technologies (for example, e-mail, instant messaging, SMS, chat, etc.).	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
4.3	4.3 Ensure that security policies and operational procedures for encrypting transmissions of cardholder data are documented, in use, and known to all affected parties.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
5	<b>Requirement 5: Protect all systems against malware and regularly update anti-virus software or programs</b>		
5.1	5.1 Deploy anti-virus software on all systems commonly affected by malicious software (particularly personal computers and servers).	Shared	Comcast is responsible for deploying anti-virus software on backend system components that are commonly affected by malicious software.  Customer is responsible for deploying anti-virus software on components in its CDE and on components that connect to the uCPE.
5.1.1	5.1.1 Ensure that anti-virus programs are capable of detecting, removing, and protecting against all known types of malicious software.	Shared	Comcast is responsible for deploying anti-virus software on backend system components that are commonly affected by malicious software.  Customer is responsible for deploying anti-virus software on components in its CDE and on components that connect to the uCPE.
5.1.2	5.1.2 For systems considered to be not commonly affected by malicious software, perform periodic evaluations to identify and evaluate evolving malware threats in order to confirm whether such systems continue to not require anti-virus software.	Shared	Comcast is responsible for deploying anti-virus software on backend system components that are commonly affected by malicious software.  Customer is responsible for deploying anti-virus software on components in its CDE and on components that connect to the uCPE.
5.2	5.2 Ensure that all anti-virus mechanisms are maintained as follows: · Are kept current, · Perform periodic scans · Generate audit logs which are retained per PCI DSS Requirement 10.7.	Shared	Comcast is responsible for maintaining anti-virus software on backend system components that are commonly affected by malicious software.  Customer is responsible for maintaining anti-virus software on components in its CDE and on components that connect to the uCPE.
5.3	5.3 Ensure that anti-virus mechanisms are actively running and cannot be disabled or altered by users, unless specifically authorized by management on a case-by-case basis for a limited time period.	Shared	Comcast is responsible for maintaining anti-virus software on backend system components that are commonly affected by malicious software.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	<i><b>Note:</b> Anti-virus solutions may be temporarily disabled only if there is legitimate technical need, as authorized by management on a case-by-case basis. If anti-virus protection needs to be disabled for a specific purpose, it must be formally authorized. Additional security measures may also need to be implemented for the period of time during which anti-virus protection is not active.</i>		Customer is responsible for maintaining anti-virus software on components in its CDE and those that connect to the the uCPE.
5.4	<b>5.4</b> Ensure that security policies and operational procedures for protecting systems against malware are documented, in use, and known to all affected parties.	Shared	Comcast is responsible for security policies and operational procedures for protecting backend system components. Customer is responsible for security policies and operational procedures for protecting components in its CDE and components that connect to the uCPE.
6	<b>Requirement 6: Develop and maintain secure systems and applications</b>		
6.1	<b>6.1</b> Establish a process to identify security vulnerabilities, using reputable outside sources for security vulnerability information, and assign a risk ranking (for example, as “high,” “medium,” or “low”) to newly discovered security vulnerabilities. <i><b>Note:</b> Risk rankings should be based on industry best practices as well as consideration of potential impact. For example, criteria for ranking vulnerabilities may include consideration of the CVSS base score, and/or the classification by the vendor, and/or type of systems affected. Methods for evaluating vulnerabilities and assigning risk ratings will vary based on an organization’s environment and risk- assessment strategy. Risk rankings should, at a minimum, identify all vulnerabilities considered to be a “high risk” to the environment. In addition to the risk ranking, vulnerabilities may be considered “critical” if they pose an imminent threat to the environment, impact critical systems, and/or would result in a potential compromise if not addressed. Examples of critical systems may include security systems, public-facing devices and systems, databases, and other systems that store, process, or transmit cardholder data.</i>	Shared	Comcast is responsible for establishing a process to identify security vulnerabilities affecting the uCPE and backend system components. Customer is responsible for establishing a process to identify security vulnerabilities affecting components in its CDE and components that connect to the uCPE.
6.2	<b>6.2</b> Ensure that all system components and software are protected from known vulnerabilities by installing applicable vendor- supplied security patches. Install critical security patches within one month of release. <i><b>Note:</b> Critical security patches should be identified according to the risk ranking process defined in Requirement 6.1.</i>	Shared	Comcast is responsible for installing applicable vendor-supplied security patches on the uCPE and backend system components. Customer is responsible for installing patches on components in its CDE and on components that connect to the uCPE.
6.3	<b>6.3</b> Develop internal and external software applications (including web-based administrative access to applications) securely, as follows: · In accordance with PCI DSS (for example, secure authentication and logging) · Based on industry standards and/or best practices.	Shared	Comcast is responsible for developing secure software for those applications deployed to the uCPE and backend system components based on industry standards and/or best practices. Customer is responsible for developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	· Incorporating information security throughout the software-development life cycle Note: this applies to all software developed internally as well as bespoke or custom software developed by a third party.		
6.3.1	<b>6.3.1</b> Remove development, test and/or custom application accounts, user IDs, and passwords before applications become active or are released to customers.	Shared	Comcast is responsible for developing secure software for those applications deployed to the uCPE and backend system components based on industry standards and/or best practices. Customer is responsible for developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.3.2	<b>6.3.2</b> Review custom code prior to release to production or customers in order to identify any potential coding vulnerability (using either manual or automated processes) to include at least the following: · Code changes are reviewed by individuals other than the originating code author, and by individuals knowledgeable about code-review techniques and secure coding practices. · Code reviews ensure code is developed according to secure coding guidelines · Appropriate corrections are implemented prior to release. · Code-review results are reviewed and approved by management prior to release. <i>Note: This requirement for code reviews applies to all custom code (both internal and public-facing), as part of the system development life cycle.</i> <i>Code reviews can be conducted by knowledgeable internal personnel or third parties. Public-facing web applications are also subject to additional controls, to address ongoing threats and vulnerabilities after implementation, as defined at PCI DSS Requirement 6.6.</i>	Shared	Comcast is responsible for developing secure software for those applications deployed to the uCPE and backend system components based on industry standards and/or best practices. Customer is responsible for developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.4	<b>6.4</b> Follow change control processes and procedures for all changes to system components. The processes must include the following:	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components. Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
6.4.1	<b>6.4.1</b> Separate development/test environments from production environments, and enforce the separation with access controls.	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components. Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.

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<b>Req.</b>	<b>PCI DSS v3.2.1 Requirements</b>	<b>Responsibility (Comcast / Customer / Shared)</b>	<b>Responsibility Summary</b>
<b>6.4.2</b>	<b>6.4.2</b> Separation of duties between development/test and production environments	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
<b>6.4.3</b>	<b>6.4.3</b> Production data (live PANs) are not used for testing or development	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
<b>6.4.4</b>	<b>6.4.4</b> Removal of test data and accounts from system components before the system becomes active / goes into production.	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
<b>6.4.5</b>	<b>6.4.5</b> Change control procedures for the implementation of security patches and software modifications must include the following:	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
<b>6.4.5.1</b>	<b>6.4.5.1</b> Documentation of impact.	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
<b>6.4.5.2</b>	<b>6.4.5.2</b> Documented change approval by authorized parties.	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
<b>6.4.5.3</b>	<b>6.4.5.3</b> Functionality testing to verify that the change does not adversely impact the security of the system.	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.

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Req.	PCI DSS v3.2.1 Requirements		Responsibility (Comcast / Customer / Shared)	Responsibility Summary
6.4.5.4		6.4.5.4 Back-out procedures.	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
		6.4.6 Upon completion of a significant change, all relevant PCI DSS requirements must be implemented on all new or changed systems and networks, and documentation updated as applicable.	Shared	Comcast is responsible for following control processes and procedures for changes to the uCPE operating system and backend system components.  Customer is responsible for following control processes and procedures for changes to the uCPE it makes via the Activecore Portal, to components in its CDE, and to components connected to the uCPE.
6.5		6.5 Address common coding vulnerabilities in software-development processes as follows: · Train developers at least annually in up-to-date secure coding techniques, including how to avoid common coding vulnerabilities. · Develop applications based on secure coding guidelines. <b>Note:</b> The vulnerabilities listed at 6.5.1 through 6.5.10 were current with industry best practices when this version of PCI DSS was published. However, as industry best practices for vulnerability management are updated (for example, the OWASP Guide, SANS CWE Top 25, CERT Secure Coding, etc.), the current best practices must be used for these requirements.	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components.  Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.5.1		6.5.1 Injection flaws, particularly SQL injection. Also consider OS Command Injection, LDAP and XPath injection flaws as well as other injection flaws.	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components.  Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.5.2		6.5.2 Buffer overflows	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components.  Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.5.3		6.5.3 Insecure cryptographic storage	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components.  Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.5.4		6.5.4 Insecure communications	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components.  Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.



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Req.	PCI DSS v3.2.1 Requirements		Responsibility (Comcast / Customer / Shared)	Responsibility Summary
6.5.5		6.5.5 Improper error handling	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components. Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.5.6		6.5.6 All “high risk” vulnerabilities identified in the vulnerability identification process (as defined in PCI DSS Requirement 6.1).	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components. Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
		<b>Note:</b> Requirements 6.5.7 through 6.5.10, below, apply to web applications and application interfaces (internal or external):		
6.5.7		6.5.7 Cross-site scripting (XSS)	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components. Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.5.8		6.5.8 Improper access control (such as insecure direct object references, failure to restrict URL access, directory traversal, and failure to restrict user access to functions).	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components. Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.5.9		6.5.9 Cross-site request forgery (CSRF)	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components. Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.
6.5.10		6.5.10 Broken authentication and session management	Shared	Comcast is responsible for training developers and developing software securely for those applications deployed to the uCPE and backend system components. Customer is responsible for training developers and developing software securely for those applications deployed to components in its CDE and to components that connect to the uCPE.

## COMCAST ENTERPRISE SERVICES

Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
6.6	<p><b>6.6</b> For public-facing web applications, address new threats and vulnerabilities on an ongoing basis and ensure these applications are protected against known attacks by either of the following methods:</p> <ul style="list-style-type: none"> <li>· Reviewing public-facing web applications via manual or automated application vulnerability security assessment tools or methods, at least annually and after any changes</li> </ul> <p><i>Note: This assessment is not the same as the vulnerability scans performed for Requirement 11.2.</i></p> <ul style="list-style-type: none"> <li>· Installing an automated technical solution that detects and prevents web-based attacks (for example, a web-application firewall) in front of public-facing web applications, to continually check all traffic.</li> </ul>	Shared	<p>Comcast is responsible for addressing new threats and vulnerabilities applicable to public-facing web applications hosted on backend system components.</p> <p>Customer is responsible for addressing new threats and vulnerabilities applicable to public-facing web applications hosted in its CDE.</p>
6.7	<p><b>6.7</b> Ensure that security policies and operational procedures for developing and maintaining secure systems and applications are documented, in use, and known to all affected parties.</p>	Shared	<p>Comcast is responsible for security policies and operational procedures for developing and maintaining secure systems and applications deployed to the uCPE and backend system components.</p> <p>Customer is responsible for security policies and operational procedures for developing and maintaining secure systems and applications deployed to components in its CDE and to components that connect to the uCPE.</p>
7	<b>Requirement 7: Restrict access to cardholder data by business need to know</b>		
7.1	<p><b>7.1</b> Limit access to system components and cardholder data to only those individuals whose job requires such access.</p>	Shared	<p>Comcast is responsible for limiting access to the uCPE (via underlying operating system) and backend system components.</p> <p>Customer is responsible for limiting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.</p>
7.1.1	<p><b>7.1.1</b> Define access needs for each role, including:</p> <ul style="list-style-type: none"> <li>· System components and data resources that each role needs to access for their job function</li> <li>· Level of privilege required (for example, user, administrator, etc.) for accessing resources.</li> </ul>	Shared	<p>Comcast is responsible for limiting access to the uCPE (via underlying operating system) and backend system components.</p> <p>Customer is responsible for limiting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.</p>
7.1.2	<p><b>7.1.2</b> Restrict access to privileged user IDs to least privileges necessary to perform job responsibilities.</p>	Shared	<p>Comcast is responsible for limiting access to the uCPE (via underlying operating system) and backend system components.</p> <p>Customer is responsible for limiting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.</p>
7.1.3	<p><b>7.1.3</b> Assign access based on individual personnel's job classification and function.</p>	Shared	<p>Comcast is responsible for limiting access to the uCPE (via underlying operating system) and backend system components.</p> <p>Customer is responsible for limiting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.</p>
7.1.4	<p><b>7.1.4</b> Require documented approval by authorized parties specifying required privileges.</p>	Shared	<p>Comcast is responsible for limiting access to the uCPE (via underlying operating system) and backend system components.</p> <p>Customer is responsible for limiting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.</p>



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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
7.2	7.2 Establish an access control system for systems components that restricts access based on a user's need to know, and is set to "deny all" unless specifically allowed. This access control system must include the following:	Shared	Comcast is responsible for restricting access to the uCPE (via underlying operating system) and backend system components. Customer is responsible for restricting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.
7.2.1	7.2.1 Coverage of all system components	Shared	Comcast is responsible for restricting access to the uCPE (via underlying operating system) and backend system components. Customer is responsible for restricting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.
7.2.2	7.2.2 Assignment of privileges to individuals based on job classification and function.	Shared	Comcast is responsible for restricting access to the uCPE (via underlying operating system) and backend system components. Customer is responsible for restricting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.
7.2.3	7.2.3 Default "deny-all" setting.	Shared	Comcast is responsible for restricting access to the uCPE (via underlying operating system) and backend system components. Customer is responsible for restricting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.
7.3	7.3 Ensure that security policies and operational procedures for restricting access to cardholder data are documented, in use, and known to all affected parties.	Shared	Comcast is responsible for security policies and operational procedures for restricting access to the uCPE (via underlying operating system) and backend system components. Customer is responsible for security policies and operational procedures for restricting access to the uCPE (via Activecore Portal), to components in its CDE, and to components that connect to the uCPE.
8	<b>Requirement 8: Identify and authenticate access to system components</b>		
8.1	8.1 Define and implement policies and procedures to ensure proper user identification management for non- consumer users and administrators on all system components as follows:	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.1.1	8.1.1 Assign all users a unique ID before allowing them to access system components or cardholder data.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.1.2	8.1.2 Control addition, deletion, and modification of user IDs, credentials, and other identifier objects.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.1.3	8.1.3 Immediately revoke access for any terminated users.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
			operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.1.4	8.1.4 Remove/disable inactive user accounts at least every 90 days.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.1.5	8.1.5 Manage IDs used by third parties to access, support, or maintain system components via remote access as follows: · Enabled only during the time period needed and disabled when not in use. · Monitored when in use.	Customer	Comcast does not allow third parties to access in-scope systems. All access, if needed, is done through screen shares and is monitored at all times. For third-party access to customer systems which connect to the uCPE, this requirement is the sole responsibility of the customer.
8.1.6	8.1.6 Limit repeated access attempts by locking out the user ID after not more than six attempts.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.1.7	8.1.7 Set the lockout duration to a minimum of 30 minutes or until an administrator enables the user ID.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.1.8	8.1.8 If a session has been idle for more than 15 minutes, require the user to re-authenticate to re-activate the terminal or session.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.2	8.2 In addition to assigning a unique ID, ensure proper user-authentication management for non-consumer users and administrators on all system components by employing at least one of the following methods to authenticate all users: · Something you know, such as a password or passphrase · Something you have, such as a token device or smart card · Something you are, such as a biometric.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.2.1	8.2.1 Using strong cryptography, render all authentication credentials (such as passwords/phrases) unreadable during transmission and storage on all system components.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
8.2.2	8.2.2 Verify user identity before modifying any authentication credential—for example, performing password resets, provisioning new tokens, or generating new keys.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.2.3	8.2.3 Passwords/phrases must meet the following: · Require a minimum length of at least seven characters. · Contain both numeric and alphabetic characters. Alternatively, the passwords/phrases must have complexity and strength at least equivalent to the parameters specified above.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.2.4	8.2.4 Change user passwords/passphrases at least every 90 days.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.2.5	8.2.5 Do not allow an individual to submit a new password/phrase that is the same as any of the last four passwords/phrases he or she has used.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.2.6	8.2.6 Set passwords/phrases for first- time use and upon reset to a unique value for each user, and change immediately after the first use.	Shared	Comcast is responsible for policies and procedures for user identification management of users on the uCPE (via underlying operating system) and backend system components. Customer is responsible for policies and procedures for user identification management of users on the components in its CDE, and on components that connect to the uCPE.
8.3	8.3 Secure all individual non-console administrative access and all remote access to the CDE using multi-factor authentication. <b>Note:</b> Multi-factor authentication requires that a minimum of two of the three authentication methods (see Requirement 8.2 for descriptions of authentication methods) be used for authentication. Using one factor twice (for example, using two separate passwords) is not considered multi-factor authentication.	Shared	Comcast is responsible for securing all individual non-console administrative access and all remote access using multi-factor authentication to the uCPE and backend system components. Customer is responsible for securing all individual non-console administrative access and all remote access using multi-factor authentication to components in its CDE and to components that connect to the uCPE.
8.3.1	8.3.1 Incorporate multi-factor authentication for all non-console access into the CDE for personnel with administrative access.	Shared	Comcast is responsible for securing all individual non-console administrative access and all remote access using multi-factor authentication to the uCPE and backend system components. Customer is responsible for securing all individual non-console administrative access and all remote access using multi-factor authentication to components in its CDE and to components that connect to the uCPE.
8.3.2	8.3.2 Incorporate multi-factor authentication for	Shared	Comcast is responsible for securing all individual non-console

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	all remote network access (both user and administrator, and including third-party access for support or maintenance) originating from outside the entity's network.		administrative access and all remote access using multi-factor authentication to the uCPE and backend system components.  Customer is responsible for securing all individual non-console administrative access and all remote access using multi-factor authentication to components in its CDE and to components that connect to the uCPE.
8.4	<b>8.4</b> Document and communicate authentication procedures and policies to all users including: <ul style="list-style-type: none"> <li>· Guidance on selecting strong authentication credentials</li> <li>· Guidance for how users should protect their authentication credentials</li> <li>· Instructions not to reuse previously used passwords</li> <li>· Instructions to change passwords if there is any suspicion the password could be compromised.</li> </ul>	Shared	Comcast is responsible for documenting and communication authentication procedures and policies to users on the uCPE (via underlying operating systems) and backend system components.  Customer is responsible for securing all individual non-console administrative access and all remote access using multi-factor authentication to components in its CDE and to components that connect to the uCPE.
8.5	<b>8.5</b> Do not use group, shared, or generic IDs, passwords, or other authentication methods as follows: <ul style="list-style-type: none"> <li>· Generic user IDs are disabled or removed.</li> <li>· Shared user IDs do not exist for system administration and other critical functions.</li> <li>· Shared and generic user IDs are not used to administer any system components.</li> </ul>	Shared	Comcast is responsible for not using group, shared, or generic IDs, passwords, or other authentication methods for the uCPE (via underlying operating systems) and backend system components.  Customer is responsible for not using group, shared, or generic IDs, passwords, or other authentication methods for components in its CDE and for components that connect to the uCPE.
8.5.1	<b>8.5.1 Additional requirement for service providers:</b> Service providers with remote access to customer premises (for example, for support of POS systems or servers) must use a unique authentication credential (such as a password/phrase) for each customer. <i><b>Note:</b> This requirement is not intended to apply to shared hosting providers accessing their own hosting environment, where multiple customer environments are hosted.</i>	Comcast	
8.6	<b>8.6</b> Where other authentication mechanisms are used (for example, physical or logical security tokens, smart cards, certificates, etc.), use of these mechanisms must be assigned as follows: <ul style="list-style-type: none"> <li>· Authentication mechanisms must be assigned to an individual account and not shared among multiple accounts.</li> <li>· Physical and/or logical controls must be in place to ensure only the intended account can use that mechanism to gain access.</li> </ul>	Shared	Comcast is responsible for authentication methods for the uCPE and backend system components.  Customer is responsible for authentication methods for components in its CDE and for components that connect to the uCPE.
8.7	<b>8.7</b> All access to any database containing cardholder data (including access by applications, administrators, and all other users) is restricted as follows: <ul style="list-style-type: none"> <li>· All user access to, user queries of, and user actions on databases are through programmatic methods.</li> </ul>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	<ul style="list-style-type: none"> <li>Only database administrators have the ability to directly access or query databases.</li> <li>Application IDs for database applications can only be used by the applications (and not by individual users or other non-application processes).</li> </ul>		
8.8	8.8 Ensure that security policies and operational procedures for identification and authentication are documented, in use, and known to all affected parties.	Shared	Comcast is responsible for security policies and operational procedures for identification and authentication for the uCPE and backend system components. Customer is responsible for security policies and operational procedures for identification and authentication for components in its CDE, and for components that connect to the uCPE.
9	<b>Requirement 9: Restrict physical access to cardholder data</b>		
9.1	9.1 Use appropriate facility entry controls to limit and monitor physical access to systems in the cardholder data environment.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.1.1	<p>9.1.1 Use video cameras and/or access control mechanisms to monitor individual physical access to sensitive areas. Review collected data and correlate with other entries. Store for at least three months, unless otherwise restricted by law.</p> <p><b>Note:</b> "Sensitive areas" refers to any data center, server room or any area that houses systems that store, process, or transmit cardholder data. This excludes public-facing areas where only point-of-sale terminals are present, such as the cashier areas in a retail store.</p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.1.2	<p>9.1.2 Implement physical and/or logical controls to restrict access to publicly accessible network jacks.</p> <p>For example, network jacks located in public areas and areas accessible to visitors could be disabled and only enabled when network access is explicitly authorized. Alternatively, processes could be implemented to ensure that visitors are escorted at all times in areas with active network jacks.</p>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.1.3	9.1.3 Restrict physical access to wireless access points, gateways, handheld devices, networking/communications hardware, and telecommunication lines.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.2	<p>9.2 Develop procedures to easily distinguish between onsite personnel and visitors, to include:</p> <ul style="list-style-type: none"> <li>Identifying new onsite personnel or visitors (for example, assigning badges)</li> <li>Changes to access requirements</li> <li>Revoking or terminating onsite personnel and expired visitor identification (such as ID badges).</li> </ul>	Shared	Comcast is responsible for procedures for distinguishing between onsite personnel and visitors on its property. Customer is responsible for procedures for distinguishing between onsite personnel and visitors on its property.
9.3	9.3 Control physical access for onsite personnel to the sensitive areas as follows:	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of

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<b>Req.</b>	<b>PCI DSS v3.2.1 Requirements</b>	<b>Responsibility (Comcast / Customer / Shared)</b>	<b>Responsibility Summary</b>
	<ul style="list-style-type: none"> <li>Access must be authorized and based on individual job function.</li> <li>Access is revoked immediately upon termination, and all physical access mechanisms, such as keys, access cards, etc., are returned or disabled.</li> </ul>		the customer.
<b>9.4</b>	<b>9.4</b> Implement procedures to identify and authorize visitors. Procedures should include the following:	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.4.1</b>	<b>9.4.1</b> Visitors are authorized before entering, and escorted at all times within, areas where cardholder data is processed or maintained.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.4.2</b>	<b>9.4.2</b> Visitors are identified and given a badge or other identification that expires and that visibly distinguishes the visitors from onsite personnel.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.4.3</b>	<b>9.4.3</b> Visitors are asked to surrender the badge or identification before leaving the facility or at the date of expiration.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.4.4</b>	<b>9.4.4</b> A visitor log is used to maintain a physical audit trail of visitor activity to the facility as well as computer rooms and data centers where cardholder data is stored or transmitted. Document the visitor's name, the firm represented, and the onsite personnel authorizing physical access on the log. Retain this log for a minimum of three months, unless otherwise restricted by law.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.5</b>	<b>9.5</b> Physically secure all media.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.5.1</b>	<b>9.5.1</b> Store media backups in a secure location, preferably an off-site facility, such as an alternate or backup site, or a commercial storage facility. Review the location's security at least annually.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.6</b>	<b>9.6</b> Maintain strict control over the internal or external distribution of any kind of media, including the following:	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.6.1</b>	<b>9.6.1</b> Classify media so the sensitivity of the data can be determined.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.6.2</b>	<b>9.6.2</b> Send the media by secured courier or other delivery method that can be accurately tracked.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>9.6.3</b>	<b>9.6.3</b> Ensure management approves any and all media that is moved from a secured area (including when media is distributed to individuals).	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.



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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
9.7	9.7 Maintain strict control over the storage and accessibility of media.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.7.1	9.7.1 Properly maintain inventory logs of all media and conduct media inventories at least annually.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.8	9.8 Destroy media when it is no longer needed for business or legal reasons as follows:	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.8.1	9.8.1 Shred, incinerate, or pulp hard-copy materials so that cardholder data cannot be reconstructed. Secure storage containers used for materials that are to be destroyed.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.8.2	9.8.2 Render cardholder data on electronic media unrecoverable so that cardholder data cannot be reconstructed.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.9	9.9 Protect devices that capture payment card data via direct physical interaction with the card from tampering and substitution. <i>Note: These requirements apply to card-reading devices used in card-present transactions (that is, card swipe or dip) at the point of sale. This requirement is not intended to apply to manual key-entry components such as computer keyboards and POS keypads.</i>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.9.1	9.9.1 Maintain an up-to-date list of devices. The list should include the following: · Make, model of device · Location of device (for example, the address of the site or facility where the device is located) · Device serial number or other method of unique identification.	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.9.2	9.9.2 Periodically inspect device surfaces to detect tampering (for example, addition of card skimmers to devices), or substitution (for example, by checking the serial number or other device characteristics to verify it has not been swapped with a fraudulent device). <i>Note: Examples of signs that a device might have been tampered with or substituted include unexpected attachments or cables plugged into the device, missing or changed security labels, broken or differently colored casing, or changes to the serial number or other external markings.</i>	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
9.9.3	9.9.3 Provide training for personnel to be aware of attempted tampering or replacement of	Customer	Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of

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Req.	PCI DSS v3.2.1 Requirements		Responsibility (Comcast / Customer / Shared)	Responsibility Summary
		<p>devices. Training should include the following:</p> <ul style="list-style-type: none"> <li>· Verify the identity of any third-party persons claiming to be repair or maintenance personnel, prior to granting them access to modify or troubleshoot devices.</li> <li>· Do not install, replace, or return devices without verification.</li> <li>· Be aware of suspicious behavior around devices (for example, attempts by unknown persons to unplug or open devices).</li> <li>· Report suspicious behavior and indications of device tampering or substitution to appropriate personnel (for example, to a manager or security officer).</li> </ul>		the customer.
9.10	9.10 Ensure that security policies and operational procedures for restricting physical access to cardholder data are documented, in use, and known to all affected parties.		Shared	<p>Comcast is responsible for security policies and operational procedures for restricting physical access to systems at Comcast owned locations.</p> <p>Customer is responsible for security policies and operational procedures for restricting physical access to systems at its locations.</p>
10	<b>Requirement 10: Track and monitor all access to network resources and cardholder data</b>			
10.1	10.1 Implement audit trails to link all access to system components to each individual user.		Shared	<p>Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components.</p> <p>Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.</p>
10.2	10.2 Implement automated audit trails for all system components to reconstruct the following events:		Shared	<p>Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components.</p> <p>Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.</p>
10.2.1		10.2.1 All individual user accesses to cardholder data	Customer	Though implementing audit trails is a shared responsibility, Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
10.2.2		10.2.2 All actions taken by any individual with root or administrative privileges	Shared	<p>Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components.</p> <p>Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.</p>
10.2.3		10.2.3 Access to all audit trails	Shared	<p>Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components.</p> <p>Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.</p>
10.2.4		10.2.3 Access to all audit trails	Shared	<p>Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components.</p> <p>Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.</p>
10.2.5		10.2.5 Use of and changes to identification and authentication mechanisms—including but not limited to creation of new accounts and elevation of privileges—and all changes,	Shared	<p>Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components.</p> <p>Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.</p>



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Req.	PCI DSS v3.2.1 Requirements		Responsibility (Comcast / Customer / Shared)	Responsibility Summary
		additions, or deletions to accounts with root or administrative privileges		
10.2.6		10.2.6 Initialization, stopping, or pausing of the audit logs	Shared	Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.2.7		10.2.7 Creation and deletion of system- level objects	Shared	Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.3		10.3 Record at least the following audit trail entries for all system components for each event:		Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.3.1		10.3.1 User identification	Shared	Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.3.2		10.3.2 Type of event	Shared	Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.3.3		10.3.3 Date and time	Shared	Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.3.4		10.3.4 Success or failure indication	Shared	Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.3.5		10.3.5 Origination of event	Shared	Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.3.6		10.3.6 Identity or name of affected data, system component, or resource.	Shared	Comcast is responsible for implementing audit trails to link all access to the uCPE and backend system components. Customer is responsible for implementing audit trails to link all access to its CDE and to components connected to the uCPE.
10.4		10.4 Using time-synchronization technology, synchronize all critical system clocks and times and ensure that the following is implemented for acquiring, distributing, and storing time. <i>Note: One example of time synchronization technology is Network Time Protocol (NTP).</i>	Shared	Comcast is responsible for using time-synchronization technology to synchornize clocks on the uCPE and backend system components. Customer is responsible for using time-synchronization technology to synchornize clocks on components in its CDE and on components connected to the uCPE.
10.4.1		10.4.1 Critical systems have the correct and consistent time.	Shared	Comcast is responsible for using time-synchronization technology to synchornize clocks on the uCPE and backend system components. Customer is responsible for using time-synchronization technology to synchornize clocks on components in its CDE and on components connected to the uCPE.

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Req.	PCI DSS v3.2.1 Requirements		Responsibility (Comcast / Customer / Shared)	Responsibility Summary
10.4.2		10.4.2 Time data is protected.	Shared	Comcast is responsible for using time-synchronization technology to synchronize clocks on the uCPE and backend system components. Customer is responsible for using time-synchronization technology to synchronize clocks on components in its CDE and on components connected to the uCPE.
10.4.3		10.4.3 Time settings are received from industry-accepted time sources.	Shared	Comcast is responsible for using time-synchronization technology to synchronize clocks on the uCPE and backend system components. Customer is responsible for using time-synchronization technology to synchronize clocks on components in its CDE and on components connected to the uCPE.
10.5		10.5 Secure audit trails so they cannot be altered.	Shared	Comcast is responsible for securing audit trails for the uCPE and backend system components. Customer is responsible for securing audit trails for components in its CDE and for components connected to the uCPE.
10.5.1		10.5.1 Limit viewing of audit trails to those with a job-related need.	Shared	Comcast is responsible for securing audit trails for the uCPE and backend system components. Customer is responsible for securing audit trails for components in its CDE and for components connected to the uCPE.
10.5.2		10.5.2 Protect audit trail files from unauthorized modifications.	Shared	Comcast is responsible for securing audit trails for the uCPE and backend system components. Customer is responsible for securing audit trails for components in its CDE and for components connected to the uCPE.
10.5.3		10.5.3 Promptly back up audit trail files to a centralized log server or media that is difficult to alter.	Shared	Comcast is responsible for securing audit trails for the uCPE and backend system components. Customer is responsible for securing audit trails for components in its CDE and for components connected to the uCPE.
10.5.4		10.5.4 Write logs for external-facing technologies onto a secure, centralized, internal log server or media device.	Shared	Comcast is responsible for securing audit trails for the uCPE and backend system components. Customer is responsible for securing audit trails for components in its CDE and for components connected to the uCPE.
10.5.5		10.5.5 Use file-integrity monitoring or change-detection software on logs to ensure that existing log data cannot be changed without generating alerts (although new data being added should not cause an alert).	Shared	Comcast is responsible for securing audit trails for the uCPE and backend system components. Customer is responsible for securing audit trails for components in its CDE and for components connected to the uCPE.
10.6		10.6 Review logs and security events for all system components to identify anomalies or suspicious activity. <i>Note: Log harvesting, parsing, and alerting tools may be used to meet this Requirement.</i>	Shared	Comcast is responsible for reviewing logs and security events for the uCPE and backend system components. Customer is responsible for reviewing logs and security events for components in its CDE and for components connected to the uCPE.
10.6.1		10.6.1 Review the following at least daily: · All security events · Logs of all system components that store, process, or transmit CHD and/or SAD · Logs of all critical system components · Logs of all servers and system components that perform security functions (for example, firewalls, intrusion-detection systems/intrusion-prevention systems (IDS/IPS), authentication servers, e-commerce redirection servers, etc.).	Shared	Comcast is responsible for reviewing logs and security events for the uCPE and backend system components. Customer is responsible for reviewing logs and security events for components in its CDE and for components connected to the uCPE.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
10.6.2	<b>10.6.2</b> Review logs of all other system components periodically based on the organization's policies and risk management strategy, as determined by the organization's annual risk assessment.	Shared	Comcast is responsible for reviewing logs and security events for the uCPE and backend system components. Customer is responsible for reviewing logs and security events for components in its CDE and for components connected to the uCPE.
10.6.3	<b>10.6.3</b> Follow up exceptions and anomalies identified during the review process.	Shared	Comcast is responsible for reviewing logs and security events for the uCPE and backend system components. Customer is responsible for reviewing logs and security events for components in its CDE and for components connected to the uCPE.
10.7	<b>10.7</b> Retain audit trail history for at least one year, with a minimum of three months immediately available for analysis (for example, online, archived, or restorable from backup).	Shared	Comcast is responsible for retaining audit trails of the uCPE and backend system components. Customer is responsible for retaining audit trails of components in its CDE and of components connected to the uCPE.
10.8	<b>10.8 Additional requirement for service providers only:</b> Implement a process for the timely detection and reporting of failures of critical security control systems, including but not limited to failure of: · Firewalls · IDS/IPS · FIM · Anti-virus · Physical access controls · Logical access controls · Audit logging mechanisms · Segmentation controls (if used)	Comcast	
10.8.1	<b>10.8.1</b> Additional requirement for service providers only: Respond to failures of any critical security controls in a timely manner. Processes for responding to failures in security controls must include: · Restoring security functions · Identifying and documenting the duration (date and time start to end) of the security failure · Identifying and documenting cause(s) of failure, including root cause, and documenting remediation required to address root cause · Identifying and addressing any security issues that arose during the failure · Performing a risk assessment to determine whether further actions are required as a result of the security failure · Implementing controls to prevent cause of failure from reoccurring · Resuming monitoring of security controls	Comcast	
10.9	<b>10.9</b> Ensure that security policies and operational procedures for monitoring all access to network resources and cardholder data are documented, in use, and known to all affected parties.	Shared	Comcast is responsible for security policies and operational procedures for monitoring the uCPE and backend system components. Customer is responsible for security policies and operational procedures for monitoring components in its CDE, components connected to the uCPE, and cardholder data.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
<b>11</b>	<b>Requirement 11: Regularly test security systems and processes.</b>		
<b>11.1</b>	<p><b>11.1</b> Implement processes to test for the presence of wireless access points (802.11), and detect and identify all authorized and unauthorized wireless access points on a quarterly basis.</p> <p><i>Note: Methods that may be used in the process include but are not limited to wireless network scans, physical/logical inspections of system components and infrastructure, network access control (NAC), or wireless IDS/IPS. Whichever methods are used, they must be sufficient to detect and identify both authorized and unauthorized devices.</i></p>	Shared	<p>Comcast is responsible for implementing processes to test for the presence of wireless access points at Comcast owned locations.</p> <p>Customer is responsible for implementing processes to test for the presence of wireless access points at its locations.</p>
<b>11.1.1</b>	<p><b>11.1.1</b> Maintain an inventory of authorized wireless access points including a documented business justification.</p>	Customer	Though implementing processes to test for the presence of wireless access points is a shared responsibility, Comcast does not use wireless access points to support the product, so this requirement is the sole responsibility of the customer.
<b>11.1.2</b>	<p><b>11.1.2</b> Implement incident response procedures in the event unauthorized wireless access points are detected.</p>	Shared	<p>Comcast is responsible for implementing processes to test for the presence of wireless access points at Comcast owned locations.</p> <p>Customer is responsible for implementing processes to test for the presence of wireless access points at its locations.</p>
<b>11.2</b>	<p><b>11.2</b> Run internal and external network vulnerability scans at least quarterly and after any significant change in the network (such as new system component installations, changes in network topology, firewall rule modifications, product upgrades).</p> <p><i>Note: Multiple scan reports can be combined for the quarterly scan process to show that all systems were scanned and all applicable vulnerabilities have been addressed. Additional documentation may be required to verify non-remediated vulnerabilities are in the process of being addressed. For initial PCI DSS compliance, it is not required that four quarters of passing scans be completed if the assessor verifies:</i></p> <p><i>1) the most recent scan result was a passing scan, 2) the entity has documented policies and procedures requiring quarterly scanning, and 3) vulnerabilities noted in the scan results have been corrected as shown in a re-scan(s).</i></p> <p><i>For subsequent years after the initial PCI DSS review, four quarters of passing scans must have occurred.</i></p>	Shared	<p>Comcast is responsible for running internal and external network vulnerability scans targeting backend system components.</p> <p>Customer is responsible for running internal and external network vulnerability scans targeting components in its CDE and targeting the uCPE and connecting components.</p>
<b>11.2.1</b>	<p><b>11.2.1</b> Perform quarterly internal vulnerability scans and rescans as needed, until all "high-risk" vulnerabilities (as identified in Requirement 6.1) are resolved. Scans must be performed by qualified personnel.</p>	Shared	<p>Comcast is responsible for running internal and external network vulnerability scans targeting backend system components.</p> <p>Customer is responsible for running internal and external network vulnerability scans targeting components in its CDE and targeting the uCPE and connecting components.</p>
<b>11.2.2</b>	<p><b>11.2.2</b> Perform quarterly external vulnerability scans, via an Approved Scanning Vendor (ASV)</p>	Shared	Comcast is responsible for running internal and external network vulnerability scans targeting backend system components.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
	approved by the Payment Card Industry Security Standards Council (PCI SSC). Perform rescans as needed, until passing scans are achieved. <i>Note: Quarterly external vulnerability scans must be performed by an Approved Scanning Vendor (ASV), approved by the Payment Card Industry Security Standards Council (PCI SSC). Refer to the ASV Program Guide published on the PCI SSC website for scan customer responsibilities, scan preparation, etc.</i>		Customer is responsible for running internal and external network vulnerability scans targetting components in its CDE and targetting the uCPE and connecting components.
11.2.3	11.2.3 Perform internal and external scans, and rescans as needed, after any significant change. Scans must be performed by qualified personnel.	Shared	Comcast is responsible for running internal and external network vulnerability scans targetting backend system components. Customer is responsible for running internal and external network vulnerability scans targetting components in its CDE and targetting the uCPE and connecting components.
11.3	11.3 Implement a methodology for penetration testing that includes the following: · Is based on industry-accepted penetration testing approaches (for example, NIST SP800-115) · Includes coverage for the entire CDE perimeter and critical systems · Includes testing from both inside and outside the network · Includes testing to validate any segmentation and scope-reduction controls · Defines application-layer penetration tests to include, at a minimum, the vulnerabilities listed in Requirement 6.5 · Defines network-layer penetration tests to include components that support network functions as well as operating systems · Includes review and consideration of threats and vulnerabilities experienced in the last 12 months · Specifies retention of penetration testing results and remediation activities results.	Shared	Comcast is responsible for implementing a methodology for and conducting penetration tests targetting backend system components. Customer is responsible for implementing a methodology for and conducting penetration tests targetting components in its CDE and targetting the uCPE and connecting components.
11.3.1	11.3.1 Perform <i>external</i> penetration testing at least annually and after any significant infrastructure or application upgrade or modification (such as an operating system upgrade, a sub-network added to the environment, or a web server added to the environment).	Shared	Comcast is responsible for implementing a methodology for and conducting penetration tests targetting backend system components. Customer is responsible for implementing a methodology for and conducting penetration tests targetting components in its CDE and targetting the uCPE and connecting components.
11.3.2	11.3.2 Perform <i>internal</i> penetration testing at least annually and after any significant infrastructure or application upgrade or modification (such as an operating system upgrade, a sub-network added to the environment, or a web server added to the environment).	Shared	Comcast is responsible for implementing a methodology for and conducting penetration tests targetting backend system components. Customer is responsible for implementing a methodology for and conducting penetration tests targetting components in its CDE and targetting the uCPE and connecting components.

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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
11.3.3	11.3.3 Exploitable vulnerabilities found during penetration testing are corrected and testing is repeated to verify the corrections.	Shared	Comcast is responsible for implementing a methodology for and conducting penetration tests targetting backend system components. Customer is responsible for implementing a methodology for and conducting penetration tests targetting components in its CDE and targetting the uCPE and connecting components.
11.3.4	11.3.4 If segmentation is used to isolate the CDE from other networks, perform penetration tests at least annually and after any changes to segmentation controls/methods to verify that the segmentation methods are operational and effective, and isolate all out-of-scope systems from systems in the CDE.	Shared	Comcast is responsible for implementing a methodology for and conducting penetration tests targetting backend system components. Customer is responsible for implementing a methodology for and conducting penetration tests targetting components in its CDE and targetting the uCPE and connecting components.
	11.3.4.1 Additional requirement for service providers only: If segmentation is used, confirm PCI DSS scope by performing penetration testing on segmentation controls at least every six months and after any changes to segmentation controls/methods.	Comcast	
11.4	11.4 Use intrusion-detection and/or intrusion-prevention techniques to detect and/or prevent intrusions into the network. Monitor all traffic at the perimeter of the cardholder data environment as well as at critical points in the cardholder data environment, and alert personnel to suspected compromises. Keep all intrusion-detection and prevention engines, baselines, and signatures up to date.	Customer	Customer is responsible for using intrusion-detection and/or intrusion-prevention techniques to detect and/or prevent intrusions into components in its CDE and into components that connect to the the uCPE.
11.5	11.5 Deploy a change-detection mechanism (for example, file-integrity monitoring tools) to alert personnel to unauthorized modification of critical system files, configuration files, or content files; and configure the software to perform critical file comparisons at least weekly. <i>Note: For change-detection purposes, critical files are usually those that do not regularly change, but the modification of which could indicate a system compromise or risk of compromise. Change-detection mechanisms such as file-integrity monitoring products usually come pre-configured with critical files for the related operating system. Other critical files, such as those for custom applications, must be evaluated and defined by the entity (that is, the merchant or service provider).</i>	Shared	Comcast is responsible for deploying a change-detection mechanism for the uCPE and backend system components. Customer is responsible for deploying a change-detection mechanism for components in its CDE and for components that connect to the uCPE.
11.5.1	11.5.1 Implement a process to respond to any alerts generated by the change-detection solution.	Shared	Comcast is responsible for deploying a change-detection mechanism for the uCPE and backend system components. Customer is responsible for deploying a change-detection mechanism for components in its CDE and for components that connect to the uCPE.
11.6	11.6 Ensure that security policies and operational procedures for security monitoring and testing are documented, in use, and known to all affected parties.	Shared	Comcast is responsible for security policies and operational procedures for security monitoring and testing the uCPE and backend system components. Customer is responsible for security policies and operational procedures for security monitoring and testing components in its CDE and components connected to the uCPE.



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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
12	<b>Requirement 12: Maintain a policy that addresses information security for all personnel.</b>		
12.1	12.1 Establish, publish, maintain, and disseminate a security policy.	Shared	Comcast is responsible for establishing, publishing, maintaining, and disseminating a security policy that regards all the requirements for which it is responsible per this matrix. Customer is responsible for establishing, publishing, maintaining, and disseminating a security policy that regards all the requirements for which it is responsible per this matrix.
12.1.1	12.1.1 Review the security policy at least annually and update the policy when the environment changes.	Shared	Comcast is responsible for establishing, publishing, maintaining, and disseminating a security policy that regards all the requirements for which it is responsible per this matrix. Customer is responsible for establishing, publishing, maintaining, and disseminating a security policy that regards all the requirements for which it is responsible per this matrix.
12.2	12.2 Implement a risk-assessment process that: · Is performed at least annually and upon significant changes to the environment (for example, acquisition, merger, relocation, etc.), · Identifies critical assets, threats, and vulnerabilities, and · Results in a formal risk assessment. <i>Examples of risk-assessment methodologies include but are not limited to OCTAVE, ISO 27005 and NIST SP 800-30.</i>	Shared	Comcast is responsible for implementing a risk-assessment process that is performed at least annually and upon significant changes to the uCPE and backend system component environment which identifies critical assets, threats, and vulnerabilities.. Customer is responsible for implementing a risk-assessment process that is performed at least annually and upon significant changes to components in its PCI in-scope environment which identifies critical assets, threats, and vulnerabilities relevant to those components.
12.3	12.3 Develop usage policies for critical technologies and define proper use of these technologies. <b>Note:</b> <i>Examples of critical technologies include, but are not limited to, remote access and wireless technologies, laptops, tablets, removable electronic media, e-mail usage and Internet usage.</i> Ensure these usage policies require the following:	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
12.3.1	12.3.1 Explicit approval by authorized parties	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
12.3.2	12.3.2 Authentication for use of the technology	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
12.3.3	12.3.3 A list of all such devices and personnel with access	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
12.3.4	12.3.4 A method to accurately and readily determine owner, contact information, and purpose (for example, labeling, coding, and/or inventorying of devices)	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
12.3.5	12.3.5 Acceptable uses of the technology	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.

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<b>Req.</b>	<b>PCI DSS v3.2.1 Requirements</b>	<b>Responsibility (Comcast / Customer / Shared)</b>	<b>Responsibility Summary</b>
<b>12.3.6</b>	<b>12.3.6</b> Acceptable network locations for the technologies	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
<b>12.3.7</b>	<b>12.3.7</b> List of company-approved products	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
<b>12.3.8</b>	<b>12.3.8</b> Automatic disconnect of sessions for remote-access technologies after a specific period of inactivity	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
<b>12.3.9</b>	<b>12.3.9</b> Activation of remote-access technologies for vendors and business partners only when needed by vendors and business partners, with immediate deactivation after use	Shared	Comcast is responsible for developing usage policies for its critical technologies. Customer is responsible for developing usage policies for its critical technologies.
<b>12.3.10</b>	<b>12.3.10</b> For personnel accessing cardholder data via remote-access technologies, prohibit the copying, moving, and storage of cardholder data onto local hard drives and removable electronic media, unless explicitly authorized for a defined business need. Where there is an authorized business need, the usage policies must require the data be protected in accordance with all applicable PCI DSS Requirements.	Customer	Though developing usage policies is a shared responsibility, Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
<b>12.4</b>	<b>12.4</b> Ensure that the security policy and procedures clearly define information security responsibilities for all personnel.	Shared	Comcast is responsible for defining information security responsibilities for all personnel in its security policies and procedures. Customer is responsible for defining information security responsibilities for all personnel in its security policies and procedures.
	<b>12.4.1</b> Additional requirement for service providers only: Executive management shall establish responsibility for the protection of cardholder data and a PCI DSS compliance program to include: · Overall accountability for maintaining PCI DSS compliance · Defining a charter for a PCI DSS compliance program and communication to executive management	Comcast	
<b>12.5</b>	<b>12.5</b> Assign to an individual or team the following information security management responsibilities:	Shared	Comcast is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix. Customer is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix.



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Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
12.5.1	12.5.1 Establish, document, and distribute security policies and procedures.	Shared	Comcast is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix. Customer is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix.
12.5.2	12.5.2 Monitor and analyze security alerts and information, and distribute to appropriate personnel.	Shared	Comcast is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix. Customer is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix.
12.5.3	12.5.3 Establish, document, and distribute security incident response and escalation procedures to ensure timely and effective handling of all situations.	Shared	Comcast is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix. Customer is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix.
12.5.4	12.5.4 Administer user accounts, including additions, deletions, and modifications.	Shared	Comcast is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix. Customer is responsible for assigning an individual or a team for managing information security responsibilities that regard all the requirements for which it is responsible per this matrix.
12.5.5	12.5.5 Monitor and control all access to data.	Customer	Though assigning an individual or a team for managing information security responsibilities is a shared responsibility, Comcast does not store, process, or transmit CHD as part of this service offering. This requirement is the sole responsibility of the customer.
12.6	12.6 Implement a formal security awareness program to make all personnel aware of the cardholder data security policy and procedures.	Shared	Comcast is responsible for implementing a formal security awareness program to inform its personnel. Customer is responsible for implementing a formal security awareness program to inform its personnel.
12.6.1	12.6.1 Educate personnel upon hire and at least annually. <i>Note: Methods can vary depending on the role of the personnel and their level of access to the cardholder data.</i>	Shared	Comcast is responsible for implementing a formal security awareness program to inform its personnel. Customer is responsible for implementing a formal security awareness program to inform its personnel.
12.6.2	12.6.2 Require personnel to acknowledge at least annually that they have read and understood the security policy and procedures.	Shared	Comcast is responsible for implementing a formal security awareness program to inform its personnel. Customer is responsible for implementing a formal security awareness program to inform its personnel.

## COMCAST ENTERPRISE SERVICES

Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
12.7	<p><b>12.7</b> Screen potential personnel prior to hire to minimize the risk of attacks from internal sources. (Examples of background checks include previous employment history, criminal record, credit history, and reference checks.)</p> <p><i>Note: For those potential personnel to be hired for certain positions such as store cashiers who only have access to one card number at a time when facilitating a transaction, this requirement is a recommendation only.</i></p>	Shared	<p>Comcast is responsible for screening its potential personnel prior to hire.</p> <p>Customer is responsible for screening its potential personnel prior to hire.</p>
12.8	<b>12.8</b> Maintain and implement policies and procedures to manage service providers with whom cardholder data is shared, or that could affect the security of cardholder data, as follows:	Shared	<p>Comcast is responsible for maintaining and implementing policies and procedures to manage its services providers.</p> <p>Customer is responsible for maintaining and implementing policies and procedures to manage its services providers.</p>
12.8.1	<b>12.8.1</b> Maintain a list of service providers including a description of the service provided.	Shared	<p>Comcast is responsible for maintaining and implementing policies and procedures to manage its services providers.</p> <p>Customer is responsible for maintaining and implementing policies and procedures to manage its services providers.</p>
12.8.2	<p><b>12.8.2</b> Maintain a written agreement that includes an acknowledgement that the service providers are responsible for the security of cardholder data the service providers possess or otherwise store, process or transmit on behalf of the customer, or to the extent that they could impact the security of the customer's cardholder data environment.</p> <p><i>Note: The exact wording of an acknowledgement will depend on the agreement between the two parties, the details of the service being provided, and the responsibilities assigned to each party. The acknowledgement does not have to include the exact wording provided in this requirement.</i></p>	Shared	<p>Comcast is responsible for maintaining and implementing policies and procedures to manage its services providers.</p> <p>Customer is responsible for maintaining and implementing policies and procedures to manage its services providers.</p>
12.8.3	<b>12.8.3</b> Ensure there is an established process for engaging service providers including proper due diligence prior to engagement.	Shared	<p>Comcast is responsible for maintaining and implementing policies and procedures to manage its services providers.</p> <p>Customer is responsible for maintaining and implementing policies and procedures to manage its services providers.</p>
12.8.4	<b>12.8.4</b> Maintain a program to monitor service providers' PCI DSS compliance status at least annually.	Shared	<p>Comcast is responsible for maintaining and implementing policies and procedures to manage its services providers.</p> <p>Customer is responsible for maintaining and implementing policies and procedures to manage its services providers.</p>
12.8.5	<b>12.8.5</b> Maintain information about which PCI DSS requirements are managed by each service provider, and which are managed by the entity.	Shared	<p>Comcast is responsible for maintaining and implementing policies and procedures to manage its services providers.</p> <p>Customer is responsible for maintaining and implementing policies and procedures to manage its services providers.</p>

## COMCAST ENTERPRISE SERVICES

Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
12.9	<p><b>12.9 Additional requirement for service providers only:</b> Service providers acknowledge in writing to customers that they are responsible for the security of cardholder data the service provider possesses or otherwise stores, processes, or transmits on behalf of the customer, or to the extent that they could impact the security of the customer's cardholder data environment.</p> <p>Note: The exact wording of an acknowledgement will depend on the agreement between the two parties, the details of the service being provided, and the responsibilities assigned to each party. The acknowledgement does not have to include the exact wording provided in this requirement.</p>	Comcast	
12.10	<b>12.10</b> Implement an incident response plan. Be prepared to respond immediately to a system breach.	Shared	<p>Comcast is responsible for implementing an incident response plan for preparation for responding to a breach to the uCPE and backend system components.</p> <p>Customer is responsible for implementing an incident response plan for preparation for responding to a breach to components in its CDE and to components that connect to the uCPE.</p>
12.10.1	<p><b>12.10.1</b> Create the incident response plan to be implemented in the event of system breach. Ensure the plan addresses the following, at a minimum:</p> <ul style="list-style-type: none"> <li>· Roles, responsibilities, and communication and contact strategies in the event of a compromise including notification of the payment brands, at a minimum</li> <li>· Specific incident response procedures</li> <li>· Business recovery and continuity procedures</li> <li>· Data backup processes</li> <li>· Analysis of legal requirements for reporting compromises</li> <li>· Coverage and responses of all critical system components</li> <li>· Reference or inclusion of incident response procedures from the payment brands.</li> </ul>	Shared	<p>Comcast is responsible for implementing an incident response plan for preparation for responding to a breach to the uCPE and backend system components.</p> <p>Customer is responsible for implementing an incident response plan for preparation for responding to a breach to components in its CDE and to components that connect to the uCPE.</p>
12.10.2	<b>12.10.2</b> Review and test the plan, including all elements listed in Requirement 12.10.1, at least annually..	Shared	<p>Comcast is responsible for implementing an incident response plan for preparation for responding to a breach to the uCPE and backend system components.</p> <p>Customer is responsible for implementing an incident response plan for preparation for responding to a breach to components in its CDE and to components that connect to the uCPE.</p>
12.10.3	<b>12.10.3</b> Designate specific personnel to be available on a 24/7 basis to respond to alerts.	Shared	<p>Comcast is responsible for implementing an incident response plan for preparation for responding to a breach to the uCPE and backend system components.</p> <p>Customer is responsible for implementing an incident response plan for preparation for responding to a breach to components in its CDE and to components that connect to the uCPE.</p>
12.10.4	<b>12.10.4</b> Provide appropriate training to staff with security breach response responsibilities.	Shared	Customer is responsible for implementing an incident response plan for preparation for responding to a breach to components in its CDE and to components that connect to the uCPE.

## COMCAST ENTERPRISE SERVICES

Req.	PCI DSS v3.2.1 Requirements	Responsibility (Comcast / Customer / Shared)	Responsibility Summary
12.10.5	<b>12.10.5</b> Include alerts from security monitoring systems, including but not limited to intrusion-detection, intrusion- prevention, firewalls, and file-integrity monitoring systems.	Shared	Comcast is responsible for implementing an incident response plan for preparation for responding to a breach to the uCPE and backend system components.  Customer is responsible for implementing an incident response plan for preparation for responding to a breach to components in its CDE and to components that connect to the uCPE.
12.10.6	<b>12.10.6</b> Develop a process to modify and evolve the incident response plan according to lessons learned and to incorporate industry developments.	Shared	Comcast is responsible for implementing an incident response plan for preparation for responding to a breach to the uCPE and backend system components.  Customer is responsible for implementing an incident response plan for preparation for responding to a breach to components in its CDE and to components that connect to the uCPE.
12.11	<b>12.11 Additional requirement for service providers only:</b> Perform reviews at least quarterly to confirm personnel are following security policies and operational procedures. Reviews must cover the following processes: · Daily log reviews · Firewall rule-set reviews · Applying configuration standards to new systems · Responding to security alerts · Change management processes	Comcast	
12.11.1	<b>12.11.1 Additional requirement for service providers only:</b> Maintain documentation of quarterly review process to include: · Documenting results of the reviews · Review and sign-off of results by personnel assigned responsibility for the PCI DSS compliance program	Comcast	

**COMCAST ENTERPRISE SERVICES**  
**18. PRODUCT-SPECIFIC**  
**ATTACHMENT UNIFIED THREAT**  
**MANAGEMENT (UTM)**

**A. ATTACHMENT IDENTIFIER: UTM, Ver. 1.1**

The following additional terms and conditions are applicable to Sales Orders for Comcast's UTM Services:

**19. 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 the document containing the initial configuration for the Service, as agreed to by Customer and Comcast.

**"Base Service"** means the Comcast-provided SD-WAN service or ActiveCore<sup>SM</sup> Router Service by which the Service is provided.

**"Comcast Data"** means any and all data provided to Customer by Comcast, Comcast's Affiliates, or Comcast's vendors or that is collected by Customer or its subcontractors on Comcast's behalf.

**"Comcast Systems"** means applications, websites, computing assets, systems, databases, devices, products, or services owned or operated by or for Comcast (including the ActiveCoreDX and Advanced Security Customer portals), but excluding any Customer Systems.

**"Customer Devices"** means computing, storage, or networking devices operated by or on behalf of Customer that Process Comcast Data or that are used to access Comcast Systems.

**"Customer System"** means any Customer or its subcontractors' applications, websites, computing

assets, systems, databases, devices, products, or services that process Comcast data.

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

**"Information Security Standards"** means 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.

**"Process"** and its cognates means any operation or set of operations that is performed on information, including collection, storage, transmission, disclosure, erasure, and destruction.

**"Service(s)"** means UTM service(s).

## COMCAST ENTERPRISE SERVICES

“**Underlay Service**” means the internet connectivity over which the Service operates.

### 20. ARTICLE 1. SERVICES

This attachment shall apply to UTM Services. A further description of these Services is set forth in Schedule A-1 heretowhich is incorporated herein by reference.

### 21. ARTICLE 2. PROVIDER

The Services shall be provided by Comcast Business Communications, LLC (“Comcast”).

### 22. ARTICLE 3. PROVISIONING INTERVAL

Following the Customer’s 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 about the Estimated Availability Date; provided, however, that Comcast’s failure to provision Services by the Estimated Availability Date shall not constitute a breach of the Agreement.

### 23. ARTICLE 4. SERVICE COMMENCEMENT DATE

The Service Commencement Date shall be the date Comcast informs the Customer that the Service is available and performing in accordance with the “Performance Standards” set forth in Schedule A-1 hereto (“Availability Notification”).

## ARTICLE 5. TERMINATION CHARGES; PORTABILITY

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

Unified Threat Management

### **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, 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 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 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. **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 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 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.

**24.**

**25.**

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**COMCAST ENTERPRISE SERVICES**

**26. ARTICLE 6. ADDITIONAL INFORMATION**

If the Customer's Underlay Service is provided by a third-party, Customer's Base Service must be interconnected with such third-party provided Underlay Service in accordance with the applicable PSA.

## **27. ARTICLE 7. CUSTOMER PORTAL**

to the extent necessary to Process Comcast Data;

Comcast provides the Customer with a password-protected webportal to access information regarding the Customer's Service. Customer may have the option to use the portal to enter changes to the Customer's UTM configuration, subject to the availability of the configuration service, as determined by Comcast.

## **28. ARTICLE 8. TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS**

The technical specifications and performance standards applicable to the Service are set forth in Schedule A-1 hereto.

## **29. ARTICLE 9. INFORMATION SECURITY REQUIREMENTS**

**9.1 Access to Comcast Systems.** Customer must meet the following requirements with respect to its access to any Comcast Systems:

(i) Customer must use reasonable identity and access management processes that meet or exceed Information Security Standards;

(ii) Customer must use unique user/system identities and must prohibit the use of shared, default, or temporary credentials;

(iii) Customer must terminate the access of any end user or, if unable to terminate directly, must notify Comcast within twenty-four (24) hours, if an end user no longer needs access to a Comcast System;

(iv) Customer devices must lock after a reasonable period of inactivity and must disable upon repeated, failed access attempts;

(v) Customer must periodically conduct user access reviews no less frequently than every six (6) months and must cooperate with any access reviews conducted by Comcast;

(vi) Customer may only access Comcast Systems Unified Threat Management

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(vii) Customer must comply with all security requirements when accessing Comcast Systems, which may include Comcast virtual private networks, transport encryption, and multi-factor authentication;

(viii) Only approved connections to a Comcast System using the Comcast approved protocols and services may be used;

(ix) Upon request, Customer must document the ports, rules, and protocols acceptable to Comcast; and

(x) Comcast may suspend or terminate access to a Comcast System without notice and without penalty.

**9.2 Maintenance.** If the Services require the reconfiguration of Customer Systems or Comcast Systems for maintenance or support, when such configurations are no longer necessary or upon Comcast request, Customer must revert such reconfigurations. To the extent that only Comcast can make such reconfigurations, Customer must inform Comcast and assist Comcast in making such reconfigurations.

**9.3 Customer Devices.** Customer must implement and maintain reasonable security standards for all Customer devices that meet or exceed Information Security Standards, including but not limited to timely patch management, and (a) usage of next generation threat detection or (b) real time anti-virus monitoring and updates and full scans (including system and boot files) as frequently as recommended by Information Security Standards. All Customer devices must be owned or leased and managed by Customer or its subcontractors. Customer must only Process Comcast data or access Comcast Systems from Customer Devices or devices provided by Comcast. Customer must maintain device management controls for all mobile Customer Devices with access to a Comcast System. Such controls must include the ability to wipe the device remotely.

**9.4 Customer End Users.** Customer is responsible for the acts and omissions of all end users. Customer must ensure that end users do not retain any Comcast data, any Comcast device, or access to any Comcast System at the request of Comcast.

## PRODUCT-SPECIFIC ATTACHMENT UNIFIED THREAT MANAGEMENT

### SCHEDULE A-1 SERVICE DESCRIPTIONS, TECHNICAL SPECIFICATIONS AND PERFORMANCE STANDARDS

Comcast's UTM Service will be provided in accordance with the service descriptions, technical specifications, and performance standards set forth below:

#### 1. Service Descriptions

UTM is a comprehensive security service that can be delivered via the cloud or Comcast Equipment located at the Customer premises, as requested by Customer.

The Service is available in the below product tiers, which may include all or a subset of the listed features:

##### **A. Basic Service:**

- A. Next Generation Firewall
  - i. Source, destination, application/protocol enforcement
- B. Web Filtering
  - i. Based on automatic security intelligence tools and targeted threat analysis, real-time updates designed to enable Customer to apply granular policies that filter web access based on content categories

##### **B. Advanced Service (in addition to A and B above):**

- C. Intrusion Prevention Service (IPS)
  - i. Implements a database of thousands of signatures, designed to stop attacks that evade conventional firewall defenses

##### **C. Enterprise Service (in addition to A, B, and C above; requires Advanced Customer Care):**

- D. Denial of Service (DOS) Protection
  - i. Helps prevent attackers bringing down a machine or network resources by overwhelming services using a flood of traffic
- E. Anti-Virus Service
  - i. Employs advanced virus, spyware, and heuristic detection engines designed to protect endpoint security agents, to help prevent both new and evolving threats from gaining access to your network's content and applications
- F. Malware Service
  - i. Cloud-based threat analysis service that provides analysis and helps prevent for zero-day exploits and malware
- G. Data Loss Prevention
  - i. Data loss prevention software detects potential data breaches/data ex-filtration transmissions and helps prevent them by monitoring, detecting and blocking sensitive data

#### 2. Service Requirements

In order to provide the Service to a Customer's Service Location, the Service Location must have an Underlay Service and Base Service. With respect to the Underlay Service, Comcast supports the Service over Comcast Ethernet Dedicated Internet (EDI) Service, Comcast Business Internet Service, or internet connectivity services

provided by a third-party service provider. If the Base Service or Underlay Service is terminated at a Service Location or unavailable for any reason at any time, the Service at said Service Location will be inoperable.

### 3. **Technical Specifications**

**3.1 Universal Customer Premise Equipment (uCPE):** Comcast will provide robust, flexible, high powered uCPEs based on x86 hardware that is service agnostic and can deploy Virtualized Network Functions (“VNFs”) as needed based on Customer requirements.

**3.2** In the UTM Cloud offering, an IPSEC tunnel will be provisioned from the Customer Service Location(s) (single or multiple sites) as defined in the ACD. All traffic destined to the Internet is inspected in the UTM cloud, and egresses from that location. Local internet breakout is not a connectivity service and is solely a route configuration inside the uCPE to allow the local host to access the internet.

**3.3 IP Address Allocation.** The uCPE will use a single IP address provided from the Underlay Service.

### 4. **Service Delivery and Service Management**

**4.1 Kick-off call:** Comcast will sponsor a kick-off call with the Customer to explain the Service delivery process.

**4.2 Technical interview:** Comcast will engage Customer in one or several interviews related to Customer’s network design initiatives. Comcast will document the technical information discovered through the interview process into an Architectural Confirmation Document and the Customer will review and confirm that the ACD is accurate. The ACD will be available via the Portal.

**4.3 Install, Test, and Turn-up:** Customer’s Service will be installed with a standard set of pre-configured policies and Comcast will test the Services.

**4.4 On-Going Solution Support:** If Comcast or a Comcast vendor develops software updates and/or security patches for Comcast’s or 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.

**4.5 Security Monitoring and Mitigation:** The Service is designed to provide Customer notice of potential security threats detected by the Service; provided, however, that (i) the Service’s failure to provide any such notice(s) shall not constitute a breach of the Agreement and (ii) Comcast and its affiliates and their respective officers, directors, employees, agents, suppliers, licensors, successors, and assigns shall have no liability to Customer for any damages that are alleged to or arise from or are caused by or alleged to have been caused by the failure to provide any such notice(s). Furthermore, Customer acknowledges and agrees that (a) Comcast will not make changes to Customer’s configurations or security settings for the Services (including in response to any potential security threats of which Comcast has notified Customer) and (b) Customer maintains overall responsibility and liability for maintaining the security, confidentiality, and reliability of Customer’s network, computer systems, and data, including implementing configuration changes to the Services in response to potential security threats. Customer further acknowledges that the Services are not a guaranty by Comcast to protect Customer’s network, computer systems, or data against unauthorized access, malicious code, deleterious routines, threats, cyberattacks, ransomware and/or other techniques, attack vectors and tools employed by computer “hackers” and other third parties (including nation states) to create, exploit, or expose security vulnerabilities. Comcast makes no warranty, express or implied, that any specific or all security threats and vulnerabilities will be detected or mitigated or that the Services will render Customer’s network and computer systems safe from intrusions and other security breaches. Comcast makes no guarantees with respect to the detection or blocking of viruses/worms/malware or any other types of attacks and is not responsible for any such malicious data that may be transmitted

over the provided network. Comcast makes no warranty that the Services will be uninterrupted or error-free.

## **5. Advanced Customer Care**

This Section 5 is in addition to the other Sections of this PSA and is only applicable to those Customers receiving AdvancedCustomer Care.

**5.1 Advanced Install, Test, and Turn-up:** When Comcast installs the Service, the configuration created for the Customer during the Kick-Off Call and Technical Interview will be loaded on the equipment and Comcast will test the Services.

- 5.2 On-Going Solution Support:** Comcast will support Customer's 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 via the Portal or over the phone. This includes any changes to the Service configuration as initially outlined in the ACD. Comcast has the following configuration change response objectives:

<b>Category</b>	<b>Objective</b>
Simple Configuration Change	4 hours
Complex Configuration Change	48 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.

"Complex Configuration Change" includes, but is not limited to, the following changes: Edge device reconfigured, network schematic or restructuring, business policy change (extensive), SD-WAN software change or upgrade, SD-WAN

device profile creation, SD-WAN network services control/create, SD-WAN FW policy creation, SD-WAN NAT creation, SD-WAN Quality of Service creation, SD-WAN device WAN/LAN connection port change, SD-WAN device WAN interfaces configuration, SD-WAN device LAN interfaces configuration, SD-WAN device LAN-side DHCP scoping or configuring, SD-WAN device LAN side DNS scoping or configuring, SD-WAN routing configuration, SD-WAN VPN tunnel configuration, SD-WAN 3<sup>rd</sup> party VPN tunnel configuration (site to site), and packet capture download packet capture file.

- 5.3 Security Monitoring and Mitigation:** Comcast will have read/write access to the Service. At Customer's request and in accordance with the table above, Comcast will modify the configuration of the Service in accordance with Customer's specifications to attempt to mitigate security events and security threats identified by Customer. Comcast's sole obligation is to implement the configuration settings and configuration changes reasonably requested by Customer. Customer acknowledges and agrees that Comcast will not make changes to Customer's configurations or security settings for the Services (including in response to any potential security threats of which Comcast has notified Customer) except to the extent explicitly directed to do so by Customer in accordance with the terms of the Agreement.

## **6. Customer Responsibilities**

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

- 6.1** 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.
- 6.2** Provide secure space sufficient for access to one (1) standard, freestanding, equipment cabinet at each of the Customer facilities, no further than fifty feet from the Customer router or switch interface.
- 6.3** Provide power including UPS AC power equipment, circuit sizing to be determined, if applicable.

- 6.4** Provide emergency local generator backup service, if applicable.
- 6.5** Provide access to the buildings and point of demarcation at each Customer Service Location to allow Comcast and its approved Contractors to install Universal Customer Premise Equipment. Provide access to each location for regular (8am - 5pm) and emergency (24 hour) service and maintenance of Comcast's equipment and facilities.
- 6.6** 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.
- 6.7** Customer must provide a point of contact (POC) for installation, service activation, notices for Service Interruptions, and any maintenance activities.

## **7. Technical Support and Maintenance**

- 7.1 Technical Support.** Comcast provides Customers a toll-free telephone number to the Customer Enterprise Technical Support (ETS) 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 customer equipment not provided by Comcast.
- 7.2 Maintenance.** Comcast's standard maintenance window is Sunday to Saturday from 12:00am to 6:00am 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) hour 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
WIRELESS LAN SERVICE**

**ATTACHMENT IDENTIFIER: Wireless LAN Service, Version 1.1**

The following additional terms and conditions are applicable to Sales Orders for Comcast's Wireless LAN Service. A description of the Service is set forth in Schedule A-1 hereto.

**DEFINITIONS**

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

**"Access Point(s)"** means networking hardware device(s) that enable other Wi-Fi devices (e.g., cell phone and laptops) to connect to a wired network. For the avoidance of doubt, such Access Points are Comcast Equipment.

**"End User(s)"** means Customer's employees, guests and other users or end-users of the Service provided to Customer's Service Location(s).

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

**"LAN"** means local area network.

**"Managed Router Service"** means Comcast's ActiveCore<sup>SM</sup> Managed Router Service.

**"Service"** means the Comcast Wireless LAN Service.

**"Underlay Connectivity Service"** means connectivity to the Internet via Comcast-provided Ethernet service.

**ARTICLE 1. CUSTOM INSTALLATION FEES**

Once Comcast accepts a Sales Order for Service, 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 2. PROVISIONING INTERVAL**

Following Comcast's 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 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 3. SERVICE COMMENCEMENT DATE**

The Service Commencement Date shall be the date Comcast informs Customer that the Service is available and performing at the Service Location in accordance with the "Performance Standards" set forth in Schedule A-1 hereto.

Charges for Service shall begin to accrue as of the Service Commencement Date.

Customer acknowledges and agrees that charges may begin to accrue with respect to the Underlay Connectivity Service, the Managed Router Service and the Wireless LAN Service at different times. For the avoidance of doubt charges will begin to accrue with respect to the Underlay Connectivity Service and the Managed Router Service in accordance with the applicable PSA.

**ARTICLE 4. SERVICE REQUIREMENTS**

In order to provide the Service at a Service Location the Service Location must have Underlay Connectivity Service and Managed Router Service. The Underlay Connectivity Service and the Managed Router Service may be pre-existing or ordered in conjunction with the Service.

**IF THE UNDERLAY CONNECTIVITY SERVICE OR THE MANAGED ROUTER SERVICE IS TERMINATED AT A SERVICE LOCATION OR UNAVAILABLE FOR ANY REASON AT ANY TIME, THE SERVICE WILL BE INOPERABLE AT THE SERVICE LOCATION.**

The Services may be used only within the United States.

**ARTICLE 5. TERMINATION CHARGES**

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

**5.2 Termination Charges for Services.**

E. 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 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 Service.

- F. 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 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.

- G. 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.
- H. Customer acknowledges and agrees that termination of the Underlay Connectivity Service or Managed Router Service shall constitute a termination of the Service and Customer shall pay Termination Charges with respect to the Service as provided herein; provided, that, if Customer terminated such Underlay Connectivity Service or Managed Router Service as a result of Comcast's material and uncured breach in accordance with the General Terms and Conditions applicable thereto, then Customer will not be obligated to pay Termination Charges with respect to the Service.

## **ARTICLE 6. USE RESTRICTIONS**

**6.1 End User Use Restrictions.** Customer shall be responsible for ensuring End User compliance with the use restrictions of Comcast's Acceptable Use Policy for High-Speed Internet Services found at <https://business.comcast.com/customer-notifications/acceptable-use-policy> or successor URL ("**Use Restrictions**"). Comcast shall have the right to deny access to the Service to End Users who violate the Use Restrictions and to any independent commercial end users (i.e., end users who use the Wi-Fi Service for commercial purposes other than for Customer's business activity).

**6.2 Platform Use Restrictions.** The Platform (as defined in Schedule A-1) constitutes Licensed Software (as defined in the General Terms and Conditions).

## **ARTICLE 7. END USER RIGHTS**

Nothing herein expressly or implicitly provides any End User with any remedy, claim, liability, reimbursement, cause of action, or other right or privilege.

Customer shall contractually prohibit any End Users from making any claims directly against Comcast related to the Service and, require that any claims related to the Service must be made by Customer directly, on behalf of its End User, pursuant to the terms of the Agreement.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
WIRELESS LAN SERVICE**

**SCHEDULE A-1**

**WIRELESS LAN SERVICE  
SERVICE DESCRIPTIONS & TECHNICAL SPECIFICATIONS**

Comcast's Wireless LAN Service will be provided in accordance with the service descriptions and technical specifications set forth below.

**8. Service Description**

The Service is an integrated solution consisting of the following:

- a. **Access Points and LAN Switches.** The Service includes three (3), four (4), or five (5) access points ("**Access Points**") and one (1) LAN switch device ("**Switch**") and together with the Access Points, the "**Network Access Equipment**") that collectively deliver Wi-Fi coverage and connectivity to the Internet via the Underlay Connectivity Service.
- b. **Aruba Central Platform.** The Service includes read-only access to Comcast's instance of the Aruba Central platform (the "**Platform**") where Customer can view Customer's Wi-Fi health and coverage, and Service performance information. Customer's use of the Platform is subject to the use restrictions set forth below.

**9. Technical Specifications**

- a. **Underlay Connectivity Service.** The Service uses the Underlay Connectivity Service to provide Customer with Wi-Fi access to the public Internet and, for purposes of monitoring Customer's Services, the Aruba Central platform. Underlay Connectivity Service must be either Comcast Ethernet Dedicated Internet or Comcast Ethernet over Hybrid Fiber Coax.
- b. **Equipment Access.** Comcast will have read / write access to the Aruba Central platform and the Network Access Equipment. Customer will be provided read-only access to the Aruba Central platform.
- c. **Service Set Identifiers ("SSIDs").** The Service supports up to four (4) SSIDs. All Access Points across all Service Locations must have the same SSID configuration:
- d. **Coverage.** Access Point placement is based on customer request. Customer acknowledges that the bandwidth and coverage offered by the Service is not guaranteed. Given the nature of Wi-Fi services including, without limitation, its dependence on the unlicensed radio frequency spectrum, and Customer's power and asset mounting facilities, Comcast cannot provide any assurance as to the reliability or availability of the Service.
- e. **Authentication.** Available methods of user authentication for the Service include:
  - i. Captive Portal
  - ii. WPA3/WPA2 Personal and Enterprise
  - iii. RADIUS Authentication ("**Private Authentication**")
- f. **Captive Portal.** As part of the Service, Comcast will create and maintain (via the Aruba Central platform) a pre-authentication user environment ("**Captive Portal**") for use with guest SSIDs which, to the extent requested by Customer, will include a landing page requiring an End User to accept such terms and conditions as Customer may require before such End User is permitted to access the Service. The Wi-Fi shall be branded as Customer's Wi-Fi service (e.g., "Customer Wi-Fi") and shall contain no reference to Comcast, its Affiliates or their respective logos or trademarks. Comcast shall update and make changes to such user environment and landing page, as reasonably requested by Customer, but not more than twice per year. The Captive

Portal will accept only a single image and terms and conditions. After accepting the terms and conditions, End Users will be redirected to a landing page or the original URL.

- g. **Content Filtering.** Aruba Central's Content Filtering feature is included with the Service but will be disabled unless and until (i) requested by Customer; and (ii) Customer completes the review and intake with Comcast for this feature. This feature includes the filtering of content areas based on web reputation, web and application categories.
- h. **Ethernet Ports on Switches.** Ethernet ports not used by Access Points will be disabled by default; however, Customer may request that Comcast activate and configure such additional ports with VLAN information.

## 10. Wireless LAN Delivery and Service Management

- a. **Technical Interview.** Comcast will engage Customer in one or several interviews related to Customer's technical implementation details and network design initiatives, including the configuration of the Wireless LAN. Comcast will document the technical information discovered through the interview process into an Architectural Confirmation Document (the "ACD") and the Customer will review and confirm that the ACD is correct. If no changes are requested within five (5) business days, Customer will be deemed to have accepted the ACD and Comcast will begin configuration.
  - i. **Switch Configuration.** Based upon the technical implementation details and network design initiatives provided by Customer during the technical interview, Comcast will generate a configuration for the Switches and shall complete such configuration prior to the delivery of the Network Access Equipment to the Service Location.
  - ii. **Access Point Configuration.** Based upon the technical implementation details and network design initiatives provided by Customer during the technical interview, Comcast will generate a configuration for the Access Points and shall complete such configuration prior to the installation of the Access Points at the Service Location. Access Points will download their respective configurations from Comcast once they are installed at the Service Location and able to access the Internet.
  - iii. **Content Filtering.** Based on the technical interview Comcast will work with the Customer to configure the content filtering in Aruba Central. This will include setup of web reputation, web and application categories
  - iv. **Captive Portal.** The Captive Portal page will be configured based on the information provided by the Customer during the technical interview.
  - v. **RADIUS Configuration** – In order to enable Private Authentication, Customer must provide details required for configuration of 802.1X for WiFi on Aruba Central during the technical interview. Customer is responsible for the operation, maintenance, and support of Private Authentication.
- b. **Delivery and Installation Process.** Comcast shall install the Network Access Equipment at the Service Location at such time as may be agreed upon by the parties. Customer acknowledges that Comcast may be required to install wiring inside the Service Location in order to install the Network Access Equipment. Customer further understands that the Network Access Equipment and wiring may need to be mounted to walls and/or ceilings in order for the Service to properly function. Comcast will use commercially reasonable efforts to minimize damage to walls, ceilings and premises, but will not be responsible for repairing or returning the Service Location to its original condition, except to the extent caused by Comcast's gross negligence or willful misconduct. At technician discretion and with Customer agreement, it may be necessary for Comcast to install additional equipment (e.g., a rack, cabinet, or other physical mount point) to facilitate the installation of the Network Access Equipment ("Mounting Equipment"). Mounting Equipment is subject to additional charge.
- c. **Network Monitoring and Management.** On and after the Service Commencement Date, Comcast will monitor and manage the Network Access Equipment related to the availability and certain performance aspects of the Service. Comcast will send an alert to the Customer for Service impacting alarms. If Customer reasonably determines that the root cause of such issue is

attributable to the Network Access Equipment or the Service, Customer should open a trouble ticket with Comcast by calling the Comcast Support Number (defined below in Section 5.c.).

**d. On-Going Solution Support.**

- i. Comcast will support Customer's 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. This includes any changes to the Service configuration as initially outlined in the ACD. Comcast endeavors to meet the following configuration change response objectives:

<b>Category</b>	<b>Objective</b>
Simple Configuration Change	1 Business Day
Complex Configuration Change	10 Business Days

"Simple Configuration Change" means any change that enables or disables functionality in the Service that does not affect a Service Location's, or an Access Point's ability to route application traffic. Examples of a Simple Configuration Change include updating the name of a SSID, changing a pre-shared password key, or enabling or disabling content filtering.

"Complex Configuration Change" means any change that enables or disables functionality in the Service that affects a Service Location's, or an Access Point's ability to route application traffic. Examples of a Complex Configuration Change include adding additional Access Points; changing IP addressing; adding, deleting or changing Switches; adding or removing IP traffic routes (e.g., allowing or blocking traffic to specific networks or interfaces); adding or removing interfaces or changing IPSec parameters.

- ii. If a Comcast vendor develops software updates and/or security patches for such vendor's equipment which Comcast uses to provide the Service, Comcast will upload such software updates and/or security patches to the applicable Network Access 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 and will be considered emergency maintenance as described below. 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.

**11. Security Monitoring and Mitigation**

The exact security policies and configuration of the Network Access Equipment will be as requested by Customer and as reflected in the final ACD. **COMCAST DOES NOT PROVIDE MONITORING OF SECURITY EVENTS, ANY SECURITY EVENT MITIGATION OR ADVICE REGARDING SECURITY ISSUES OR THREATS.** Comcast will work with Customer to modify the configuration of the Network Access Equipment to attempt to mitigate security events and security threats identified by Customer and therefore Comcast's sole obligation is to implement the configuration settings requested by Customer. 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.

**12. Technical Support and Maintenance**

Comcast provides Service Level Objectives for the Service, including mean time to respond, and mean time to restore.

**d. Mean Time to Respond.**

Mean Time to Respond is the average time required for Comcast to begin troubleshooting a reported fault. The Mean Time to Respond objective is fifteen (15) minutes from the time a trouble ticket is opened with Comcast in accordance with the below Technical Support provision.

**e. Mean Time to Replace.**

Mean Time to Replace is the average time, measured on a calendar month basis, required to ship replacement Network Access Equipment to the Service Location. The Mean Time to Replace objective for a Network Access Equipment failure is two (2)

Business Days from the time a trouble ticket is opened with Comcast. “Business Days” are Monday – Friday (excluding national and state holidays) – 8:00am to 5:00pm, eastern standard time. If a trouble ticket is received: (i) by 2:00pm EST on a Business Day, replacement equipment will be shipped on the 2nd Business Day after the receipt of the trouble ticket; or (ii) after 2:00pm EST on a Business Day, a national or state holiday, or a Saturday or Sunday, replacement equipment will be shipped on the 3rd Business Day after the receipt of the trouble ticket.

**f. Technical Support.**

Comcast provides a toll-free trouble reporting telephone number to Comcast Support, 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 Customer-Provided Equipment (“CPE”) or other equipment not provided by Comcast.

- **Escalation.** Customer shall direct Service issues to Comcast Support at the phone number provided by Comcast (the “Comcast Support Number”). Service issues may be escalated by Customer within Comcast Support to a Supervisor after twenty-four (24) hours, to a Manager twenty-four (24) hours following the escalation to a Supervisor, and to a Director twenty-four (24) hours following the escalation to a Manager.
- **Maintenance.** Comcast’s standard maintenance window is Monday to Friday from 6:00am to 8:00am ET. Scheduled maintenance is performed during the maintenance window and will be coordinated between Comcast and the Customer as required. Emergency maintenance is performed as needed.
- **Network Access Equipment.** Comcast provides certain Comcast Equipment (the Network Access Equipment) for provisioning its Service. Comcast will retain ownership and management responsibility for this Comcast Equipment. This Comcast Equipment must be used only for delivering Service.

### 13. Customer Responsibilities.

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

- Providing, interior space within the applicable Service Location for the Network Access Equipment to reside that has 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 eight-five (85) degrees Fahrenheit;
- Storing any packages delivered for the installation of the Services in a secure, temperature-controlled location that will not be opened by anyone other than Comcast;
- Providing an escort that can enable Comcast’s access to the buildings and Demarcation Point at each Service Location to allow Comcast and its approved contractors to install cabling for Service installation. Provide access to each Service Location for regular (8am - 5pm) and emergency (24 hour) service and maintenance of Comcast’s equipment and facilities;
- Providing SSID authentication-sensitive information (e.g., pre-shared key and RADIUS server information) prior to activation of the Services;
- If RADIUS services are configured, the Customer is responsible for proper configuration and operation of authentication system
- Providing a point of contact (“POC”) and backup POC for installation, service activation and any maintenance activities.
- Providing tier one support to the End Users. Under no circumstances will Comcast provide direct support to the Customer End Users.
- With respect to the Network Access Equipment, notify Comcast of any faulty units that require maintenance and/or replacement.

### 14. Emergency Blocking

The parties agree that if either party hereto, in its reasonable 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
WIRELESS LAN SERVICE**

**ATTACHMENT IDENTIFIER: Wireless LAN Service, Version 1.1**

The following additional terms and conditions are applicable to Sales Orders for Comcast's Wireless LAN Service. A description of the Service is set forth in Schedule A-1 hereto.

**DEFINITIONS**

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

**"Access Point(s)"** means networking hardware device(s) that enable other Wi-Fi devices (e.g., cell phone and laptops) to connect to a wired network. For the avoidance of doubt, such Access Points are Comcast Equipment.

**"End User(s)"** means Customer's employees, guests and other users or end-users of the Service provided to Customer's Service Location(s).

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

**"LAN"** means local area network.

**"Managed Router Service"** means Comcast's ActiveCore<sup>SM</sup> Managed Router Service.

**"Service"** means the Comcast Wireless LAN Service.

**"Underlay Connectivity Service"** means connectivity to the Internet via Comcast-provided Ethernet service.

**ARTICLE 1. CUSTOM INSTALLATION FEES**

Once Comcast accepts a Sales Order for Service, 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 2. PROVISIONING INTERVAL**

Following Comcast's 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 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 3. SERVICE COMMENCEMENT DATE**

The Service Commencement Date shall be the date Comcast informs Customer that the Service is available and performing at the Service Location in accordance with the "Performance Standards" set forth in Schedule A-1 hereto.

Charges for Service shall begin to accrue as of the Service Commencement Date.

Customer acknowledges and agrees that charges may begin to accrue with respect to the Underlay Connectivity Service, the Managed Router Service and the Wireless LAN Service at different times. For the avoidance of doubt charges will begin to accrue with respect to the Underlay Connectivity Service and the Managed Router Service in accordance with the applicable PSA.

**ARTICLE 4. SERVICE REQUIREMENTS**

In order to provide the Service at a Service Location the Service Location must have Underlay Connectivity Service and Managed Router Service. The Underlay Connectivity Service and the Managed Router Service may be pre-existing or ordered in conjunction with the Service.

**IF THE UNDERLAY CONNECTIVITY SERVICE OR THE MANAGED ROUTER SERVICE IS TERMINATED AT A SERVICE LOCATION OR UNAVAILABLE FOR ANY REASON AT ANY TIME, THE SERVICE WILL BE INOPERABLE AT THE SERVICE LOCATION.**

The Services may be used only within the United States.

**ARTICLE 5. TERMINATION CHARGES**

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

**5.2 Termination Charges for Services.**

I. 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 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 Service.

- J. 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 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.

- K. 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.
- L. Customer acknowledges and agrees that termination of the Underlay Connectivity Service or Managed Router Service shall constitute a termination of the Service and Customer shall pay Termination Charges with respect to the Service as provided herein; provided, that, if Customer terminated such Underlay Connectivity Service or Managed Router Service as a result of Comcast's material and uncured breach in accordance with the General Terms and Conditions applicable thereto, then Customer will not be obligated to pay Termination Charges with respect to the Service.

## **ARTICLE 6. USE RESTRICTIONS**

**6.1 End User Use Restrictions.** Customer shall be responsible for ensuring End User compliance with the use restrictions of Comcast's Acceptable Use Policy for High-Speed Internet Services found at <https://business.comcast.com/customer-notifications/acceptable-use-policy> or successor URL ("**Use Restrictions**"). Comcast shall have the right to deny access to the Service to End Users who violate the Use Restrictions and to any independent commercial end users (i.e., end users who use the Wi-Fi Service for commercial purposes other than for Customer's business activity).

**6.2 Platform Use Restrictions.** The Platform (as defined in Schedule A-1) constitutes Licensed Software (as defined in the General Terms and Conditions).

## **ARTICLE 7. END USER RIGHTS**

Nothing herein expressly or implicitly provides any End User with any remedy, claim, liability, reimbursement, cause of action, or other right or privilege.

Customer shall contractually prohibit any End Users from making any claims directly against Comcast related to the Service and, require that any claims related to the Service must be made by Customer directly, on behalf of its End User, pursuant to the terms of the Agreement.



**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
WIRELESS LAN SERVICE**

**SCHEDULE A-1**

**WIRELESS LAN SERVICE  
SERVICE DESCRIPTIONS & TECHNICAL SPECIFICATIONS**

Comcast's Wireless LAN Service will be provided in accordance with the service descriptions and technical specifications set forth below.

**15. Service Description**

The Service is an integrated solution consisting of the following:

- c. **Access Points and LAN Switches.** The Service includes three (3), four (4), or five (5) access points ("**Access Points**") and one (1) LAN switch device ("**Switch**") and together with the Access Points, the "**Network Access Equipment**") that collectively deliver Wi-Fi coverage and connectivity to the Internet via the Underlay Connectivity Service.
- d. **Aruba Central Platform.** The Service includes read-only access to Comcast's instance of the Aruba Central platform (the "**Platform**") where Customer can view Customer's Wi-Fi health and coverage, and Service performance information. Customer's use of the Platform is subject to the use restrictions set forth below.

**16. Technical Specifications**

- a. **Underlay Connectivity Service.** The Service uses the Underlay Connectivity Service to provide Customer with Wi-Fi access to the public Internet and, for purposes of monitoring Customer's Services, the Aruba Central platform. Underlay Connectivity Service must be either Comcast Ethernet Dedicated Internet or Comcast Ethernet over Hybrid Fiber Coax.
- b. **Equipment Access.** Comcast will have read / write access to the Aruba Central platform and the Network Access Equipment. Customer will be provided read-only access to the Aruba Central platform.
- c. **Service Set Identifiers ("SSIDs").** The Service supports up to four (4) SSIDs. All Access Points across all Service Locations must have the same SSID configuration.
- d. **Coverage.** Access Point placement is based on customer request. Customer acknowledges that the bandwidth and coverage offered by the Service is not guaranteed. Given the nature of Wi-Fi services including, without limitation, its dependence on the unlicensed radio frequency spectrum, and Customer's power and asset mounting facilities, Comcast cannot provide any assurance as to the reliability or availability of the Service.
- e. **Authentication.** Available methods of user authentication for the Service include:
  - i. Captive Portal
  - ii. WPA3/WPA2 Personal and Enterprise
  - iii. RADIUS Authentication ("**Private Authentication**")
- f. **Captive Portal.** As part of the Service, Comcast will create and maintain (via the Aruba Central platform) a pre-authentication user environment ("**Captive Portal**") for use with guest SSIDs which, to the extent requested by Customer, will include a landing page requiring an End User to accept such terms and conditions as Customer may require before such End User is permitted to access the Service. The Wi-Fi shall be branded as Customer's Wi-Fi service (e.g., "Customer Wi-Fi") and shall contain no reference to Comcast, its Affiliates or their respective logos or trademarks. Comcast shall update and make changes to such user environment and landing page, as reasonably requested by Customer, but not more than twice per year. The Captive Portal will accept only a single image and terms and conditions. After accepting the terms and conditions, End Users will be redirected to a landing page or the original URL.

- g. **Content Filtering.** Aruba Central's Content Filtering feature is included with the Service but will be disabled unless and until (i) requested by Customer; and (ii) Customer completes the review and intake with Comcast for this feature. This feature includes the filtering of content areas based on web reputation, web and application categories.
- h. **Ethernet Ports on Switches.** Ethernet ports not used by Access Points will be disabled by default; however, Customer may request that Comcast activate and configure such additional ports with VLAN information.

## 17. Wireless LAN Delivery and Service Management

- e. **Technical Interview.** Comcast will engage Customer in one or several interviews related to Customer's technical implementation details and network design initiatives, including the configuration of the Wireless LAN. Comcast will document the technical information discovered through the interview process into an Architectural Confirmation Document (the "ACD") and the Customer will review and confirm that the ACD is correct. If no changes are requested within five (5) business days, Customer will be deemed to have accepted the ACD and Comcast will begin configuration.
  - i. **Switch Configuration.** Based upon the technical implementation details and network design initiatives provided by Customer during the technical interview, Comcast will generate a configuration for the Switches and shall complete such configuration prior to the delivery of the Network Access Equipment to the Service Location.
  - ii. **Access Point Configuration.** Based upon the technical implementation details and network design initiatives provided by Customer during the technical interview, Comcast will generate a configuration for the Access Points and shall complete such configuration prior to the installation of the Access Points at the Service Location. Access Points will download their respective configurations from Comcast once they are installed at the Service Location and able to access the Internet.
  - iii. **Content Filtering.** Based on the technical interview Comcast will work with the Customer to configure the content filtering in Aruba Central. This will include setup of web reputation, web and application categories
  - iv. **Captive Portal.** The Captive Portal page will be configured based on the information provided by the Customer during the technical interview.
  - v. **RADIUS Configuration** – In order to enable Private Authentication, Customer must provide details required for configuration of 802.1X for WiFi on Aruba Central during the technical interview. Customer is responsible for the operation, maintenance, and support of Private Authentication.
- f. **Delivery and Installation Process.** Comcast shall install the Network Access Equipment at the Service Location at such time as may be agreed upon by the parties. Customer acknowledges that Comcast may be required to install wiring inside the Service Location in order to install the Network Access Equipment. Customer further understands that the Network Access Equipment and wiring may need to be mounted to walls and/or ceilings in order for the Service to properly function. Comcast will use commercially reasonable efforts to minimize damage to walls, ceilings and premises, but will not be responsible for repairing or returning the Service Location to its original condition, except to the extent caused by Comcast's gross negligence or willful misconduct. At technician discretion and with Customer agreement, it may be necessary for Comcast to install additional equipment (e.g., a rack, cabinet, or other physical mount point) to facilitate the installation of the Network Access Equipment ("**Mounting Equipment**"). Mounting Equipment is subject to additional charge.
- g. **Network Monitoring and Management.** On and after the Service Commencement Date, Comcast will monitor and manage the Network Access Equipment related to the availability and certain performance aspects of the Service. Comcast will send an alert to the Customer for Service impacting alarms. If Customer reasonably determines that the root cause of such issue is attributable to the Network Access Equipment or the Service, Customer should open a trouble ticket with Comcast by calling the Comcast Support Number (defined below in Section 5.c.).
- h. **On-Going Solution Support.**

- i. Comcast will support Customer's 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. This includes any changes to the Service configuration as initially outlined in the ACD. Comcast endeavors to meet the following configuration change response objectives:

Category	Objective
Simple Configuration Change	1 Business Day
Complex Configuration Change	10 Business Days

"Simple Configuration Change" means any change that enables or disables functionality in the Service that does not affect a Service Location's, or an Access Point's ability to route application traffic. Examples of a Simple Configuration Change include updating the name of a SSID, changing a pre-shared password key, or enabling or disabling content filtering.

"Complex Configuration Change" means any change that enables or disables functionality in the Service that affects a Service Location's, or an Access Point's ability to route application traffic. Examples of a Complex Configuration Change include adding additional Access Points; changing IP addressing; adding, deleting or changing Switches; adding or removing IP traffic routes (e.g., allowing or blocking traffic to specific networks or interfaces); adding or removing interfaces or changing IPSec parameters.

- ii. If a Comcast vendor develops software updates and/or security patches for such vendor's equipment which Comcast uses to provide the Service, Comcast will upload such software updates and/or security patches to the applicable Network Access 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 and will be considered emergency maintenance as described below. 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.

## 18. Security Monitoring and Mitigation

The exact security policies and configuration of the Network Access Equipment will be as requested by Customer and as reflected in the final ACD. **COMCAST DOES NOT PROVIDE MONITORING OF SECURITY EVENTS, ANY SECURITY EVENT MITIGATION OR ADVICE REGARDING SECURITY ISSUES OR THREATS.** Comcast will work with Customer to modify the configuration of the Network Access Equipment to attempt to mitigate security events and security threats identified by Customer and therefore Comcast's sole obligation is to implement the configuration settings requested by Customer. 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.

## 19. Technical Support and Maintenance

Comcast provides Service Level Objectives for the Service, including mean time to respond, and mean time to restore.

### g. **Mean Time to Respond.**

Mean Time to Respond is the average time required for Comcast to begin troubleshooting a reported fault. The Mean Time to Respond objective is fifteen (15) minutes from the time a trouble ticket is opened with Comcast in accordance with the below Technical Support provision.

### h. **Mean Time to Replace.**

Mean Time to Replace is the average time, measured on a calendar month basis, required to ship replacement Network Access Equipment to the Service Location. The Mean Time to Replace objective for a Network Access Equipment failure is two (2) Business Days from the time a trouble ticket is opened with Comcast. "Business Days" are Monday – Friday (excluding national and state holidays) – 8:00am to 5:00pm, eastern standard time. If a trouble ticket is received: (i) by 2:00pm EST on a Business Day, replacement equipment will be shipped on the 2nd Business Day after the receipt of the trouble ticket; or (ii) after 2:00pm EST on a Business Day, a national or state holiday, or a Saturday or Sunday, replacement equipment will be shipped on the 3rd Business Day after the receipt of the trouble ticket.

**i. Technical Support.**

Comcast provides a toll-free trouble reporting telephone number to Comcast Support, 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 Customer-Provided Equipment (“CPE”) or other equipment not provided by Comcast.

- **Escalation.** Customer shall direct Service issues to Comcast Support at the phone number provided by Comcast (the “**Comcast Support Number**”). Service issues may be escalated by Customer within Comcast Support to a Supervisor after twenty-four (24) hours, to a Manager twenty-four (24) hours following the escalation to a Supervisor, and to a Director twenty-four (24) hours following the escalation to a Manager.
- **Maintenance.** Comcast’s standard maintenance window is Monday to Friday from 6:00am to 8:00am ET. Scheduled maintenance is performed during the maintenance window and will be coordinated between Comcast and the Customer as required. Emergency maintenance is performed as needed.
- **Network Access Equipment.** Comcast provides certain Comcast Equipment (the Network Access Equipment) for provisioning its Service. Comcast will retain ownership and management responsibility for this Comcast Equipment. This Comcast Equipment must be used only for delivering Service.

**20. Customer Responsibilities.**

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

- Providing, interior space within the applicable Service Location for the Network Access Equipment to reside that has 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 eight-five (85) degrees Fahrenheit;
- Storing any packages delivered for the installation of the Services in a secure, temperature-controlled location that will not be opened by anyone other than Comcast;
- Providing an escort that can enable Comcast’s access to the buildings and Demarcation Point at each Service Location to allow Comcast and its approved contractors to install cabling for Service installation. Provide access to each Service Location for regular (8am - 5pm) and emergency (24 hour) service and maintenance of Comcast’s equipment and facilities;
- Providing SSID authentication-sensitive information (e.g., pre-shared key and RADIUS server information) prior to activation of the Services;
- If RADIUS services are configured, the Customer is responsible for proper configuration and operation of authentication system
- Providing a point of contact (“POC”) and backup POC for installation, service activation and any maintenance activities.
- Providing tier one support to the End Users. Under no circumstances will Comcast provide direct support to the Customer End Users.
- With respect to the Network Access Equipment, notify Comcast of any faulty units that require maintenance and/or replacement.

**21. Emergency Blocking**

The parties agree that if either party hereto, in its reasonable 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
INTRASTATE COMCAST BUSINESS WAVELENGTH SERVICES**

**ATTACHMENT IDENTIFIER: Intrastate Wavelength, Version 1.1**

The following additional terms and conditions are applicable to Sales Orders for Intrastate Comcast Business Wavelength Services:

**ARTICLE 1. DEFINITIONS**

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

**“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).

**“Services”** means Intrastate Comcast Business Wavelength Services.

**ARTICLE 2. SERVICES**

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

**ARTICLE 3. PROVIDER**

Service shall be provided by Comcast Business Communications, LLC or its applicable affiliates and subsidiaries.

Comcast offers the Service on an intrastate basis in a limited number of states. Comcast will provide availability information to the Customer at the time of order inquiry.

Comcast may provide Customer with Service and fiber maps during the Term of the Agreement to further describe Service availability. Such maps are hereby deemed Comcast Confidential Information (as defined in the Agreement).

**ARTICLE 4. REGULATORY APPROVAL; TRAFFIC MIX**

Comcast’s pricing for Service may be subject to FCC, public service commission or other regulatory approval. Further, Customer represents that its use of Service hereunder will be jurisdictionally intrastate meaning that 10% or less of the traffic carried on the Service is jurisdictionally interstate, i.e. ultimately bound for the Internet or a location outside the state. If Customer’s use of the Service now or at any time in the future is

jurisdictionally interstate, Customer shall immediately notify Comcast of the same in writing. Further, Comcast reserves the right, in its reasonable sole discretion, to reclassify Customer’s use of Service as jurisdictionally interstate or intrastate, as appropriate.

**ARTICLE 5. CUSTOM INSTALLATION FEES AND OTHER FEES**

Once Comcast accepts a Sales Order for Service, Comcast will invoice Customer for all Custom Installation Fee(s) as well as any special construction fees and/or right-of-entry fees. Customer will pay the aforementioned fees within thirty (30) calendar days of the invoice date unless an alternate payment schedule is specified in the applicable Service Order.

**ARTICLE 6. 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 7. 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 the 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 10); or (C) the date on which Customer first uses the Service.

**ARTICLE 8. TERMINATION CHARGES; PORTABILITY; UPGRADES**

**8.1** The charges set forth or referenced in each Sales Order have been extended to Customer in reliance on the Service Term set forth therein. To the extent that a Service Term has not been expressly set forth in a Sales Order, the minimum Service Term for Services is thirty-six (36) months.

## 8.2 Termination Charges.

**A.** In the event that 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 Service.

**B.** In the event that 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 any remaining, unpaid Custom Installation Fees.

**C.** 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.

**8.3 Exclusions.** Termination Charges shall not apply to Service terminated by Customer as a result of Comcast's material and uncured breach in accordance with Article 5.2 of the General Terms and Conditions.

**8.4 Portability.** Customer may terminate an existing Service (an "Existing Service") and turn up a replacement Service (i.e., having different termination points on Comcast's network) (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; (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 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.

**8.5 Upgrades and Features.** Customer may upgrade the speed of an Existing Service or convert an unprotected Existing Service to a protected Existing Services (as further described in Schedule A-1 herein) without incurring Termination Charges, provided that (A) the upgraded Service (the "Upgraded Service") must assume the remaining Service Term of the Existing Service; (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 order is accepted by Comcast; (D) Customer pays Comcast's applicable nonrecurring charges, including but not limited to Custom Installation Fees, special construction fees, and right-of-entry fees, for the Upgraded Service; and (E) Customer agrees to pay the applicable monthly recurring charges for the Upgraded Service commencing with the Service Commencement Date for such Upgraded Service.

## ARTICLE 9. ADDITIONAL INFORMATION

As necessary for the interconnection of the Service with services provided by others, 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 10. 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
INTRASTATE COMCAST BUSINESS WAVELENGTH SERVICES**

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

**Intrastate Wavelength Version 1.0**

Comcast's Intrastate Comcast Business Wavelength Services ("Service(s)") will be provided in accordance with the service descriptions, technical specifications and performance standards set forth below:

**Section 1. Service Descriptions.**

The Service is a point-to-point service delivered over a dense wave division multiplexing (DWDM) network as either an unprotected or protected circuit.

**A. Unprotected.** A point-to-point non-diverse linear circuit along a single fiber route terminating on single Comcast-owned Network Terminating Equipment ("NTE") at each circuit endpoint.

**B. Protected.** A point-to-point circuit utilizing two diverse physical outside plant (OSP) fiber paths between the nearest point of divergence at each circuit endpoint. This circuit employs diverse line cards and dual power supplies on single chassis transport equipment, and diverse line cards or dual line interface ports terminating on a single customer interface port on single Comcast-owned NTE at each circuit endpoint. Only one Service path is active at a given time. Comcast provides protection switching at NTE between the diverse Service paths.

The Services are available in the following markets, which may be updated by Comcast from time to time and in its sole discretion:

- **Freedom** - Eastern Pennsylvania (Philadelphia, Chester County, Delaware County, and Montgomery County), New Jersey (Camden County)
- **Chicago** – Greater Chicago
- **Big South** – Greater Atlanta
- **Florida** - Greater Miami
- **Seattle** – Greater Seattle
- **California** - San Francisco and San Jose

**Section 2. Technical Specifications for Services**

**Customer Interface.** Table 1 shows the customer interfaces supported, by protocol, for the Service.

<b>Protocol</b>	<b>Interface(s)</b>
Ethernet – 10G LAN PHY	10GBase-LR
Ethernet – 10G WAN PHY	10GBase-LW
Ethernet – 100G	100GBASE-LR4
OTN – 10G	OTU2, OTU2e
OTN – 100G	OTU4

**Table 1: Wavelength Services Protocols and Customer Interfaces**

**Section 3. Service Monitoring, Technical Support and Maintenance**

**A. Network Monitoring.** Comcast monitors Services on a 24x7x365 basis.

**B. Technical Support.** Comcast provides a toll-free trouble reporting telephone number to the Network Operations Center 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 equipment not provided by Comcast.

**C. Maintenance.** Comcast's standard maintenance window for Services is Sunday to Saturday from 12:00am to 6:00am local time. Scheduled maintenance for Services is performed during the maintenance window and will be coordinated between Comcast and the Customer. Comcast provides a minimum three (3) business days' notice for maintenance expected to impact service for  $\leq 50$ ms. Comcast provides a minimum of seven (7) business days' notice for maintenance expected to impact service for  $> 50$ ms. Emergency maintenance is performed as needed without advance notice to Customer.



**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
INTRASTATE COMCAST BUSINESS WAVELENGTH SERVICES**

**SCHEDULE A-2  
SERVICE LEVEL AGREEMENT**

**Intrastate Wavelength Version 1.0**

Comcast's Intrastate Comcast Business Wavelength Services ("Service(s)") are backed by the following Service Level Agreement ("SLA"):

**Section 1. Definitions:**

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

**Definitions**

**"Planned Service Interruption"** means any Service Interruption caused by planned work such as scheduled maintenance or planned enhancements or upgrades to the network.

**"Service Interruption"** means a complete loss of signal that renders the Service unusable.

**Section 2. Intrastate Wavelength Service Level Agreements**

**A. Availability SLA**

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 Services (individually or collectively, "**Liability**"), shall be limited to the amounts set forth in the Tables in this Section 2(A) below ("**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. The Length of Service Interruptions for separately occurring Service Interruptions will not be aggregated for purposes of determining Availability Credit allowances. For purposes of calculating the Service credit percentage in the below tables, only the MRC of the impacted wavelength circuit shall apply. 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, or any other items set forth in the "Exceptions to Credit Allowances" section below.

**TABLE 1: SLA for Unprotected Option**

<b>Availability</b>	<b>Unavailable</b>	<b>Service Credit</b> (Based on MRC of only the impacted wavelength circuit)
$\geq 99.44\%$	Less than 4 hours	No Credit
98.89% - 99.43%	At least 4 hours but less than 8 hours	10% of the MRC
98.33% - 98.88%	At least 8 hours but less than 12 hours	25% of the MRC
Up to 98.32%	At least 12 hours or greater	50% of the MRC

**TABLE 2: SLA for Protected Option\***

<b>Availability</b>	<b>Unavailable</b>	<b>Service Credit</b> (Based on MRC of only the impacted wavelength circuit)
>= 99.99%	Less than 4 minutes 19 seconds	No Credit
99.86% - 99.98%	At least 4 minutes 20 seconds but less than 1 hour	10% of the MRC
98.61% - 99.85%	At least 1 hour but less than 10 hours	25% of the MRC
Up to 98.60%	At least 10 hours or greater	50% of the MRC

\*Availability Credits on protected circuits are only available when both diverse Service paths sustain a Service Interruption and are simultaneously unavailable to the Customer for use.

SEPARATELY OCCURRING SERVICE INTERRUPTIONS ARE NOT AGGREGATED FOR THE PURPOSES OF DETERMINING CREDIT ALLOWANCES.

## **B. Exceptions and Terms applicable to all SLAs**

### **9. Remedy Processes**

All claims and rights arising under this Service Level Agreement must be exercised by Customer in writing within the time period set forth in Section 2(A). 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.

### **10. Exceptions to Credit Allowances**

Comcast's failure to meet the either of the SLAs set forth on this Schedule A-2 shall not qualify for the remedies set forth herein if such failure is related to, associated with, or caused by: Planned Service Interruptions or other 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.

### **11. Other Limitations**

THE TOTAL CREDIT ALLOWANCES PER CALENDAR MONTH UNDER THIS SCHEDULE A-2 IS CAPPED AT 50% OF THAT MONTH'S MRC FOR THE IMPACTED PORTIONS OF SERVICE. In addition, the remedies set forth in this Service Level Agreement shall be Customer's sole and exclusive remedies for any Service Interruption, outage, unavailability, delay, or other degradation, or any Comcast failure to meet the service objectives.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
INTERSTATE COMCAST BUSINESS WAVELENGTH SERVICES**

**ATTACHMENT IDENTIFIER: Interstate Wavelength, Version 1.1**

The following additional terms and conditions are applicable to Sales Orders for Interstate Comcast Business Wavelength Services:

**ARTICLE 1. DEFINITIONS**

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

**“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).

**“Services”** means Interstate Comcast Business Wavelength Services.

**ARTICLE 2. SERVICES**

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

**ARTICLE 3. PROVIDER**

Service shall be provided by Comcast Business Communications, LLC or its applicable affiliates and subsidiaries.

Comcast may provide Customer with Service and fiber maps during the Term of the Agreement to further describe Service availability. Such maps are hereby deemed Comcast Confidential Information (as defined in the Agreement).

**ARTICLE 4. REGULATORY APPROVAL; TRAFFIC MIX**

Comcast’s pricing for Service may be subject to FCC, public service commission or other regulatory approval. Further, Customer represents that its use of Service hereunder will be jurisdictionally interstate.

**ARTICLE 5. CUSTOM INSTALLATION FEES AND OTHER FEES**

Once Comcast accepts a Sales Order for Service, Comcast will invoice Customer for all Custom Installation Fee(s) as well as

any special construction fees and/or right-of-entry fees. Customer will pay the aforementioned fees within thirty (30) calendar days of the invoice date unless an alternate payment schedule is specified in the applicable Service Order.

**ARTICLE 6. 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 7. 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 the 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 10); or (C) the date on which Customer first uses the Service. To the extent that a Service Term has not been expressly set forth in a Sales Order, the minimum Service Term for Services is thirty-six (36) months.

**ARTICLE 8. TERMINATION CHARGES; PORTABILITY; UPGRADES**

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

**8.7 Termination Charges.**

**D.** In the event that 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 Service.

**E.** In the event that 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 any remaining, unpaid Custom Installation Fees.

**F.** 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.

**8.8 Exclusions.** Termination Charges shall not apply to Service terminated by Customer as a result of Comcast's material and uncured breach in accordance with Article 5.2 of the General Terms and Conditions.

**8.9 Portability.** Customer may terminate an existing Service (an "Existing Service") and turn up a replacement Service (i.e., having different termination points on Comcast's network) (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; (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 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.

**8.10 Upgrades and Features.** Customer may upgrade the speed of an Existing Service or convert an unprotected Existing

Service to a protected Existing Services (as further described in Schedule A-1 herein) without incurring Termination Charges, provided that (A) the upgraded Service (the "Upgraded Service") must assume the remaining Service Term of the Existing Service; (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 order is accepted by Comcast; (D) Customer pays Comcast's applicable nonrecurring charges, including but not limited to Custom Installation Fees, special construction fees, and right-of-entry fees, for the Upgraded Service; and (E) Customer agrees to pay the applicable monthly recurring charges for the Upgraded Service commencing with the Service Commencement Date for such Upgraded Service.

## ARTICLE 9. ADDITIONAL INFORMATION

As necessary for the interconnection of the Service with services provided by others, 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 10. 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.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
INTERSTATE COMCAST BUSINESS WAVELENGTH SERVICES**

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

**Interstate Wavelength Version 1.0**

Comcast's Interstate Comcast Business Wavelength Services ("Service(s)") will be provided in accordance with the service descriptions, technical specifications and performance standards set forth below:

**Section 1. Service Descriptions.**

The Service is a point-to-point service delivered over a dense wave division multiplexing (DWDM) network as either an unprotected or protected circuit.

**A. Unprotected.** A point-to-point non-diverse linear circuit along a single fiber route terminating on single Comcast-owned Network Terminating Equipment ("NTE") at each circuit endpoint.

**B. Protected.** A point-to-point circuit utilizing two diverse physical outside plant (OSP) fiber paths between the nearest point of divergence at each circuit endpoint. This circuit employs diverse line cards and dual power supplies on single chassis transport equipment, and diverse line cards or dual line interface ports terminating on a single customer interface port on single Comcast-owned NTE at each circuit endpoint. Only one Service path is active at a given time. Comcast provides protection switching at NTE between the diverse Service paths.

The Services are available in the following markets, which may be updated by Comcast from time to time and in its sole discretion:

- **Freedom** - Eastern Pennsylvania (Philadelphia, Chester County, Delaware County, and Montgomery County), New Jersey (Camden County)
- **Chicago** – Greater Chicago
- **Big South** – Greater Atlanta
- **Florida** - Greater Miami
- **Seattle** – Greater Seattle
- **California** - San Francisco and San Jose

**Section 2. Technical Specifications for Services**

**Customer Interface.** Table 1 shows the customer interfaces supported, by protocol, for the Service.

<b>Protocol</b>	<b>Interface(s)</b>
Ethernet – 10G LAN PHY	10GBase-LR
Ethernet – 10G WAN PHY	10GBase-LW
Ethernet – 100G	100GBASE-LR4
OTN – 10G	OTU2, OTU2e
OTN – 100G	OTU4

**Table 1: Wavelength Services Protocols and Customer Interfaces**

**Section 3. Service Monitoring, Technical Support and Maintenance**

**A. Network Monitoring.** Comcast monitors Services on a 24x7x365 basis.

**B. Technical Support.** Comcast provides a toll-free trouble reporting telephone number to the Network Operations Center 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 equipment not provided by Comcast.

**C. Maintenance.** Comcast's standard maintenance window for Services is Sunday to Saturday from 12:00am to 6:00am local time. Scheduled maintenance for Services is performed during the maintenance window and will be coordinated between Comcast and the Customer. Comcast provides a minimum three (3) business days' notice for maintenance expected to impact service for  $\leq 50$ ms. Comcast provides a minimum of seven (7) business days' notice for maintenance expected to impact service for  $> 50$ ms. Emergency maintenance is performed as needed without advance notice to Customer.

**COMCAST ENTERPRISE SERVICES  
PRODUCT-SPECIFIC ATTACHMENT  
INTERSTATE COMCAST BUSINESS WAVELENGTH SERVICES**

**SCHEDULE A-2  
SERVICE LEVEL AGREEMENT**

**Interstate Wavelength Version 1.0**

Comcast's Interstate Comcast Business Wavelength Services ("Service(s)") are backed by the following Service Level Agreement ("SLA"):

**Section 1. Definitions:**

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

**Definitions**

**"Planned Service Interruption"** means any Service Interruption caused by planned work such as scheduled maintenance or planned enhancements or upgrades to the network.

**"Service Interruption"** means a complete loss of signal that renders the Service unusable.

**Section 2. Interstate Wavelength Service Level Agreements**

**C. Availability SLA**

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 Services (individually or collectively, "**Liability**"), shall be limited to the amounts set forth in the Tables in this Section 2(A) below ("**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. The Length of Service Interruptions for separately occurring Service Interruptions will not be aggregated for purposes of determining Availability Credit allowances. For purposes of calculating the Service credit percentage in the below tables, only the MRC of the impacted wavelength circuit shall apply. 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, or any other items set forth in the "Exceptions to Credit Allowances" section below.

**TABLE 1: SLA for Unprotected Option**

<b>Availability</b>	<b>Unavailable</b>	<b>Service Credit</b> (Based on MRC of only the impacted wavelength circuit)
>= 99.44%	Less than 4 hours	No Credit
98.89% - 99.43%	At least 4 hours but less than 8 hours	10% of the MRC
98.33% - 98.88%	At least 8 hours but less than 12 hours	25% of the MRC
Up to 98.32%	At least 12 hours or greater	50% of the MRC

**TABLE 2: SLA for Protected Option\***

<b>Availability</b>	<b>Unavailable</b>	<b>Service Credit</b> (Based on MRC of only the impacted wavelength circuit)
>= 99.99%	Less than 4 minutes 19 seconds	No Credit
99.86% - 99.98%	At least 4 minutes 20 seconds but less than 1 hour	10% of the MRC
98.61% - 99.85%	At least 1 hour but less than 10 hours	25% of the MRC
Up to 98.60%	At least 10 hours or greater	50% of the MRC

\*Availability Credits on protected circuits are only available when both diverse Service paths sustain a Service Interruption and are simultaneously unavailable to the Customer for use.

SEPARATELY OCCURRING SERVICE INTERRUPTIONS ARE NOT AGGREGATED FOR THE PURPOSES OF DETERMINING CREDIT ALLOWANCES.

#### **D. Exceptions and Terms applicable to all SLAs**

##### **12. Remedy Processes**

All claims and rights arising under this Service Level Agreement must be exercised by Customer in writing within the time period set forth in Section 2(A). 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.

##### **13. Exceptions to Credit Allowances**



Comcast's failure to meet the either of the SLAs set forth on this Schedule A-2 shall not qualify for the remedies set forth herein if such failure is related to, associated with, or caused by: Planned Service Interruptions or other 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.

##### **14. Other Limitations**

THE TOTAL CREDIT ALLOWANCES PER CALENDAR MONTH UNDER THIS SCHEDULE A-2 IS CAPPED AT 50% OF THAT MONTH'S MRC FOR THE IMPACTED PORTIONS OF SERVICE. In addition, the remedies set forth in this Service Level Agreement shall be Customer's sole and exclusive remedies for any Service Interruption, outage, unavailability, delay, or other degradation, or any Comcast failure to meet the service objectives.



Exhibit B - Pricing

Comcast Manager Router per Month per Circuit / NRC is \$550 for each site						
		Model	Equipment Rental	Router Service	Managed Service	Total MRC
	Small	SRX-320	\$20	\$60	\$45	\$125.00
	Medium	SRX-345	\$30			\$135.00
	Large	SRX-1500	\$100			\$205.00
	Small	ISR 1111-8P	\$35	\$60	\$45	\$140.00
	Medium	ISR 4331/K9	\$70			\$175.00
	Large	ISR 4461/K9	\$380			\$485.00
	Small 1 Mbps - 250 Mbps		Medium 1 Mbps- 1.5 Gbps		Large 1 Mbps – 10 Gbps	

Retail SD-WAN Rate Sheet (per site)

Single uCPE						
		Qty	MRC	NRC	Total MRC	Total NRC
1) uCPE	ActiveCore Equipment - Medium	1	\$ 30	\$ -	\$ 30	\$ -
	ActiveCore Equipment - Large	1	\$ 100	\$ -	\$ 100	\$ -
2) SD-WAN	2.1) Standard SD-WAN					
	SD-WAN	1	\$199	\$ -	\$199	\$ -
	2.1) Advanced SD-WAN					
	SD-WAN	1	\$199	\$ -	\$199	\$ -
	Mid Mkt Mgd Svcs - Mgd SD-WAN	1	\$50		\$50	
	Mid Mkt Mgd Svcs - Mgd SD-WAN Activation Fee	1	\$ -	\$300	\$ -	\$300
3) On-site Installation	ActiveCore Installation fee	1	\$ -	\$ 550	\$ -	\$ 550

High Availability (HA)						
		Qty	MRC	NRC	Total MRC	Total NRC
1) uCPE	ActiveCore Equipment - Medium	2	\$ 30	\$ -	\$ 60	\$ -
	ActiveCore Equipment - Large	2	\$ 100	\$ -	\$ 200	\$ -
2) SD-WAN	2.1) Standard SD-WAN					
	SD-WAN	1	\$199	\$ -	\$199	\$ -
	High Availability Fee	1	\$199	\$ -	\$199	\$ -
	2.1) Advanced SD-WAN					
	SD-WAN	1	\$199	\$ -	\$199	\$ -
	High Availability Fee	1	\$199	\$ -	\$199	\$ -
	Mid Mkt Mgd Svcs - Mgd SD-WAN	2	\$50		\$100	
	Mid Mkt Mgd Svcs - Mgd SD-WAN Activation Fee	2		\$300		\$600
3) On-site Installation	ActiveCore Installation fee	2	\$ -	\$ 550	\$ -	\$ 1,100

Business Class Internet Access - COAX BASED*				
Service Bandwidth	1 Year	2 Year	3 Year	Install
	MRC (\$)	MRC (\$)	MRC (\$)	NRC (\$)
Starter (35M/5M)	\$ 69.95	\$ 69.95	\$ 69.95	See NRC table
Internet 100 (100M/15M)	\$ 159.95	\$ 159.95	\$ 159.95	See NRC table
Internet 200 (200M/20M)	\$ 259.95	\$ 259.95	\$ 259.95	See NRC table
Internet 300 (300/30M)	\$ 309.95	\$ 309.95	\$ 309.95	See NRC table
Internet 600 (600M/35M)	\$ 359.95	\$ 359.95	\$ 359.95	See NRC table
Internet 1G (1000M/35M)	\$ 499.95	\$ 499.95	\$ 499.95	See NRC table
1 Static IP	\$ 19.95	\$ 19.95	\$ 19.95	See NRC table
5 Static IP	\$ 24.95	\$ 24.95	\$ 24.95	See NRC table
13 Static IP	\$ 39.95	\$ 39.95	\$ 39.95	See NRC table
<b>NRC - One Time Non Recurring Installation fees for BCI Coax</b> Cable Modem/Equipment Fee of \$18.45/mo per site applies  * Pricing does not include any potential special construction charges (if needed) and maybe subject to change.				
Internet Add-On				
	MRC (\$)	NRC (\$)		
Wi-Fi Pro	\$ 19.95	\$ 49.95	NRC applies to add on to Existing	
Wi-Fi Pro Extended	\$ 39.95	\$ 49.95	NRC applies to add on to Existing	
Connect Pro (LTE 4G)	\$ 39.95	\$ 49.95	NRC applies to add on to Existing	
Connection Pro Addl 8 hour Battery	\$ 10.00	\$ 49.95	NRC applies to add on to Existing	
SecurityEdge	\$ 29.95	n/c		
NRC	NRC			
1 yr (12 months)	\$ 199.95			
2 yr (24 months)	\$ 149.95			
3 yr (36 months)	\$ 99.95			
EXISTING UPGRADES	NRC			
only if truckroll is needed	\$49.95			

Optional Comcast DDoS Subscription for EDI Services. \$1,000 Activation Fee (NRC) for New Customers.

Incident-Based DDoS Subscription per Month per Circuit				
EDI Bandwidth	12-month term	24-month	36-month	60-month
1mb <= 500mb	\$255	\$230	\$204	\$179
500mb <= 1,000mb	\$585	\$527	\$468	\$410
1,000mb <= 10,000mb	\$1,800	\$1,620	\$1,440	\$1,260

Incident-Based DDoS Subscription Per Mitigation Fee	
EDI Bandwidth	Non-Recurring per Mitigation Incident Fee *
1mb <= 500mb	\$1,500
500mb <= 1,000mb	\$1,900
1,000mb <= 10,000mb	\$5,000

\* Each Mitigation Incident is 12 hours

Unlimited Incident DDoS Subscription per Month per Circuit				
EDI Bandwidth	12-month term	24-month	36-month	60-month
1mb <= 500mb	\$1,920	\$1,728	\$1,536	\$1,344
500mb <= 1,000mb	\$2,580	\$2,322	\$2,064	\$1,806
1,000mb <= 10,000mb	\$4,980	\$4,482	\$3,984	\$3,486
10,000mb <= 50,000mb	\$6,225	\$5,603	\$4,980	\$4,358
50,000mb <= 100,000mb	\$7,781	\$7,003	\$6,225	\$5,447

<b>60 Month Term Pricing for Managed SD-Wan Versa UTM</b>
Versa UTM \$350 all in
SD-WAN \$105
Active Core Equipment - Medium \$30
Mid Mkt Mgd Svcs - Mgd SD-WAN \$30
Enterprise Security-Software \$105
Mdg Services - Mdg Security \$80
Versa UTM \$570 all in
SD-WAN \$105
Active Core Equipment - Large \$250
Mid Mkt Mgd Svcs - Mgd SD-WAN \$30
Enterprise Security-Software \$105
Mdg Services - Mdg Security \$80

Comcast Business Communication, L.L.C.				
EDI- Ethernet Dedicated Internet Access Service-Fiber Based				
TYPE OF CONNECTIVITY MUST BE ETHERNET OVER FIBER OPTICS				
Pricing does not include any potential special construction charges (if needed)				
EVC and UNI Included in MRC	5 Year	5 Year	10 Year	10 Year
Service Bandwidth in mbps	MRC (\$)	NRC (\$)	MRC (\$)	NRC (\$)
10	\$520.00	\$0.00	\$490.00	\$0.00
20	\$540.00	\$0.00	\$500.00	\$0.00
30	\$550.00	\$0.00	\$510.00	\$0.00
40	\$580.00	\$0.00	\$530.00	\$0.00
50	\$600.00	\$0.00	\$550.00	\$0.00
60	\$650.00	\$0.00	\$600.00	\$0.00
70	\$680.00	\$0.00	\$630.00	\$0.00
80	\$700.00	\$0.00	\$640.00	\$0.00
90	\$750.00	\$0.00	\$650.00	\$0.00
100	\$800.00	\$0.00	\$700.00	\$0.00
200	\$950.00	\$0.00	\$850.00	\$0.00
300	\$1,200.00	\$0.00	\$1,000.00	\$0.00
400	\$1,300.00	\$0.00	\$1,150.00	\$0.00
500	\$1,500.00	\$0.00	\$1,300.00	\$0.00
1000	\$1,600.00	\$0.00	\$1,400.00	\$0.00
2000	\$1,800.00	\$0.00	\$1,600.00	\$0.00
3000	\$2,000.00	\$0.00	\$1,800.00	\$0.00
4000	\$2,300.00	\$0.00	\$2,100.00	\$0.00
5000	\$2,700.00	\$0.00	\$2,500.00	\$0.00
6000	\$3,000.00	\$0.00	\$2,900.00	\$0.00
7000	\$3,500.00	\$0.00	\$3,400.00	\$0.00
8000	\$4,000.00	\$0.00	\$3,900.00	\$0.00
9000	\$4,300.00	\$0.00	\$4,200.00	\$0.00
10000	\$4,600.00	\$0.00	\$4,500.00	\$0.00

NRC- One Time Installation Cost

MRC-Monthly Recurring Cost

Ethernet Private Line - OVER FIBER				
Pricing for EPL with Basic Class of Service				
Pricing does not include any potential special construction charges (if needed)				
Service Bandwidth mbps	5-Yr MRC	5-Yr NRC	10-Yr MRC	10-Yr NRC
10	\$200.00	\$0.00	\$168.85	\$0.00
20	\$215.00	\$0.00	\$190.00	\$0.00
30	\$230.00	\$0.00	\$206.64	\$0.00
40	\$265.00	\$0.00	\$225.00	\$0.00
50	\$290.00	\$0.00	\$244.44	\$0.00
60	\$325.00	\$0.00	\$265.00	\$0.00
70	\$375.00	\$0.00	\$287.00	\$0.00
80	\$400.00	\$0.00	\$300.00	\$0.00
90	\$430.00	\$0.00	\$325.00	\$0.00
100	\$470.00	\$0.00	\$340.20	\$0.00
200	\$500.00	\$0.00	\$410.00	\$0.00
300	\$550.00	\$0.00	\$511.55	\$0.00
400	\$585.00	\$0.00	\$534.25	\$0.00
500	\$625.00	\$0.00	\$560.00	\$0.00
600	\$725.00	\$0.00	\$590.00	\$0.00
700	\$825.00	\$0.00	\$615.00	\$0.00
800	\$925.00	\$0.00	\$635.00	\$0.00
900	\$1,000.00	\$0.00	\$652.00	\$0.00
1000	\$1,300.00	\$0.00	\$670.32	\$0.00
2000	\$1,882.30	\$0.00	\$985.00	\$0.00
3000	\$2,200.00	\$0.00	\$1,175.00	\$0.00
4000	\$2,400.00	\$0.00	\$1,325.00	\$0.00
5000	\$2,800.00	\$0.00	\$1,699.00	\$0.00
6000	\$3,000.00	\$0.00	\$2,000.00	\$0.00
7000	\$3,500.00	\$0.00	\$2,500.00	\$0.00
8000	\$4,000.00	\$0.00	\$3,000.00	\$0.00
9000	\$4,600.00	\$0.00	\$3,500.00	\$0.00
10000	\$5,000.00	\$0.00	\$4,007.00	\$0.00

\* Priority and Premium Class of Service also available at an additional cost.

Ethernet Network Services - OVER FIBER - Port included in Price				
Pricing for ENS with Basic Class of Service				
Pricing does not include any potential special construction charges (if needed)				
Service Bandwidth mbps	5-Yr MRC	5-Yr NRC	10-Yr MRC	10-Yr NRC
10	\$200.00	\$0.00	\$168.85	\$0.00
20	\$215.00	\$0.00	\$190.00	\$0.00
30	\$230.00	\$0.00	\$206.64	\$0.00
40	\$265.00	\$0.00	\$225.00	\$0.00
50	\$290.00	\$0.00	\$244.44	\$0.00
60	\$325.00	\$0.00	\$265.00	\$0.00
70	\$375.00	\$0.00	\$287.00	\$0.00
80	\$400.00	\$0.00	\$300.00	\$0.00
90	\$430.00	\$0.00	\$325.00	\$0.00
100	\$470.00	\$0.00	\$340.20	\$0.00
200	\$500.00	\$0.00	\$410.00	\$0.00
300	\$550.00	\$0.00	\$511.55	\$0.00
400	\$585.00	\$0.00	\$534.25	\$0.00
500	\$625.00	\$0.00	\$560.00	\$0.00
600	\$725.00	\$0.00	\$590.00	\$0.00
700	\$825.00	\$0.00	\$615.00	\$0.00
800	\$925.00	\$0.00	\$635.00	\$0.00
900	\$1,000.00	\$0.00	\$652.00	\$0.00
1000	\$1,300.00	\$0.00	\$670.32	\$0.00
2000	\$1,882.30	\$0.00	\$985.00	\$0.00
3000	\$2,200.00	\$0.00	\$1,175.00	\$0.00
4000	\$2,400.00	\$0.00	\$1,325.00	\$0.00
5000	\$2,800.00	\$0.00	\$1,699.00	\$0.00
6000	\$3,000.00	\$0.00	\$2,000.00	\$0.00
7000	\$3,500.00	\$0.00	\$2,500.00	\$0.00
8000	\$4,000.00	\$0.00	\$3,000.00	\$0.00
9000	\$4,600.00	\$0.00	\$3,500.00	\$0.00
10000	\$5,000.00	\$0.00	\$4,007.00	\$0.00

\* Priority and Premium Class of Service also available at an additional cost.

Internet- OVER HFC Port included in Price				
Pricing for EDI with Basic Class of Service				
Pricing does not include any potential special construction charges (if needed)				
EVC and UNI Included in Service Bandwidth in mbps	5 Year	5 Year	10 Year	10 Year
	MRC (\$)	NRC (\$)	MRC (\$)	NRC (\$)
10	\$520.00	\$0.00	\$490.00	\$0.00
20	\$540.00	\$0.00	\$500.00	\$0.00
30	\$550.00	\$0.00	\$510.00	\$0.00

Ethernet Network Services - OVER HFC- Port included in Price				
Pricing for ENS with Basic Class of Service				
Pricing does not include any potential special construction charges (if needed)				
Service Bandwidth mbps	5-Yr MRC	5-Yr NRC	10-Yr MRC	10-Yr NRC
10	\$200.00	\$0.00	\$168.85	\$0.00
20	\$215.00	\$0.00	\$190.00	\$0.00
30	\$230.00	\$0.00	\$206.64	\$0.00

Ethernet Private Line - OVER HFC - Port included in Price				
Pricing for EPL with Basic Class of Service				
Pricing does not include any potential special construction charges (if needed)				
Service Bandwidth mbps	5-Yr MRC	5-Yr NRC	10-Yr MRC	10-Yr NRC
10	\$200.00	\$0.00	\$168.85	\$0.00
20	\$215.00	\$0.00	\$190.00	\$0.00
30	\$230.00	\$0.00	\$206.64	\$0.00

\* Priority and Premium Class of Service also available at an additional cost.

# Corporate Network Access Rate Card



Corporate Network Access Remote VPN Device **(Includes one Concentrator at \$0 MRC, still requires install \$500 NRC)**

Product Line	Description	Device (Access Point)	Split Price (Equipment Fee)	Split Price (Management Fee)	Total Price Per Seat (All Inclusive)
CNA	RAVPN - WiFi 5 - SOHO	AP-303HR	\$ 30.00	\$5	\$ 35.00
CNA	RAVPN - WiFi 6 - SOHO	AP-505H	\$ 35.00	\$5	\$ 40.00

Additional VPNC/Controller **(For HA and Clustering)**

Product Line	Description	Device (VPN Concentrator)	Split Price (Equipment Fee)	Split Price (Management Fee)	Total Price Per Device (All Inclusive)
CNA	VPNC - Small - 256 Tunnels	R1B20A	\$ 45.00	\$15	\$ 60.00
CNA	VPNC - Medium - 512 Tunnels	JW744A	\$ 120.00	\$15	\$ 135.00
CNA	VPNC - Large - 4096 Tunnels	JW784A	\$ 645.00	\$15	\$ 660.00
CNA	VPNC - Extra Large - 8192 Tunnels	JX910A	\$ 895.00	\$15	\$ 910.00
WLAN and CNA	Switch - Branch - 24 port	2930-JL255A	\$ 100.00	\$15	\$ 115.00



Business Class TV (BCTV)*		
Package	Channels	Price/MRC
<b>PRIVATE VIEW</b>		
Basic (C0)	Local, PEG	\$29.95
Select (C0.5)	News, Family	\$39.95
Variety (CECON)	Popular channels	\$54.95
Standard (C2)	Cable/Sports	\$74.95
Preferred (C3)	All linear channels	\$99.95
<b>PUBLIC VIEW</b>		
Basic (BR0)	Local, PEG	\$49.95
Select (BR0.5)	News, Family	\$59.95
Variety (BRECON)	Popular channels	\$74.95
Standard (BR2)	Cable/Sports	\$94.95
Preferred (BR3)	All linear channels	\$119.95
<b>BOLT-ON</b>		
Sports & Entertainment (C4/BSET)	Sports and Entertainment	\$34.95
Music Choice	50 Channels of ad-free music	\$29.95
<b>EQUIPMENT</b>		
Set Top Box (Default is X1)	Per TV	\$9.95
MRC - Monthly Recurring Charge * Pricing does not include BTV fee, RSN fee, any potential special construction charges (if needed), and may be subject to change.		

**Mini MdtA (requires minimum****Standard pkg)****Up to 36 channels****\$200.00 install \$450****MDTA (requires minimum standard package)****Up to 80 channels****\$450.00 install \$750****X1 for Hospitality (Box at every TV)**

Fiber IPTV solution

Requires Ethernet cabling to each TV

Comcast device installed at every TV;

Ethernet to X1 device and HDMI from X1 device to TV

No native channel insertion; 3rd party solution can be leveraged to support channel insertion

Uses Comcast X1 Voice Remote

**Description**

80 HD channel minimum; X channel maximum

\$11.00 Per Room Charge plus \$5.00 per Room Charge for X1

\$1.50 per TV for X1 device

\$3.50 per room for HBO

\$3.50 per room for Showtime

Installation Charge TBD

**X1 for SMB**  
(Sports App, Weather App, Platform and Guide)  
**Packages:**  
| Basic 29.95 (Up to 35 Channels, includes local Broadcast, Public Access, Shopping)  
| Select 39.95 (Up to 50 Channels, includes Basic plus CNBC, Golf, CNN Headline News, CSPAN, The Weather Channel, Food Network, HGTV, Disney, Nickelodeon)  
| Variety 54.95 (Up to 65 Channels, includes Basic plus CNN, Fox News, Discovery, Animal Planet, History Channel, AMC, A&E, USA, Lifetime, Hallmark)  
| Standard 74.95 (Up to 80 Channels, includes Basic and Variety, plus ESPN, ESPN2, Regional Sports Networks, MSNBC, TBS, TCM, TNT)  
| Preferred 99.95 (Up to 150 Channels, includes All Available Channels, including Cartoon Network, NFL Network, ESPNNews, ESPNU, CMT)  
Add on Sports and Entertainment Package (Requires Standard Tier at minimum) – 34.95 (Including channels such as NFL/NHL/NBA/MLB/ESPN’s/Pac-12/NFL RedZone/College Sports/Tennis/Outdoor)  
Canales Selecto 15.95 (Up to 14 channels of Hispanic programming)  
Music Choice 29.95 (50 Channels of ad-free music) (Subject to change)  
  
Additional charge per TV/Outlet: 9.95 per TV per month (includes service, box and remote)  
Installation: 99.95 for 3 years, 149.95 for 2 year agreement.

Q2Q Quam to Quam - 5 Year Commitment  
\$11.00 per room \$285.00/MRC

Q1P \$335.00/MRC - 5 Year Commitment

Q2IP \$11.00 MRC - 5 Year Commitment

Business Class Voice (BCV)*	
Package	Price/MRC
Mobility Standalone	\$64.95
Mobility with Data/Video	\$44.95
Basic Line (.05 metered Long Distance	\$24.95

Voice Ancillaires	
Voicemail	\$5.00
Toll Free	\$9.95
Non-List Fee	\$2.00
Non-Published	\$2.00
YP Listings	No Charge
Equipment -Voice	\$18.45

Feature List	
3-way, forwarding, Call Transfer, Hunt Groups, Caller ID, Extension Dialing, Call Hold, Speed Dial 8 and 30, Call Screening, Anonymous Call	
Reject, and Long Distance (Unlimited with Mobility)	
Be Anywhere/Mobility App (With Mobility)	
NRC-One Time Non Recurring Standard Installation (BCV)*	
Term	NRC
1 yr (12 months)	\$199.95
2 yr (24 months)	\$149.95
3 yr (36 months)	\$99.95
Existing Customer Truck Roll	\$49.95
Auto-Attendant Setup	\$24.95
Directory Listing Suppression	\$24.95
Toll Free Activation	\$10.00
NRC - One Time Installation Cost	
MRC - Monthly Recurring Cost	
* Pricing <b>does not</b> include any potential special construction charges (if needed) and maybe subject to change.	

BVE-Business Voice Edge (hosted voice) *			
Feature	Description	Price/MRC	Activation
Lines 1-40		\$0.00	\$0.00
Add'l Hunt Groups		\$0.00	\$0.00
Call Queue Agent per UC Seat Subscribed			
Local and Domestic LD		Included	\$0.00
<b>Seats</b>			
Unified Comm (UC)	1-9 seats	\$44.95	\$0.00
Unified Comm (UC)	10-19 seats	\$39.95	\$0.00
Unified Comm (UC)	20+ seats	\$34.95	\$0.00
<b>CPE – QAD</b>			
Voice Gateway		\$9.95	\$0.00
ALGO 8180 Loud Ringer		\$10.95	\$0.00
ALGO Weatherproof Loud Horn Add-On		\$2.95	\$0.00
ALGO Strobe-Blue, Amber, Red Lens Cover		\$9.95	\$0.00
ALGO Strobe - Clear		\$8.95	\$0.00
Panasonic TP60 Smart IP Cordless Handset		\$4.95	\$0.00
<b>CPE - Phones</b>			
Polycom VVX 311 HD	6 lines	\$4.95	\$0.00
Polycom VVX 411 HD	12 lines	\$6.95	\$0.00
Polycom VVX 501 HD	12 line touch	\$6.95	\$0.00
Polycom VVX 601 HD	16 line touch	\$9.95	\$0.00
Polycom VVX Expansion	BLF features	\$4.95	\$0.00
Polycom 5000	conference	\$4.95	\$0.00
Polycom 6000	conference	\$6.95	\$0.00
Soft Phone only UC Seat	PC-based	\$0.00	\$0.00
AudioCodes MP-114 ATA	for paging	\$4.95	\$0.00
<b>Add-ons</b>			
Auto Attendant		\$0.00	\$0.00
Reception Console	PC-based	\$29.95	\$12.00
Shared Call Appearance		\$0.00	\$0.00
Block of 20 TNs		\$5.00	\$0.00
Block of 100 TNs		\$20.00	\$0.00
Add'l Voice Mail Box		\$0.00	\$0.00
Toll Free Numbers		\$10.00	\$9.95
<b>Standard Installation (BVE)-NRC- One time Non Recurring Cost</b>			
<b>Term</b>		<b>NRC</b>	
1 yr (12 months)		\$199.00	
2 yr (24 months)		\$199.00	
3 yr (36 months)		\$199.00	
Voice Activation		\$0.00	
Auto-Attendant Setup Fee		\$24.95	
Directory Listing Suppression Fee		\$24.95	
Toll Free Activation Fee		\$9.95	

PRI Trunks*		Price/MRC			
Fractional PRI (6 Channels)		\$349.00			
# of Additional Channels PORT 1		\$14.00			
# of Additional Channels PORT 2		\$14.00			
# of Additional Channels PORT 3		\$14.00			
# of Additional Channels PORT 4		\$14.00			
# of Additional Channels PORT 5		\$14.00			
# of Additional Channels PORT 6		\$14.00			
# of Additional Channels PORT 7		\$14.00			
# of Additional Channels PORT 8		\$14.00			
Full PRI 23 Channels		\$489.00			
SIP Trunks*					
Description	Access/Port	Concurrent calls	Charging Unit	Price/MRC	Price/NRC
5 SIP ports/concurrent calls	Included	6 to 9 CCS	Per CCS	\$33.25	\$199.00
10 SIP ports/concurrent calls	Included	10 to 14 CCS	Per CCS	\$28.50	\$199.00
20 SIP ports/concurrent calls	Included	15 to 24 CCS	Per CCS	\$19.95	\$199.00
30 SIP ports/concurrent calls	Included	25 to 49 CCS	Per CCS	\$13.30	\$199.00
40 SIP ports/concurrent calls	Included	25 to 49 CCS	Per CCS	\$13.30	\$199.00
50 SIP ports/concurrent calls	Included	50 to 99 CCS	Per CCS	\$12.35	\$199.00
60 SIP ports/concurrent calls	Included	50 to 99 CCS	Per CCS	\$12.35	\$199.00
70 SIP ports/concurrent calls	Included	50 to 99 CCS	Per CCS	\$12.35	\$199.00
80 SIP ports/concurrent calls	Included	50 to 99 CCS	Per CCS	\$12.35	\$199.00
90 SIP ports/concurrent calls	Included	50 to 99 CCS	Per CCS	\$12.35	\$199.00
100 SIP ports/concurrent calls	Included	100 to 249 CCS	Per CCS	\$10.45	\$199.00
100 SIP + ports/concurrent calls	Included	100 to 249 CCS	Per CCS	\$10.45	\$199.00
NRC - One Time Installation Cost				MRC - Monthly	
Recurring Cost				* Pricing does not	
include any potential special construction charges (if needed) and maybe subject to change					

Universal Features	
Decription	MRC
# of 20 TN Blocks*	\$5.00
# of 100 TN Blocks	\$20.00
# of 200 TN Blocks	\$40.00
# of 500 TN Blocks	\$100.00
# of 1000 TN Blocks	\$200.00
# of RCF TNs	\$0.00
# of Toll Free Numbers	\$10.00
# of Trunk Groups	Included
# of Trunk Groups with DNIS	\$50.00
Direct Termination Overflow	\$10.00
Non-Published Directory Listing (No DL or 411)	\$2.00
Non-Listed Directory Listing (No DL, Yes 411)	\$2.00
Government / School Listing	\$2.00
Monthly Call Detail Record (CDR)	\$0.00
PRI Equipment	\$19.95

## Wave Services

Charge Type	Bandwidth	Protection	Term (months)	MRC	NRC
Service	10G	Unprotected	12	\$25,000	\$0
Service	10G	Unprotected	24	\$15,000	\$0
Service	10G	Unprotected	36	\$12,000	\$0
Service	10G	Unprotected	60	\$10,000	\$0
Service	100G	Unprotected	12	\$70,000	\$0
Service	100G	Unprotected	24	\$50,000	\$0
Service	100G	Unprotected	36	\$35,000	\$0
Service	100G	Unprotected	60	\$25,000	\$0
Service	10G	Protected	12	\$40,000	\$0
Service	10G	Protected	24	\$30,000	\$0
Service	10G	Protected	36	\$22,500	\$0
Service	10G	Protected	60	\$17,500	\$0
Port	10G	N/A	12	\$1,000	\$0
Port	10G	N/A	24	\$750	\$0
Port	10G	N/A	36	\$500	\$0
Port	10G	N/A	60	\$400	\$0
Port	100G	N/A	12	\$2,000	\$0
Port	100G	N/A	24	\$1,500	\$0
Port	100G	N/A	36	\$1,000	\$0
Port	100G	N/A	60	\$800	\$0

**\*\*\*Pricing above does not include equipment charges or construction charges**

Dark Fiber	MRC	NRC	Term
1	\$550	\$0	10 Yr

Colocation	MRC
Per Rack	\$500

Fiber Ring	MRC
	\$16,000

	Wireless LAN		
	3 Access Points	4 Access Points	5 Access Points
Total MRC	\$165	\$195	\$225
Access Points	3 @ \$25 each	4 @ \$25 each	5 @ \$25 each
Switch	\$70	\$70	\$70
Access Point Management	3 @ \$5 each	4 @ \$5 each	5 @ \$5 each
Switch Management	\$5	\$5	\$5
TOTAL NRC	\$500	\$625	\$750
Access Point installation	\$375	\$500	\$625
Switch installation	\$125	\$125	\$125



Product Specific Agreements	Associated Pricing Tabs
Activecore Managed Router Service	Tab 1 ActiveCore Services
Cable Modem Internet Services	Tab 2 Coax - Internet & WiFi Services
DDos Mitigation Service	Tab 3 Cyber Security Services
Standard and Advanced Software-Defined Wide Area Networking	Tab 3 Cyber Security Services
Unified Threat Management	Tab 3 Cyber Security Services
Ethernet Dedicated Internet Services (EDI)	Tab 4 Metro E - EDI
Ethernet Transport Services (EPL - Point to Point)	Tab 5 Metro E - EPL
Ethernet Transport Services (ENS - WAN)	Tab 6 Metro E - ENS
Corporate Network Access Service	Tab 8 Telecommuting Services
Business Video Service	Tab 9 Services
Business Voice Services	Tab 10 Voice Services
Business VoiceEdge Service	Tab 10 Voice Services
Trunk Services (PRI & SIP)	Tab 10 Voice Services
Intrastate Comcast Business Wavelength Services	Tab 11 Wave Services
Dark Fiber	Tab 12 Dark Fiber
Wireless LAN Service	Tab 13 Wireless LAN



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
03/04/2022

**THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.**

**IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).**

<b>PRODUCER</b> MARSH USA INC. 1717 Arch Street Philadelphia, PA 19103-2797 Attn: Comcast.Certs@marsh.com Fax: 212-948-0360	<b>CONTACT NAME:</b> <b>PHONE (A/C, No. Ext):</b> <b>FAX (A/C, No):</b> <b>E-MAIL ADDRESS:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 80%;">INSURER(S) AFFORDING COVERAGE</th> <th style="width: 20%;">NAIC #</th> </tr> <tr> <td><b>INSURER A:</b> ACE American Insurance Company</td> <td>22667</td> </tr> <tr> <td><b>INSURER B:</b> Indemnity Ins Co Of North America</td> <td>43575</td> </tr> <tr> <td><b>INSURER C:</b> ACE Property And Casualty Ins Co</td> <td>20699</td> </tr> <tr> <td><b>INSURER D:</b> ACE Fire Underwriters Ins. Co.</td> <td>20702</td> </tr> <tr> <td><b>INSURER E:</b></td> <td></td> </tr> <tr> <td><b>INSURER F:</b></td> <td></td> </tr> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	<b>INSURER A:</b> ACE American Insurance Company	22667	<b>INSURER B:</b> Indemnity Ins Co Of North America	43575	<b>INSURER C:</b> ACE Property And Casualty Ins Co	20699	<b>INSURER D:</b> ACE Fire Underwriters Ins. Co.	20702	<b>INSURER E:</b>		<b>INSURER F:</b>	
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<b>INSURER E:</b>															
<b>INSURER F:</b>															
<b>INSURED</b> COMCAST CORPORATION ONE COMCAST CENTER 1701 JOHN F. KENNEDY BLVD. PHILADELPHIA, PA 19103															

## COVERAGES

**CERTIFICATE NUMBER:**

CLE-006856931-01

**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> SIR: \$100,000 GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			XSL G72480922	12/01/2021	12/01/2022	EACH OCCURRENCE \$ 14,900,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 14,900,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 14,900,000 GENERAL AGGREGATE \$ 60,000,000 PRODUCTS - COMP/OP AGG \$ 15,000,000
A	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY			ISA H25542964	12/01/2021	12/01/2022	COMBINED SINGLE LIMIT (Ea accident) \$ 15,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
C	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			XEU G27924840 007	12/01/2021	12/01/2022	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000
B	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	WLR C68917943 (AOS) WLR C68917980 (CA, MA) SCF C68918066 (WI)	12/01/2021 12/01/2021 12/01/2021	12/01/2022 12/01/2022 12/01/2022	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 2,000,000 E.L. DISEASE - EA EMPLOYEE \$ 2,000,000 E.L. DISEASE - POLICY LIMIT \$ 2,000,000
A	Excess Workers Compensation			WCU C68918029 (WA)	12/01/2021	12/01/2022	Ea Acc/Dis Employee/Dis Policy \$ 2,000,000 SIR \$ 5,000,000

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**

Re: Contract #: TECHS-202158321

The City and County of Denver, its Elected and Appointed Officials, Employees and Volunteers are included as additional insured (except workers' compensation) where required by written contract with the Named Insured.

## CERTIFICATE HOLDER

City and County of Denver  
 Department of Technology  
 201 W Colfax Ave. Dept 301  
 Denver, CO 80202

## CANCELLATION

**SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.**

AUTHORIZED REPRESENTATIVE

*Marsh USA Inc.*

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