

## Charter Communications IP Interconnect Offer and Requirements

Charter Communications, Inc. (Charter) and New Charter will interconnect its IP network on a settlement-free basis with those applicants delivering data to New Charter customers pursuant to customer-initiated Internet sessions that meet the traffic measurement criteria set forth below for at least 3 consecutive months. Interconnection and any subsequent capacity augments under this offer will be undertaken at no charge to either party for traffic exchange from one another, and from one another's customers. Each party will maintain sufficient capacity to support New Charter customer-initiated Internet sessions consistent with this offer, including Paragraph (2) and the paragraphs entitled "Network Planning and Augmenting Capacity" and "Suspension" below.

To apply for such interconnection, an e-mail must be sent to [interconnection@charter.com](mailto:interconnection@charter.com) specifying anticipated traffic volumes per point of interconnection. This agreement applies to all interconnection relationships meeting the Interconnection Requirements (as defined below) involving New Charter's networks, including any newly acquired networks.

This offer applies to IP interconnection only. Traffic exchanged under this offer may include edge provider, transit, and CDN traffic.

Except where the applicant has maintained interconnection with Charter, Time Warner Cable, or Bright House Networks for the prior 6 months, New Charter may require a trial connection with any party seeking interconnection under this offer for not more than 6 months.

### **Interconnection Requirements for Interconnection Party**

To qualify under this IP Interconnect Offer, the applicant:

1. Must interconnect at 8 or more of the New Charter points of presence in the cities listed below:<sup>1</sup>

Atlanta, GA	Los Angeles, CA	Seattle, WA
Ashburn, VA	Minneapolis, MN	Tampa, FL
Chicago, IL	New York, NY	
Dallas, TX	San Jose, CA	
2. Must advertise routes consistent with "shortest exit routing" unless both parties agree in writing to honor the following traffic management attributes (where provided by both parties): MED (Multi Exit Discriminator), AS Path length, and Standard BGP communities.
3. Must use the same ASN at each interconnection point, except that if either party is involved in an acquisition, multiple ASNs may be supported during the integration process so long as the same does not require the other party to carry traffic in an excessively inefficient manner, such as between continents.
4. Must maintain a minimum aggregate traffic exchange of 30 Gbps (95th percentile) with AS20115 in the dominant direction as measured on a monthly basis (Interconnection Requirements).
5. Must maintain a professional Network Operations Center staffed 24x7x365.
6. Must maintain consistent global routing announcements at all New Charter POPs.

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<sup>1</sup> New Charter may add additional POPs to the list. Such additions do not increase the number of required POPs above 8.

7. Must not implement a "gateway of last resort" or default route directed at AS20115.
8. Must demonstrate and enforce strict filtering policies to prevent improper announcements.
9. Must advertise routes, including customer routes, but exclude all transit or third party routes.
10. Must provide IPv4 unicast routes up to /24 netmask or IPv6 Unicast routes up to /48 netmask.
11. Must use BGP version 4 with BGP authentication keys.
12. Must not abuse the interconnection relationship by doing any of the following:
  - a. Resetting next hop
  - b. Reselling, bartering, trading or giving either routes or next hop to third parties (non-customers)
  - c. Leaking routes to third parties (non-customers)
  - d. Sending inconsistent prefixes inside of a single interconnection region (in number, origin, or other attributes) unless agreed to in writing
  - e. Sending inconsistent prefixes are allowed for a party that has island/regional networks without the capacity to transport between those islands/regions, as long as those inconsistent prefixes are not utilized to manage traffic between those islands/regions or otherwise in a manner that disrupts the network management practices and techniques employed by New Charter. The use of inconsistent prefixes requires that a party must maintain a minimum traffic exchange of 10Gbps (95th percentile) at each New Charter POP with AS20115 in the dominant direction as measured on a monthly basis.
13. Must register routes or send advance notice of dramatic changes in announcements.
14. Must agree to actively cooperate in resolving items in the following:
  - a. Security violations
  - b. Denial of service attacks
  - c. Network abuse
  - d. Downed interconnection sessions, interfaces, or circuits
  - e. Disrupted, damaged, or flapping interconnection sessions
  - f. Similar/related infrastructure and security issues
15. Must utilize RADB or mirrored IRR resources and shall be configured with max prefix limits, allowing 25% headroom, based upon registered/announced routes.
16. Must agree not to offer or sell any IP transit service providing only AS20115. New Charter agrees not to offer or sell any services providing applicant-only routes.

#### **Network Planning and Augmenting Capacity**

The interconnection party agrees to meet with or report to New Charter on a periodic basis to participate in planning network status reviews and forecasting network traffic.

Either New Charter or the interconnection party can require that the capacity at any interconnection point: (i) be upgraded if aggregate port utilization in either direction at the interconnection point exceeds 70% of the available capacity at the interconnection point for 3 or more consecutive hours per day for 3 or more consecutive days during the preceding 30 day period, or (ii) to be reduced if port utilization falls below 30% of the available capacity at that interconnection point for 6 consecutive months (each measured using the 95<sup>th</sup> percentile method). Each party shall

be required to accomplish any required augmentation or reduction within 90 days of the other party's request, provided that in any calendar month neither party shall be obligated to add an amount of ports at any interconnection point that is larger than 10% of the amount of ports in place between both parties at that location in the prior calendar month (rounded up to the nearest whole number of 10G ports). Neither party shall charge the other for any required augments.

If after the effective date either party or one of its affiliates closes an acquisition and the entity acquired was exchanging IP traffic with the other party's internet network prior to the closing of the transaction: (i) each party shall cooperate to migrate the ports of the acquired entity to the AS of the acquiring entity within a reasonable period of time as necessary to accommodate an efficient transition pursuant to the acquiring entity's network architecture and management plans; and ii) the agreement entered into pursuant to this offer shall govern the combined ports of the acquired entity and the acquiring entity after completion of such transaction.

### **Suspension**

New Charter reserves the right to suspend any interconnect agreement in the event that an Abnormal Growth Event occurs. An Abnormal Growth Event occurs when: 1) there is a net increase in the 95<sup>th</sup> percentile data transfer rate into or out of New Charter's network of 10% or more in any calendar month compared to any prior calendar month; or at least 8% per month over a rolling 6 month period; or 5.9% over a rolling 6 month period for a company whose traffic constitutes 30% or more of the total traffic in the dominant direction on New Charter's Network and 2) New Charter reasonably believes that such traffic will materially impair the performance of the network or materially compromise the security of network infrastructure or users on the network. In the event that the Interconnection Party begins conveying data to or from New Charter that was previously conveyed to or from New Charter by a third party, the parties shall account for this additional data transfer as the Interconnection Party's own for the purposes of measuring growth rates during subsequent measuring periods. The parties shall not count in the growth rate any portion of that incremental traffic that was previously being delivered to New Charter by third parties.

Upon the occurrence of an Abnormal Growth Event, New Charter will provide as soon as reasonably possible information to the Interconnection Party sufficient to explain the basis for its reasonable belief and the parties shall meet as soon as reasonably possible in order for the peering party to provide New Charter with detailed information regarding the circumstances giving rise to the Abnormal Growth Event and to present a plan to eliminate, mitigate, or otherwise address the Abnormal Growth Event. A suspended agreement will resume upon a reasonable showing that the Abnormal Growth Event has been resolved.

Consistent with the terms of this offer, either party may also take reasonable measures in order to protect the security of its Internet network, including measures consistent with its acceptable use policy, provided that such acceptable use policy does not conflict with the terms of this offer.

In order to assure efficient exchange of Internet traffic over the Interconnect Exchange Points, each party shall deliver Internet traffic (i) received by it from the other party, or (ii) destined to the other party, in each instance to the intended destination with no lower priority or service quality than any other similarly situated Internet traffic, including that of the party's affiliates. Nothing herein shall restrict either party from imposing usage restrictions on its own customers and/or assisting its customers in imposing customer-requested usage restrictions; provided, however, that other than to protect the security of its network or in order to comply with the Digital Millennium Copyright Act, neither party shall block or target specific content or applications on the other party's network. Either party may route Internet traffic to the other party's Internet network through third parties, provided that it has the contractual right to do so with such third parties or is required to do so in accordance with applicable law. Nothing in this offer shall require either party to continue the exchange of traffic with any third party, nor restrict either party from negotiating or enforcing the terms and conditions relating to the exchange of traffic with a third party.

### **Packet Error and Network Management**

New Charter reserves the right to implement reasonable traffic management techniques as may be necessary to eliminate or minimize bandwidth waste associated with misdirected, mis-transcoded, or undeliverable packets. Furthermore, nothing in this offer shall be deemed to abrogate or otherwise limit New Charter's rights under applicable law to implement reasonable network management practices.

**Interconnection Agreement Termination**

New Charter reserves the right to terminate its interconnection agreement with any party who materially breaches its agreement after the party (i) has been given written notice of the breach and fails to cure it within 10 days of the written notice and (ii) has obtained and transitioned traffic to sufficient capacity from a third party, except in no event is New Charter required to continue under this offer more than 20 days after New Charter would otherwise be entitled to terminate it for material breach. Incremental traffic growth of less than 5 Gbps per month does not constitute a material breach or grounds for termination or suspension. New Charter reserves the right to terminate any interconnection agreement immediately if necessary to comply with any applicable law, regulation or government order.

**Term**

New Charter reserves the right to change this interconnection offer prior to June 30, 2023, to accommodate changes: (i) that are necessary to comply with any applicable law, or (ii) resulting from a change in law that might render New Charter's compliance with the terms of any interconnection agreement impracticable or impossible. If the Federal Communication Commission ("FCC") or the FCC's Wireline Competition Bureau removes or eliminates the Settlement-Free Interconnection Condition ("the Condition") from the FCC's Order approving the merger of Charter, Time Warner Cable Inc. and Bright House Networks, LLC, then New Charter may terminate this policy upon the Condition's removal or elimination.

**Enforceability**

Either party to the interconnection relationship may enforce rights or obligations established by this offer or related interconnection agreement in a court or agency of competent jurisdiction.