



Settled Peering Policy

Introduction

Liberty Global Operations BV, Liberty Global Services BV, and certain other companies in their group, (together “**Liberty**”) strive to provide premier direct internet access to all of its customers. To accomplish this, Liberty uses this settled peering policy as a guidance on the technical and operational requirements for potential peering partners. Liberty defines peering as the interconnection of administratively separate internet networks for the purpose of exchanging traffic between the customers of each network.

This document sets on the general principle that Liberty operates under in offering settled peering which is aimed at those operating their own Autonomous System with traffic with Liberty’s network generally in the 1:3 range but with either Liberty or the other party sometimes sending more traffic. If traffic is in-ratio the relationship is of value to both parties. If traffic is out of ratio the sending party compensates for the excess.

Other IP interconnect products are available from Liberty and will be more suitable in some cases. For those that do not find it convenient to enter into an IP interconnect relationship with Liberty, access to Liberty’s IP networks is also available via IP Transit products through third party Internet Connectivity Providers.

This document is not a peering agreement. No contractual nor any other rights or any formal offer shall be inferred or arise out of this document. Peering relationships will only be established on the basis of a formal contract.

Technical and Operational Requirements

In order for a potential peering partner’s request to be considered all of the following requirements need to be met:

- Agree to enter into an NDA before formal discussions begin and willing to sign a formal settled peering agreement;
- Operate a professionally managed 24x7 NOC and provide Liberty with all contact details concerning this NOC;
- Agree to actively cooperate to resolve security incidents and other operational problems;
- Not to undermine the peering relationship by engaging in activities such as but not limited to: pointing a default route or otherwise forwarding traffic for destinations not explicitly advertised, resetting next-hop, selling or giving next hop to others;
- Show good faith efforts to facilitate communication regarding network maintenance with regard to the traffic exchange;
- Agree to participate in capacity reviews at least twice a year and aim to timely expand and upgrade interconnect infrastructure where required;
- Agree to upgrades of individual interconnects when 70% peak utilization is reached;
- Agree to in principle follow the practices outlined in BCP0046 (see <http://www.rfc-editor.org/categories/rfc-best.html>);
- Must operate a redundant international backbone network, in which the majority of its inter-hub connectivity shall have a capacity of at least 100 Gbps;
- Meet a balanced traffic **ratio** between its network and Liberty’s network
 - Measurement of 95th percentile is defined as sampling every 5 minutes the bits transferred, during a calendar month, ignoring the top 5% values and then taking the highest remaining value;
 - Traffic exchanged on settlement-free basis when ratio between 95th percentile inbound and 95th percentile outbound is between **1:3** and 3:1;
 - In the event a ratio for the aggregated amount of traffic exchanged exceeds the ratio (1:3 or 3:1), the sending party shall pay charges for the traffic above the defined ratio;
- Able to interconnect using (10 or 100) gigabit Ethernet;
- Exchange a maximum of 3 Gbps per location where peering is established over a public internet exchange;
- Establishing peering must not increase latency between its and Liberty’s network;

Requirements for Global Peering in Europe

In addition to the above Technical and Operational requirements all of the following requirements need to be met by the potential peering partner for peering with Liberty's network:

- Must have a European footprint, with presence in 5 countries where Liberty also has presence;
- Must be able to interconnect to Liberty in at least **3 locations** in different countries;
- Must exchange a minimum 95th percentile of **7 Gbps** inbound or outbound traffic with Liberty's AS6830 network;

Requirements for Global Peering outside Europe

In addition to the above Technical and Operational requirements all of the following requirements need to be met by the potential peering partner for peering with Liberty's network:

- Must have a non-European footprint;
- Must be able to interconnect to Liberty in at least **2 locations** outside Europe;
- Must exchange a minimum 95th percentile of **7 Gbps** inbound or outbound traffic with Liberty's AS6830 network;

Requesting Peering with Liberty

Potential peering partners shall send a written peering application to peering@aorta.net if they meet the above requirements. The application shall provide a description of the potential peering partner's network, list the exchange points and facilities where the potential peering partner has a presence and describe the type of traffic carried by the potential peering partner's network. Potential peering partners will be contacted to discuss their requests.

Note that Liberty:

- Evaluates requests based upon actual long term observed traffic;
- Will not setup trial peering;
- Reserves the right to terminate peering immediately in case of willful non-compliance with this policy;
- Retains the right to protect its network from any use of the peering link(s) by its peering partner(s) which damages the operational effectiveness of its network;

General Information

Periodic review of this statement of principles will be conducted by Liberty to ensure that the eligibility requirements are consistent with Liberty's business needs.

Liberty may amend this document at any time.

Effective Date

This policy takes effect from March 2015. We seek to apply these principles to new peering relationships established after that date and to any changes to existing peering relationships. Recognizing that we have a considerable number of legacy arrangements which pre-date this policy we do not generally seek to apply this policy retrospectively where peering relationships have not changed. In case of operational necessity, for example the merger of previously separate Autonomous Systems or the termination of our physical presence in a particular location, a different approach may be followed.

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