Telstra Peering Guidelines

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What's inside

What is Peering

1.   INTRODUCTION

What is Internet Peering?

1.1   Although the term "peering" can be used in different senses, in this document "peering" refers to a Sender-Keep-All (or SKA) type peering arrangement. SKA Internet peering is a bilateral interconnection arrangement between Internet networks which involves the exchange of Internet traffic between the parties' respective networks at no cost. This is also called settlement-free peering, meaning that no payment is made by either peer to the other for the exchange of Internet traffic.

1.2   A peering arrangement is generally only appropriate in circumstances where both parties believe that there will be equality in benefits from the arrangement. As the word "peer" suggests, parties will usually only be satisfied that there will be equal benefit from a peering arrangement in circumstances where both parties believe there is relative parity between their respective Internet networks.

Purpose of these Guidelines

1.3   These Guidelines are intended to set out the general attributes that Telstra may expect from an Internet provider seeking to peer with Telstra's Australian domestic network, AS 1221. In this document, the term "Internet provider" refers to a company that provides Internet services to the public and has their own AS number. Internet services provided include, but are not limited to, Internet access, Internet transit, domain name registration, web hosting and colocation.

1.4   Telstra recognises that:

    (a)   no two Internet networks will be identical; and

    (b)   the assessment of equality in benefit from a peering arrangement cannot be made by reference to fixed or absolute criteria.

However, Telstra considers that there are certain general attributes without which a party is unlikely to bring sufficient value to a peering relationship with Telstra that would ensure equality in benefit to both parties.

1.5   These Guidelines set out the minimum general attributes that Telstra expects a potential peering partner to possess before that party could reasonably be said to have parity with Telstra's Internet network as well as the various technical routing requirements that Telstra expects any potential peering partner to be capable of complying with.

1.6   Telstra may vary and update these Guidelines from time to time at its absolute discretion and without notice (for example, to ensure that they remain consistent with relevant industry developments).

These Guidelines are indicative only

1.7   These Guidelines do not necessarily determine whether or not Telstra will peer with any particular party; they are indicative only. These Guidelines set out indicative attributes that Telstra will consider when assessing a potential peering partner. The fact that a party does meet each of the attributes set out in these Guidelines does not mean that the party "qualifies" for peering with Telstra. It merely provides an indication that Telstra may peer with the party, depending on Telstra's assessment of the equality in benefit from such an arrangement.

1.8   Similarly, a failure by a party to meet any one or more of the attributes set out in these Guidelines does not necessarily mean that Telstra will not peer with that party. Telstra views peering as a matter of commercial negotiation, so Telstra may nevertheless agree to peer where sufficient value is brought to the totality of the arrangement between the parties. Telstra's assessment is made on a holistic, case by case basis, with regard to all factors Telstra considers relevant at the time (and the weight Telstra assigns to such factors at the time).

2.   GENERAL PRINCIPLES

2.1   In the global telecommunications industry peering is a consensual, bilateral arrangement founded on each of the peering parties having a degree of parity between their networks. Some of the considerations Telstra uses to assess parity include those set out below.

2.2   Peering partners' networks should be equivalent in scale, geographic coverage and quality.

2.3   Peering connections should be geographically dispersed.

2.4   Similar traffic volumes should be exchanged between peering partners.

2.5   A peering partner should not be a transit customer of the other peering partner.

3.   INFRASTRUCTURE CONSIDERATIONS

3.1   Telstra assesses the network infrastructure of potential peering partners and uses some of the following guidelines in its assessment.

3.2   The peering partner should have the ability to peer with Telstra (by establishing "peering links" or "Internet points of interconnection") in at least the following Australian cities:

| Sydney | Brisbane | Adelaide | Hobart |
| Melbourne | Perth | Canberra | Darwin |

3.3   Additional peering links may be required subject to traffic, quality of service, and cost analysis on a case-by-case basis.

3.4   The peering partner should have dedicated facilities in Australia capable of terminating customer IP connections onto a router in at least 80% of the geographic regions in which the Telstra Internet network operates such facilities, which includes all capital cities and most major regional areas.

3.5   The peering partner should have resilient Internet backbone network nodes, using dual switching configurations, in at least the following Australian cities:

| Sydney | Brisbane | Adelaide | Hobart or Darwin |
| Melbourne | Perth | Canberra | |

3.6   The peering partner's nationally deployed resilient Internet backbone network should operate on circuits of at least 50% of Telstra's Internet backbone network from Perth to Brisbane that is dedicated to public Internet traffic.

3.7   The peering partner should operate a fully staffed network operations centre that is open 24 hours a day, 7 days a week, and 365 days a year.

3.8   The peering partner should be able to identify and monitor service interruptions, service outages and other network issues in its Internet network.

4.   TRAFFIC AND CAPACITY CONSIDERATIONS

4.1   Telstra assesses the likely traffic flows between it and a potential peering partner and takes a number of factors into consideration when doing so, including some of the factors below.

4.2   Internet points of interconnect with Telstra will each require an operating peering connection with Telstra with a minimum bandwidth of 10 gigabits per second of bilateral capacity. These configurations are intended to support failover between adjacent Internet points of interconnection on both parties' networks.

4.3   An imbalance of traffic should not usually exceed an average ratio of 1.5:1 in either direction (inbound or outbound) in a calendar quarter. Traffic volumes for this calculation should be aggregated over all nodes where the parties exchange traffic.

4.4   Each peering partner should operate a fully resilient Internet backbone network with failover paths. Each Internet backbone network should be capable of handling a single-node outage without significantly affecting the performance of the traffic being exchanged.

4.5   Telstra assesses the aggregate traffic received from the peering partner over all Internet points of interconnection, as a percentage of the Internet traffic delivered to Telstra's customers. This assessment may be done on a throughput and/ or volume basis. Telstra's preference is that the aggregate traffic received from a peering partner be at least 2.5% of the Internet traffic delivered to Telstra's customers each month, but a potential peering partner sending a lower percentage of traffic (1% or more) may be considered.

5.   GENERAL ROUTING CONSIDERATIONS

5.1   Telstra considers the way traffic will be routed with a potential peering partner, including by considering some of the factors set out below. This is to ensure the interconnection of each parties' Internet network and the exchange of traffic operates smoothly and on an equitable basis.

5.2   The peering partner should interconnect using both Internet Protocol version 4 ("IPv4") and Internet Protocol version 6 ("IPv6") in parallel (referred to as "dual stack"). Network routes for both IP protocols should be advertised by the peering partner using the Border Gateway Protocol ("BGP") routing protocol and should be appropriately and maximally aggregated.

5.3   The peering partner should not establish a route of last resort (i.e. a default route) directed at Telstra.

5.4   The peering partner should announce only its own customer routes to Telstra, not any routes from any of its other peering partners.

5.5   All traffic exchanged between Telstra and its peering partner should be carried over the peering connections established between Telstra and the peering partner. The peering partner should not forward route announcements of the peering partner's Internet network to another of its peering partners or a transit provider.