

DATAMENA IP TRANSIT SERVICE SCHEDULE

This Schedule is applicable to a Service Order for datamena IP Transit Service(s) which has been submitted by Customer, and accepted by Supplier, in accordance with the Master Services Agreement or the online *General Terms and Conditions* (available from the datamena website at the following url: <http://www.datamena.com>) (collectively, the “Agreement”).

1. Service Description.

Supplier’s IP Transit Service (“IP Transit”) is a service that allows customers to access the Internet by utilizing Supplier’s footprint of international connectivity combined with Supplier’s numerous interconnections public and private peering arrangements.

The IP Transit Service ensures packet routing is done in accordance with the technical standards for best effort set by the Internet Engineering Task Force (IETF). Only data from the IP address range that the Customer has disclosed and that complies with the routing policy of the relevant regional Internet Authorities is routed across the network.

2. **Definitions.** Capitalized words and phrases used in this Schedule, but not otherwise defined below shall have the meaning given to them in the Agreement.

Border Gateway Protocol (BGP) means the inter-Autonomous System routing protocol.

Circuit means a point-to-point transmission channel provided by Supplier for Customer’s use for the conveyance of IP services between the Supplier Service Demarcation Points.

Cross-Connect refers to cross-connects between two systems or Customers, which are provisioned within a single premise of the datacentre (e.g. CHLS, Data Centre) by using fibre or UTP cables.

Internet Authorities means Reseaux IP Europeens (RIPE) from Europe, American Registry for Internet Numbers (ARIN) for the U.S. or Asia Pacific Network Information Centre (APNIC) for Asia.

IP Transit Platform means the routing platform used by Supplier to provide the IP Transit service. The IP Transit Platform demarcation point is the patch panel within the Supplier premises at which the Customer connects to the IP Transit service.

IP Transit Service means the service delivered by Supplier pursuant to this schedule.

Multi-Homed means a host that is physically connected to multiple data links that can be on the same or different networks.

Single-Homed means a host that is physically connected to one data link that is on the same network.

Virtual Router Redundancy Protocol (VRRP) means the network management protocol that is used to increase the availability of default gateway servicing hosts on the same subnet.

3. Service Specifications.

3.1. Service types:

3.1.1. Service Protection: IP Transit is available in the following two options:

3.1.1.1. **Single-Homed IP Transit:** A single IP Transit port is provided for the Customer to uplink to.

3.1.1.2. **Multi-Homed IP Transit:** Two IP Transit ports on separate IP Transit nodes are provided for the Customer to uplink to.

3.1.2. Access Speeds and Interfaces: The standard IP Transit Service includes one or two ports supporting the following bandwidths:

3.1.2.1. STM-1: 155 Mbps, connected with Single Mode fibre

3.1.2.2. STM-4: 622 Mbps, connected with Single Mode fibre

3.1.2.3. STM-16: 2488 Mbps, connected with Single Mode fibre

3.1.2.4. STM-64: 9953 Mbps, connected with Single Mode fibre

3.1.2.5. Fast Ethernet: 100 Mbps - 1000 Mbps, connected with UTP/RJ45

3.1.2.6. Gigabit Ethernet: 100 Mbps - 1 Gbps, connected with Single Mode fibre

3.1.2.7. 10Gigabit Ethernet: 500 Mbps - 10 Gbps, connected with Single Mode fibre

3.1.3. Routing and Protection: The standard IP Transit Service supports the following configuration options:

3.1.3.1. Single-homed with static routing

3.1.3.2. Single-homed with BGP

3.1.3.3. Multi-homed static routing using VRRP

3.1.3.4. Multi-homed with BGP

3.1.4. Bandwidth: Bandwidth burstable up to port capabilities.

3.1.5. Subnets

3.1.5.1. Internet traffic using IPv4 is routed over either a dedicated link subnet provided by Supplier or to a larger subnet provided by Supplier and partially used by the Customer.

3.1.5.2. For Single-Homed services a /30 subnet is allocated.

3.1.5.3. For Multi-Homed services a /29 subnet is allocated.

3.1.5.4. In the case the Customer receives a subnet from Supplier, Supplier shall inform Customer which IP addresses in a subnet shall be used by Supplier and which shall be used by Customer to establish connection between Supplier's IP Transit platform and Customer's equipment.

3.1.5.5. In the case that Customer requests a larger subnet and does not receive a dedicated subnet, Supplier shall inform Customer which IP addresses shall be used by Supplier and which IP Addresses shall be used by Customer to establish connection between Supplier's IP Transit equipment and Customer's equipment.

3.1.5.6. Customers shall provide justification for any subnets requested when required.

3.1.6. Service Monitoring:

Supplier monitors the IP Transit platform 24 hours per day, seven days per week. Any outages detected shall be notified to the

Customer in accordance with Supplier's incident management processes.

4. SLA Eligibility

Only fully multi-homed customers will be eligible for the SLA of the IP Transit service. Single-homed customers will only have one active cable and port on the IP Transit infrastructure.

5. Customer and Supplier Configuration

Supplier and Customer obligations will vary as depending on the configuration requested by Customer:

5.1. Single-homed with static routing

This solution is based on static routing, which means that routes are manually configured.

Customer is recommended to provide a router/firewall which will be connected to one of the IP Transit switches via a single Cross Connect. It is recommended that this device is capable of forwarding traffic to any additional range to hosts behind it, acting as a default gateway for these devices.

Supplier shall provide Customer with a single connection to the IP Transit platform on the appropriate port type.

If Customer has requested an additional subnet, traffic to this subnet will be statically routed towards the Customer's side of the /30 subnet, or in the absence of the subnet to the IP address nominated by Supplier and informed to Customer (see 3.1.5.5).

5.2. Single-homed with BGP

Customer's router shall have BGP support and sufficient memory for full internet routing tables (less is required where Customer only requests a default route). Supplier will provide full internet routing tables or if requested just a default route in the BGP session.

Customer will BGP peer with Supplier neighbour through a tagged VLAN to the BGP router.

If the Customer wishes to announce their own IP range, which must be a /24 or larger in order to be globally routable, these range(s) should be indicated in the IP Transit section of the Supplier's Customer Requirements Document.

Customer is responsible to ensure that valid route objects are maintained with the appropriate Internet Authority database for any Customer provided prefixes announced to us in order to guarantee they can be accepted by our upstream providers.

5.3. Multi-homed with VRRP

This solution is based on static routing, which means that routes are manually configured.

Customer shall provide a layer 2 path between both Supplier ports to either 2 routers/firewalls with VRRP support or 2 interfaces on single router/firewall. Customer equipment will be connected to the IP Transit switches via two Cross Connects. It is recommended that these devices are capable of forwarding traffic to any additional range to hosts behind it, acting as a default gateway for these devices. It is also recommended that Customer configures these devices with VRRP or a similar protocol to avoid having single points of failure.

Supplier will provide customer with two connections to the IP Transit platform of the appropriate port type.

Supplier's routers shall be configured with VRRP.

5.4. Multi-homed BGP:

Customer shall provide 2 routers which shall have BGP support and sufficient memory for full internet routing tables (less is required where Customer only requests a default route). Supplier will provide full internet routing tables or if requested just a default route in the BGP session.

Customer will BGP peer with Supplier neighbour through tagged VLANs.

If the Customer wishes to announce their own IP range, which must be a /24 or larger in order to be globally routable, these range(s) should be indicated in the IP Transit section of the Supplier's Customer Requirements Document.

Customer is responsible to ensure that valid route objects are maintained with the appropriate Internet Authority database for any Customer provided prefixes announced to us in order to guarantee they can be accepted by our upstream providers.

6. IP Addresses and Routing

6.1. Licensed IP Addresses: Any and all network addresses allocated to Customers by Supplier and from Supplier's address pool will remain the property of Supplier and shall be relinquished immediately upon termination of the IP Transit Service. The Customer shall not assert any claims to any IP Addresses loaned or provided by Supplier in connection with this Agreement.

6.2. Autonomous System Number: If the Customer requires BGP support, Customer must inform Supplier of its autonomous system number ("ASN") and ensure that the conditions of its internal network in each installation location allow for the provisioning of the IP Transit Service. Both Parties shall mutually agree on the parameters of dynamic routing.

The Customer is responsible to supply or use its own existing edge router at the POI or at its own premises to support the IP Transit Service. Supplier's premises are reached at customer's cost (via datamena access or Cross-connect).

7. Additional Terms and Conditions .

7.1. Applicable Charges. In addition to the Monthly Recurring Charges or Installation Charges applicable, the IP Transit Service may include bandwidth utilization Charges composed of the following:

7.1.1. Bandwidth utilization Charges:

- Fixed rate per port
- Minimum CIR as per stated in clause 7.2
- Burstable rate per mbps; billed as per clause 7.3 (where applicable)

Note: IP Transit Service requires Cross-Connect Service (additional charges apply).

7.2. Minimum Committed Information Rate ("CIR") charges:

With respect to IP connectivity provided on a burstable basis, Customer agrees to pay charges in respect of a minimum amount of bandwidth each month with the opportunity to 'burst' beyond such minimum subject to an agreed upon charge for each Mbps of usage in excess of the Customer's committed usage

and a maximum amount of available bandwidth.

7.3. Burstable Billing:

Supplier samples incoming and outgoing IP Transit traffic every 3 minutes throughout the month for the purposes of calculating any Bursting charges due.

In the case of Multi-homed services, incoming traffic is aggregated and outgoing traffic is aggregated for the purpose of the 95th percentile calculation.

The traffic samples are sorted, smallest to largest and the largest 5% are discarded for the purposes of calculating any Bursting charges due (95th percentile).

Bursting Charges shall be calculated by Supplier on a monthly basis based on the agreed charge per Mbps for Bursting beyond the CIR and using the largest sample (either ingoing or outgoing) that shows a bandwidth consumption greater than the CIR after taking into account the 95th percentile method.