



INTERNET PROTOCOL VIRTUAL PRIVATE NETWORK (IP VPN) SERVICE DESCRIPTION AND TERMS AND CONDITIONS

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PART I - GENERAL

Service Agreement

1. This Service Description and Terms and Conditions for Internet Protocol Virtual Private Network (IP VPN) Services (the "**Service Provisions**") constitute part of any agreement (the "**Agreement**") between Niagara Regional Broadband Network Limited (the "**Supplier**") and the Customer identified in the Agreement (the "**Customer**") which expressly incorporates by reference these Service Provisions. These Service Provisions and any other Terms and Conditions, Policies, Service Descriptions, and other provisions expressly incorporated by the Agreement collectively constitute the "**Terms and Conditions**". The Agreement and all Terms and Conditions collectively constitute the "**Service Agreement**".

Application of Terms and Conditions

2. These Service Provisions provide a description of, and the terms and conditions that relate specifically to, the particular "Services" (as defined herein) being provided by the Supplier to the Customer. These Service Provisions together with the other parts of the Service Agreement comprise the entire basis and agreement upon which the Services are provided by the Supplier to the Customer.

Definitions

3. "**Supplier's Network**" means the telecommunications network operated by the Supplier.

4. "**Internet Protocol Virtual Private Network Services**" or "**IP VPN Services**" means "any to any" data transmission connectivity between the Locations provided by a private Internet Protocol network provisioned over Supplier's Network in compliance with IETF RFC 4364 standards. IP VPN Services are provided with, and include, Quality of Service only if subscribed for by the Customer and identified in the Agreement.

5. "**IP VPN Bundled Services**" means the provision of an IP VPN service in which the Supplier provides IP routing and forwarding at the Location by way of a Supplier managed Customer Edge (CE) router connected to the Customer's internal LAN. The Customer is not required to provide Customer Edge routers (CE routers) at the Locations in order to send its IPv4 routing information to the Supplier's Network. IP VPN Bundled Services are provided to the Customer only if subscribed for by the Customer and identified in the Agreement. IP VPN Bundled Services are provided with Quality of Service.

6. "**IP VPN Unbundled Services**" means the provision of an IP VPN service in which the Customer provides IP routing and forwarding services at the Location. The Customer is required to provide Customer Edge routers (CE routers) at the Locations in order to send its IPv4 routing information to the Supplier's Network. IP VPN Unbundled Services are provided to the Customer only if subscribed for by the Customer and identified in the Agreement. IP VPN Unbundled Services are not provided with Quality of Service.

7. "**IP VPN VRF-Lite Services**" means the provision of an IP VPN service in which the Supplier provides virtualized IP routing and forwarding services at the Locations. The Customer's internal LAN is directly connected to Supplier's Network and the Supplier provides IP routing and forwarding services directly for the Customer's internal LAN hosts. Customer Edge routers (CE routers) are not provided by either the Supplier or Customer at the Locations in order to send Customer IPv4 routing information to the Supplier's Network. IP VPN VRF-Lite Services are provided to the Customer only if subscribed for by the Customer and identified in the Agreement. IP VPN VRF-Lite Services are provided with Quality of Service.

8. "**Services**" means Internet Protocol Virtual Private Network Services which may be IP VPN Bundled Services, IP VPN Unbundled Services or IP VPN VRF Lite Services as identified in the Agreement,

9. "**Demarcation Points**": The "Demarcation Point" for IP VPN Bundled Services is the Customer LAN interface with the Supplier CE router. The "Demarcation Point" for IP VPN Unbundled Services is the Supplier's media converter to which the Customer's CE router attaches. The "Demarcation Point" for IP VPN VRF-Lite Services is the Supplier's media converter to which the Customer's LAN connects.

10. "**Quality of Service**" or "**QoS**" means management of the Customer's traffic [so as to provide prioritized transmission] through the Supplier's Network based upon DSCP values defined by the Customer and Bandwidth Profile.

11. "**Location**" means, as regards any Service, a Location identified in the Agreement to which the Service is to be provided.

12. "**Bandwidth Profile**" means the transmission capacity of the Services as identified in the Agreement.

13. "**VRF Attachment Circuit**" means a single IP connection from each Location to Supplier's Network so as to create therein an Internet Protocol Virtual Private Network having the Bandwidth Profile identified in the Agreement.



14. “**VLAN**” or “**Virtual Local Area Network**” means a connection of two locations within the Supplier’s Network so as to create therein an Ethernet virtual local area network that enables data transfer between the locations connected by the same virtual network and prevents data transfer between locations that are not part of the same virtual network.} Remove VLAN altogether

15. “**User Network Interface**” or “**UNI**” means the Ethernet interface physical medium installed by the Supplier to provide the Customer access to the Supplier’s Network whose physical media shall be presented as defined in the IEEE 802.3-2012 standard for 10 Gbps, 100BaseTX, or 1000BaseTX Ethernet Interfaces.

16. “**Service Frame**” means any Ethernet Frame transmitted by the Customer across the UNI toward the Supplier and any Ethernet Frame transmitted by the Supplier across the UNI toward the Customer.

17. “**DSCP**” means Differentiated Services Code Point.

Definitions in Service Agreement

18. Terms used and not defined herein shall have the meanings given thereto elsewhere in the Service Agreement.

PART II – THE CUSTOMER

Customer’s Obligations

19. Prerequisites for the Customer to access the Services is that the Customer shall: (i) provide to the Supplier sufficient information about the Customer’s LAN to allow the Supplier to provide the Services to the Customer; (ii) have access to Supplier’s Network with Network Access of sufficient capacity for the Services; (iii) the Customer’s network protocol must be IPv4 compliant; and (iv) if the Customer has not subscribed for IP VPN VRF-Lite Services, then each Location must contain one or more Customer Edge (CE) router each of which is: (1) a routing peer of and is otherwise compatible with the Supplier’s Provider Edge (PE) routers; (2) is capable of supporting dynamic routing protocol as prescribed by the Supplier; and (3) if the Services are to be fully utilized, the Customer’s CE router must have IP forwarding capability equal to the Bandwidth Profile.

PART III – SERVICES

Bandwidth Profile Classification and Disposition

20. Each Service Frame received by the Supplier’s Network at the UNI in excess of the Bandwidth Profile may be discarded as determined by the Supplier.

Virtual Local Area Network Identifiers

21. The VRF Attachment Circuit provided between a Location and Supplier’s Network using a rate-limited VLAN.

Numerical VLAN Identifiers (“**VLAN-ID**”) will be used by the Supplier to separate and control the Customer’s Services within Supplier’s Network. The Supplier shall prescribe the Numerical VLAN-ID.

Quality of Service Usage

22. Where Quality of Service is included as part of the Services, the Customer shall define (“mark”) the traffic priority for its transmissions by appropriately setting the value of the DSCP bits within the packets transmitted to Supplier’s Network. Supplier’s Network will identify the different Customer prioritized traffic with QoS based on the value of the DSCP within the 1-byte Type of Service (ToS) field in the Layer 3 IPv4 standard packet header for all ingress Service Frames. Where QoS is included as part of the Services, Supplier’s Network shall honour these values so as to allow for prioritized queuing and scheduling of such traffic throughout Supplier’s Network. The Supplier only supports QoS treatment for IPv4 packets.

Requests for Assistance

23. All requests by a Customer for assistance in respect of the Services shall be made in accordance with Part VII of the General Commercial Terms and Conditions comprising part of the Service Agreement.

PART IV –SERVICE LEVELS

Service Level Objectives for Services

24. The Supplier’s “**Service Level Objectives**” with respect to Services are:

- (i) **Latency**: a maximum one-way trip transmission delay of ten milliseconds between intra-regional points-of-presence (POPs) of the Supplier’s Network;
- (ii) **Packet Loss**: 0.1% or less, generally, and is 0.001% or less for traffic marked with a DSCP of 40 through 47 for where Quality of Service is included as part of the Services; and we need to change the other terms to match this definition
- (iii) **Throughput**: not less than 95% the Customer’s Bandwidth Profile identified in the agreement.

and, while the Supplier will use commercially reasonable efforts to achieve the Supplier’s Service Level Objectives, the Supplier shall not have any liability to the Customer should the Supplier fail to achieve any of the Service Level Objectives.

Additional Definitions

25. “**Latency**” is the one-way delay measured between when the first bit of a Service Frame enters the ingress UNI to when the last bit of the same Service Frame leaves the egress UNI.

Customer initials

26. “**Packet Loss**” is the percentage of “in-profile” Service Frames not reliably delivered between UNIs over a calendar month.

27. “**Throughput**” is the amount of 256 byte Service Frames in both ingress and egress directions that Supplier’s Network will deliver under normal operating conditions.

Mean Time to Restore Services

28. The objective of the Supplier is to have a mean time to restore (“**MTTR**”) an interruption of the Services of four hours. While the Supplier will use commercially reasonable efforts to achieve such objectives, the Supplier shall not have any liability for failing to achieve such objectives.

Interruption Time

29. “**Interruption Time**” in relation to a particular Service is the time that the particular Service is not available for use by the Customer at the Demarcation Point of a Location. Interruption Time begins when the Supplier opens a “Service Ticket” in response to an interruption in the provision of the Services reported to the Supplier by the Customer and the Customer releases the affected circuit(s) to the Supplier for testing and repair and ends upon the earlier of: (i) when the Service Ticket indicates the Services are no longer interrupted; and (ii) the return of the affected circuit(s) for use by the Customer.

Exclusions from Interruption Time

30. Interruption Time does not include time when a particular Service is not available to the Customer due to: (i) interruptions for the purposes of allowing the Supplier to maintain, repair, implement a request from the Customer in relation to, upgrade or change Supplier’s Network, a local loop or the Services; (ii) interruptions not reported to the Supplier; (iii) interruptions due to Force Majeure; (iv) interruptions and delays caused by the Customer (including delays in the Customer providing the Supplier access to facilities to investigate or correct interruption of service and resulting from breaches or non-compliance by the Customer of its obligations under the Service Agreement); (v) interruptions and delays caused by third parties (including denial of service attacks); (vi) the failure of equipment, systems or services not controlled by the Supplier; and (vii) transient service degradation of short duration which clears before any repair action is taken.

Service Level Agreement & SLA Credits

31. In the event, and in each event, that Interruption Time in relation to the provision of Services to any Location exceeds forty-five (45) minutes in any calendar month then, if and only if requested in writing by the Customer within ten days of the end of the calendar month in which the Interruption occurred, on the next invoice from the Supplier to the Customer, the Customer shall be credited with a “**SLA Credit**” equal to: (i) in the case of IP VPN Bundled Services one thirtieth (1/30th); (ii) in the case of IP VPN Unbundled Services one sixtieth (1/60th); and in the case of IP VPN VRF-Lite Services one sixtieth

(1/45th), of the aggregate Monthly Recurring Charge for the provision of Services to all Locations for each full one hour of Interruption Time following the initial forty-five (45) minutes of Interruption Time. The Supplier shall not have any liability to the Customer in relation to the provision of the Services except the provision of SLA Credits as expressly provided for in the Service Agreement.

Limit on SLA Credits

32. In no event shall the total of all SLA Credits relative to the provision of the Services during a calendar month credited to the invoice to the Customer relative to the particular calendar month exceed an amount of the Monthly Recurring Charges for the provision of the Services **to all Locations** for the particular calendar month to which the invoice relates. There shall be no carryforward or carryback of any SLA Credits to a calendar month other than the calendar month in which occurred the Interruption Time to which the SLA Credits relate. There shall be no carryover of any SLA Credits to apply against the charges by the Supplier to the Customer for any other service provided by the Supplier to the Customer. The Customer shall not be entitled to any credits or other compensation from the Supplier with respect to the provision of the Services except those expressly provided therefor herein

SLA Credits Apply Only With Respect to Supplier’s Network

33. Supplier will provide SLA Credits only in relation to traffic over Supplier’s Network. In the event that a Location of the Customer is provisioned through a network not owned or operated by the Supplier then no SLA Credits will be provided in relation to traffic between such Location and another Location of the Customer and, instead, the Supplier shall pass along to the Customer the credits, if any, that the Supplier may become entitled to from the third party provider..

Customer initials