PRIVATE IP SERVICE

1. GENERAL

1.1 **Service Definition**. Verizon offers four variations of this service: Private IP Service, Private IP Layer 2, Private IP Gateway and Private IP Interconnect, subject to availability. The Customer is aware that not all variations may be available in all countries.

1.1.1 **Platforms.** Except where explicitly stated otherwise, these terms apply to Optimized Service (denoted with a "+" and sometimes referred to as Rapid Delivery) and non-Optimized Service.

2. AVAILABLE VERSIONS PRIVATE IP SERVICE

2.1 Private IP Service

2.1.1 **Service Definition**. Private IP is a wide area data networking service which provides any-to-any connectivity to transport Customer Data between Customer Sites.

2.1.2 Standard Service Features

2.1.2.1 **Route Capacity and IPv4 and IPv6 Protocols**. Verizon will assign a maximum number of routes that Customer may introduce into the Private IP Network based upon the total number of sites expected in a given Customer VPN, as shown in the following table.

Expected Total Number Sites	Maximum Routes IPv4	Maximum Routes IPv6
1–50	1,250	150
51–250	1,250	750
251–500	2,500	1,500
501–1,000	5,000	3,000
1,001+	10,000	6,000

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Capacity constraints may vary for Customers using MVIC (available upon request). Customer will select either IPv4 or IPv6 protocol (where available), and a suitable number of IP addresses to be used in conjunction with Private IP and in accordance with Verizon's then-current applicable assignment guidelines.

2.1.3   **Optional Service Features**

2.1.3.1   **Diversity**. With Diversity, Verizon provides a second equivalent circuit for the same Customer Site that may be configured as either active or passive, and as providing either Geographic Diversity or Router Diversity, as Customer elects.

2.1.3.2   **Dynamic Network Manager.** With Dynamic Network Manager (f/k/a Dynamic Bandwidth), Verizon provides a web-based interface through which Customer can dynamically manage its CAR and Private IP port values. Customer accesses the interface through the Verizon Enterprise Center or via an Application Program Interface.

2.1.3.3   **IP Multicasting**. With IP Multicasting, Verizon will simultaneously deliver a single stream of data to multiple recipients in Customer-provided multicast groups.

2.1.3.4   **Multiple Virtual Routing and Forwarding.** With Multiple Virtual Routing and Forwarding, Customer may create multiple virtual private network connections via a single Private IP port. Customer may use those connections to extend the privacy and security of the Private IP service to the various LANs at Customer's Site. Customer understands and accepts that packet drops may occur if Customer creates an oversubscription of virtual private network connections on the Private IP port and Verizon is not responsible for such packet drops.

2.1.3.5   **Class of Service Selection**. Verizon will route Customer traffic based on the priority assigned by Customer using different classes of service designations, which follow the Internet Engineering Task Force Differentiated Services or Diff-Serv model. If Customer does not set different classes, Verizon will route all Customer traffic using the BE class as the default priority designation.

2.1.3.6   **WAN Analysis.** (non-Optimized Service only) For customers receiving non-Optimized Private IP services, the terms and conditions for WAN Analysis are located at the following URL:

For U.S. Services:
www.verizonenterprise.com/external/service_guide/reg/cp_war_plus_wan_analysis_reporting.pdf

For non-U.S. Services:
www.verizonenterprise.com/external/service_guide/reg/cp_war_plus_wan_analysis_reporting_2017DEC01.pdf

2.1.3.7   **Burstable Billing**. (Optimized Only) With Burstable Billing, Customer selects a Bandwidth Commitment and may burst up to a higher selected bandwidth as required.

2.1.3.8   **Converged IP**. (Optimized Only) With Converged IP, Customer selects a Private IP port that will be used to connect to Virtual Network Services – Security Service via a single Ethernet access circuit. Customer must purchase Virtual Network Services – Security under a separate Service Attachment.

2.1.4   **Customer Responsibilities**

2.1.4.1 **Bandwidth Shaping for Ethernet Access Circuit.** If Verizon provisions 'bandwidth shaping' overhead adjustments on the Ethernet Interfaces at the PE egress, it may be necessary for Customer to apply policies at Customer's CE egress to prevent packet loss due to Ethernet protocol overhead used within the Private IP Network (depending on the Private IP platform and Customer's traffic profile).

2.2 Private IP Layer 2

2.2.1 **Service Definition**. Verizon Private IP Layer 2 service provides point-to-point routing, with Customer control of routing, architectural and topology changes.

2.2.2 **Optional Service Features**. With the Private IP Permanent Visual Circuits feature, Verizon will add one or more Private IP PVCs on Customer's Private IP Layer 2 port upon Customer's request.

2.3 Private IP Gateway

2.3.1 **Service Definition**. With Private IP Gateway service, Verizon provides an interconnection between two private networks based on the characteristics of the gateway, as described below.

2.3.2 **Standard Service Features**. Verizon provides the following Private IP Gateways:

2.3.2.1 **Private Wireless Gateway** (U.S. Mainland Only). With Private Wireless Gateway, Verizon provides Customer a port that Customer may use to connect Customer's wireless traffic to the Private IP Network.

2.3.2.2 **MVIC Service** (Select Locations). With MVIC Service, Verizon connects Verizon's Private IP Network to an MPLS Partner's MPLS networks.

2.3.2.3 **Satellite Gateway**. The Satellite Gateway functions as a Network-to-Network Interface (NNI) between Verizon's Satellite Access service and the Private IP MPLS network. Customers using satellite access in conjunction with Private IP must order a Non-Optimized satellite gateway port that is sized according to the customer's aggregate satellite bandwidth requirements. Each customer's individual Virtual LAN will be mapped to a Private IP PVC.

2.3.2.4 **Optimized Service-Only Standard Features**

2.3.2.4.1 **Secure Cloud Interconnect**. With Secure Cloud Interconnect, Verizon provides an interconnection with the network of select third-party cloud providers (with whom the customer has separately contracted) enabling Customer to utilize those third-parties' cloud services over Private IP, Switched E-LAN, or Switched E-LINE network. Verizon also provides network translation functionality (NAT), but Customer may provide Customer's own NAT with the understanding that Customer accepts sole responsibility if Customer fails to properly configure NAT and such failure permits a third party cloud provider to have access to Customer's Private IP addresses. Secure Cloud Interconnect has unique pricing, network designs, and capabilities; details are available on request. In addition, Verizon may terminate Secure Cloud Interconnect, in whole or in part, upon 30 days written notice, where Customer is utilizing Secure Cloud Interconnect on a usage only basis, and Customer has not used this feature for a continuous period exceeding ten months.

2.4 Private IP Interconnect (PIP-I) (Select Customers only)

2.4.1 **Service Definition**. Private IP Interconnect, or PIP-I, is only available to Customers who have been approved by Verizon to receive this feature. With this service, Verizon provides a direct, point-to-point

interconnection between Private IP site(s) Customer purchases from Verizon and Customer's third party MPLS-based network, using a shared port gateway designed to support multiple customers.

2.4.2 Standard Service Features

2.4.2.1 **PIP-I Connection and Port**. With PIP-I, Verizon provides a PIP-I Connection and a PIP-I Port. A PIP-I Connection is a physical Port that presents PIP-I at the demarcation point for interconnection to Customer's network. A PIP-I Port is a logical PIP Port associated with a VPN name that attaches to PIP site(s) that Customer has purchased from Verizon.

2.4.2.2 **Non-Supported Features**. PIP-I does not support multi-Virtual Routing and Forwarding, Dynamic Network Manager and multicasting. PIP-I does not support a redundant configuration.

2.4.3. Customer Responsibilities

2.4.3.1 **Ordering PIP-I Ports.** Customer will order PIP-I Ports only with an assignment to an existing or new PIP VPN name.

2.4.3.2 **Ordering Multiple PIP-I Ports**. Each PIP-I Connection can be used with multiple PIP-I Ports but each PIP-I Port can be associated with and route traffic to only one PIP-I Connection. Under no circumstances will Customer route traffic presented to PIP-I on one PIP-I Connection to another PIP-I Port on a different PIP-I Connection. If Verizon identifies any such usage of the Service, it reserves the right to immediately terminate the Service to Customer.

2.4.3.3 **Restriction on use of PIP-I with Existing Customers of Verizon**. Customer will not connect a PIP-I Port to a port on Verizon's MPLS network that is provisioned by Verizon to an existing customer of Verizon.

2.4.3.4 **Cross-Connection.** With Private IP port only, Verizon provides a cross-connection to a Verizon IP hub if Customer is located in the same building as the IP hub.

2.4.3.5 **Disconnection**. Customer shall ensure no PIP-I ports are active prior to disconnect order or the order will not be processed by Verizon.

3. SUPPLEMENTAL TERMS

3.1 **India Ports.** This clause applies if the Private IP Service contains ports in India. Prior to the Service Activation Date Customer will complete and sign, or will procure the completion and signing by its Indian Affiliate (or other end user) receiving the Private IP Service in India, the document in the form set out in Schedule 1 hereto ("Proforma"). To the extent that the information required by the Proforma cannot be completed (or is otherwise not completed) until after the Service Activation Date Customer authorizes Verizon to complete the Proforma or undertakes to provide any additional necessary information as requested by Verizon for that purpose.

3.2 **Restriction on Encryption Functionality in India**. Prior to connecting any encryption equipment to Verizon Facilities in India Customer must obtain prior evaluation and approval from the relevant telecom authority.

3.3 **Provisioning Entities in China**. In the event of regulatory changes in China affecting Verizon's ability to provide PIP/PIP Gateway pursuant to this Order, Verizon may terminate [PIP/PIP Gateway] without liability

or where possible transition its provision of PIP/PIP Gateway to Customer via a different Third Party network supplier at a price to be agreed between the Parties.

3.4 **Use Restrictions in Turkey.** Due to blocking orders issued by the Turkish government prohibiting access to thousands of sites on the Worldwide Web, the use of the Service by Customer or any of its authorized users to access the Worldwide Web from within Turkey, whether directly or indirectly, and whether such access is technically implemented inside or outside Turkey, is strictly prohibited. Customer will take appropriate measures to comply with this prohibition, including expressly notifying any authorized users of the Service in Turkey of the prohibition. Any violation of this prohibition may result in immediate suspension of the Service by Verizon until, in Verizon's sole judgment, the violation has been cured. Customer will indemnify and hold harmless Verizon from any fines, penalties, losses, damages, costs or expenses arising out any violation by Customer or its authorized users of the foregoing prohibition. Each party will promptly notify the other of any such claim.

3.5 **Voice over IP ("VoIP") Restrictions.** Customer acknowledges that a number of jurisdictions impose restrictions and/or licensing or registration conditions on VoIP transmission over the Network. To the extent such regulations apply, Customer shall comply with those regulations and indemnify, defend, and hold Verizon harmless for any claims arising from Customer's violation of such regulations.

4. **SERVICE LEVEL AGREEMENT (SLA)**

Private IP Service Level Agreement for Optimized Private IP Service +:
www.verizonenterprise.com/external/service_guide/reg/cp_pip_plus_sla.pdf

Private IP SLA Summary and Service Level Agreement for non-Optimized Private IP Service:
www.verizonenterprise.com/us/publications/service_guide/secure/cp_pip_sla_summary_page_SG.htm

5. **FINANCIAL TERMS.**

5.1 **Optimized Service**. Customer will pay the charges for Optimized Private IP Service + specified in the Agreement, including those below and at the following URL:
www.verizonenterprise.com/external/service_guide/reg/applicable_charges_toc.htm.
Charges below are in U.S. dollars and will be billed in the invoice currency of the associated service.

5.1.1 **Administrative Charges**.

Administrative Charges	Charge Instance	Port Type	Speed	NRC
Administrative Change	Per Change	n/a	n/a	$60.00
Cancellation of Service Order	Per Port	n/a	n/a	$800.00
Expedite	Per Port	n/a	n/a	$1,000.00
Physical Change	Per Order	n/a	n/a	$200.00
Reconfiguration	Per Port	Standard Port	64Kbps	$50.00
Reconfiguration	Per Port	Standard Port	256Kbps,512Kbps	$100.00
Reconfiguration	Per Port	Standard Port	T1, E1, 1M, 2M	$200.00
Reconfiguration	Per Port	Standard Port	Above E1	$600.00

5.1.2 **Bandwidth Bursting**. (Optimized Only) With Bandwidth Bursting, Customer will pay an additional charge monthly per circuit for any measured usage level greater than Customer's Bandwidth Commitment. Verizon will sample the Private IP port usage every five minutes during the monthly billing period and Customer's measured usage level will be based on usage at the 95th percentile of samples

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with the highest 5 percent of usage discarded for billing purposes. Incremental usage will be rounded up to the next full Mbps or Gbps.

5.1.3 **Reconfiguration**. A reconfiguration charge applies for the modification of an existing Private IP circuit, at Customer request, for Verizon to reterminate a circuit to a different router or reconfiguration of the port.

5.2 **Non-Optimized Service**. Customer will pay MRCs and NRCs for non-Optimized Private IP Service as specified in the Agreement. In addition, online pricing for Service provided by a U.S. Verizon entity is at www.verizonenterprise.com/external/service_guide/reg/cp_private_ip_service.htm (for U.S. Services).

6. **DEFINITIONS**. The following definitions apply to Private IP Service, in addition to those identified in the Master Terms and the administrative charge definitions at the following URL www.verizonenterprise.com/external/service_guide/reg/definitions_toc_2017DEC01.htm

Term	Definition
Bandwidth Commitment	The portion of a port speed which Customer may use in a monthly period without incurring a Burstable Overage charge.
Committed Access Rate (CAR)	The amount of bandwidth to which Customer subscribes on a logical Port by logical Port basis.
Customer Edge (CE)	The edge of, or point in which customer traffic enters or exits, the Customer network
Geographic Diversity	Automatically directs the second Customer circuit to a different Verizon gateway at a different Verizon POP.
MPLS	Multi-Protocol Label Switching - an Internet Engineering Task Force standard.
MPLS Partner	A third party MPLS provider with whom Verizon has an agency or reseller arrangement to provide interconnection to that party's in-country network.
MVIC	MPLS VPN Interprovider Connection
Port	An entrance to and/or exit from a network.
Provider Edge (PE)	The edge of, or point in which Customer traffic enters or exits, the Verizon Private IP Network.
Router Diversity	Automatically directs the second Customer circuit to a different switch or router.
Virtual Private Network (VPN)	Uses a logical connection to route traffic between network sites.

Schedule 1 – Customer Indian Affiliate/user Undertakings

Schedule 1 – For Customers ordering Private IP Service that contain ports in India, please go to www.verizonenterprise.com/external/service_guide/reg/g_india_schedule1.pdf, for the Customer Indian Affiliate/user Undertakings.