

DOIT MASTER AGREEMENT NUMBER:

**B-03-013**

DOIT APPROVAL DATE:

**10/31/2008**

**VENDOR NAME: Verizon Business d/b/a MCI WORLDCOM Communications, Inc.**

**FEIN: 47-0751768**

**SERVICE/PRODUCT NAME: Private IP (MPLS) Service**

**SERVICE/PRODUCT DESCRIPTION:**

Verizon's Private IP is a network-based virtual private network (VPN) that enables customers to effectively communicate over a secure network. This service also provides the foundation for automating business processes between companies, including e-commerce, shared intranets, and extranets.

Private IP is based on MultiProtocol Label Switching (MPLS) technology, which integrates the performance and traffic management capabilities of Layer 2 with the scalability and flexibility of Layer 3 routing. In addition, MPLS enables Private IP to separate customer traffic through a VPN. The result is the security and Quality of Service (QoS) of Layer 2 switching with the scalability and any-to-any connectivity of IP.

Private IP is available as an unmanaged transport or as a Managed Services solution. Unmanaged transport customers can use the Remote Configuration feature to outsource implementation to Verizon in specified markets.

Private IP Standard Service offers Internet Engineering Task Force (IETF) Differentiated Service (DiffServ) class of service. Private IP's Enhanced Traffic Management (ETM) enables customers to prioritize their traffic and assign classes of service distinguished by different levels of packet loss and jitter. For example, if a customer wishes to protect mission-critical traffic streams or desires to use Private IP for high-quality voice or video, the ETM feature has corresponding traffic priority levels to support these applications. Gold CAR (Committed Access Rate) is applied to real-time traffic such as voice and video.

**Application Aware VPN Capabilities**

Private IP now offers a comprehensive set of tools that help customer's visibility into their IP networks and applications. Using advanced network assessment, reporting, dynamic bandwidth, and packet marking tools, customers can fine tune their network to optimize performance and achieve new levels of cost efficiencies.

- **Application Analysis and Application Priority:** Enables customers to view their network performance and manage CoS at the desktop and user level.
- **Dynamic Bandwidth and Automated Monitoring:** Allows customers to change their network's bandwidth on demand based on their needs. With Automated Monitoring, customers can customize bandwidth usage reports.
- **Network Assessment:** Provides enterprises the tools to inventory the current applications running by desktop, prepare for network deployment/migrations, and tune bandwidth based on applications, etc.
- **WAN Analysis:** Enables customers to manage their MPLS network through various reporting options and network-based tools.

**Access Methods**

Private IP supports a full range of access types and speeds to support the varying needs of customers' networks and business requirements. With Private IP, customers can use traditional dedicated (TDM) access (DS0 to OC12) or the following methods to meet the needs of every site and location.

- Ethernet, Fast Ethernet and Gigabit Ethernet
- Satellite Access
- Multilink Pt to Pt Protocol (MLPPP)

- Substrate DS3 and E3
- Remote Access via the Secure Gateway

**Features and Benefits**

Private IP allows customers to take advantage of the following:

- Inherent service benefits of layer 2 and 3 protocols
- Traditional privacy and quality of service (QoS) of ATM and Frame Relay
- Flexibility and scalability of IP

This combination enables customers to connect sites in an any-to-any configuration with eased customer network configuration and management. These services receive support from a full range of ATM or Frame Relay switches and routers, many of the same devices used by customers today. These services allow Verizon to enhance the capabilities of traditional ATM and Frame Relay services with IP-based business services, such as extranets or e-commerce.

Feature	Description	Benefit to the Customer
Frame Relay and ATM access to the Private IP network, leveraging the local-to-global-to-local on-net strategy.	Uses Frame Relay and ATM networks for access into the Private IP network.	Provides an evolutionary service □ anywhere the customer can use Frame Relay or ATM, they can also use Private IP.
Scalability	Ease of expanding the network.	Customers can expand their networks to higher speeds or to multiple locations in a fully meshed environment with minimal disruption.
Security	Full layer 2 security for an IP network.	Customers do not have to add a connection-oriented overlay to the Private IP network to encrypt tunnels, which would be required if the customer was using Internet Protocol Security (IPSec). The Private IP network is as secure as a layer 2 network.
Any-to-any connectivity	Any location on the Private IP network can connect to any other location on the Private IP network	Customers have the flexibility to choose either Frame Relay or ATM, or a combination of the two services when building their networks. The benefits of this feature are most successfully realized in a fully-meshed network environment.
Extensive Ethernet Access	Connects Ethernet to ATM to Frame Relay via IP for Private IP.	Expands the access options for Private IP customers. Customers can leverage the extensive in region Ethernet footprint Verizon has built to support the data networking products. Ethernet access provides numerous additional benefits high bandwidth options, cost effective vs. TDM on a per meg basis, significant bandwidth granularity and simplicity and familiarity for customers.
Class of Service (CoS)	The ability to prioritize traffic and offer better than best effort service.	The customer is able to leverage the benefits of IP (layer 3) and the benefits of the Data Link layer (layer 2) to obtain network performance levels required for mission critical applications.

Access to the Public Internet	Customers can gain access to the Public Internet either via a shared port on Frame Relay or via the <a href="#">Secure Gateway - Firewall</a> solution, enabled by Secure Gateway.	The customer does not have to subscribe to a separate Internet service provider (ISP) for Internet access. By using Secure Gateway - Firewall, enabled by Secure Gateway Services, customers can use a network-based firewall instead of purchasing additional CPE.
Co-exist with Frame Relay and ATM	Customers can simultaneously use their existing layer 2 infrastructure (Frame Relay and ATM) with Private IP.	Benefits to the customer will vary, depending upon the customer's applications and/or network architecture. The customer may elect to retain feature-rich applications at layer 2 until appropriate standards are developed for MPLS. From a network topology perspective, a fully meshed network will be priced more competitively with Private IP than with Frame Relay or ATM.
Platform to enable e-business applications	The Private IP network will be able to support many e-business applications for the customer. This will position Verizon as a partner in developing a customer's overall communication solutions as opposed to merely a transport provider.	Since Verizon maintains an integrated portfolio of products, Verizon can fully support its customer's overall business communications needs. Private IP can provide a VPN platform that allows the customer to conduct e-business securely.
<a href="#">Extranet</a>	The ability to create secure extranet connections for business to business (B2B) e-commerce trading partners, vendors, and customers.	Using Layer 3 technology, the customer can create multiple secure connections to trading partners, vendors, and customers without implementing and managing IP Security (IPSec) tunnels.

### Private IP Multicasting

Multicasting allows the content source site to send a single stream of data into the Private IP backbone, which replicates that stream as many times as necessary to reach every end-user. Therefore, if the simultaneous number of viewers is 100 or 1,000, the amount of bandwidth needed by the content source site remains constant. Remote users are able to access the stream via a connection to a Rendezvous Point (RP), which matches senders and receivers and enables remote sites to receive data from the host site. Once the connection is established, the connection typically moves to an optimal path and the RP is no longer involved. Multicasting enables the host to make more efficient use of bandwidth.

Private IP Multicasting VPN is a bandwidth conserving technology that helps reduce traffic by simultaneously delivering a steady stream of information to multiple locations. Applications that take advantage of multicasting VPN include video conferencing, corporate communications, distance learning, and distribution of software, stock quotes, and news.

With this feature, Private IP customers can create a multicasting Group or Groups. Individual customer locations may join these Groups, based upon the program of interest, to receive packets of information sent from the host site. At the host site, the customer creates the data stream, which is sent to the network. The network receives the information and simultaneously sends a copy to each member of the multicasting group.

Private IP Multicasting VPN is a different offering than Internet Multicast Services. Internet Multicast used Verizon's IP backbone to provide access to the global MBONE, which multicast protocol designers use to develop

routing protocols. Private IP Multicasting VPN *does not* offer access to the global MBONE. It also does not support MBGP for multicast facing the customer, which is unnecessary in a Private IP network.

## **Technical Information**

Private IP is based on Multi-Protocol Label Switching (MPLS) technology. MPLS enables networks to take advantage of the best of IP, ATM, and Frame Relay by allowing the integration of Layer 2 switching (ATM and frame relay, for example) and Layer 3 routing (IP). The MPLS signaling protocols support and create labels required to move the traffic across the network. The labels identify the end address destinations of the network traffic.

Verizon has developed and deployed a highly scalable and resilient MPLS VPN architecture to meet the stringent requirements of customers' mission critical IP data networking applications. This architecture serves as the underlying infrastructure for Private IP. Verizon's design goal for the Private IP is to provide a network service platform which is scalable, survivable and efficient, while not sacrificing performance.

## **Network Architecture**

The Private IP architecture utilizes Cisco ESR 10008's and GSR 12816's serving as Provider Edge (PE) routers and GSR 12816's serving as the P-Core (P) routers as depicted in the diagram below:

The Cisco ESR 10008 is utilized as the standard PE device for direct access connections from 56k to OC-3 and Fast Ethernet. The ESR also has gateway trunks (indirect access) established to other Verizon services such as DSL access networks, Verizon Satellite Network, Verizon's Secure Gateway (for Network Based Remote Access and Firewall services), Verizon VoIP Platform, and traditional Frame Relay and ATM service platforms.

The GSR 12816 is deployed as both a backbone (P-router) and a high speed access PE router for current and future direct access connections that include OC-3 POS, OC-12 POS, OC-48 POS, and Gigabit Ethernet connections.

## **Backbone Topology**

Verizon's Private IP backbone topology has been engineered to maximize resiliency and minimize failover times. The P-core is a closed private MPLS backbone, i.e., no Internet connectivity; it is dedicated solely to MPLS Label Switching and does not support any direct customer access connections. Using a dedicated P-core enhances network scalability by reducing OSPF adjacencies and providing OC-48 trunking and high density aggregation of PE trunks.

Every PE router is diversely trunked into two diverse P-core routers to insure a node will never be isolated. Dual Cisco GSR 12816 routers are deployed at each P-core site and diversely trunked using OC-48 POS (Packet Over SONET) trunks. Every P-core router has at least two physically diverse SONET/SDH paths to other P-core sites to insure a node will never be isolated.

The P-core trunks are QoS-enabled with a Layer 3 QoS scheme that utilizes LLQ (Low Latency Queuing) and CBWFQ (Class-Based Weighted Fair Queuing) to enable QoS on a per hop basis instead of relying on over-provisioned trunks like other Service Providers. Customer access connections and the uplink trunks between the PE routers and the P-Core routers utilize a similar but enhanced Layer 3 QoS scheme, i.e., LLQ and CBWFQ, which, together with the core, provides end-to-end QoS support for Private IP customers.

The Verizon Private IP network will automatically detect and dynamically reroute around transmission path failures. The OSPF routing protocol is used within the Private IP network to establish and maintain IP reachability. OSPF reroute times will vary depending on where the path fails (immediate for local physical failure and dead timer interval for remote failures). LDP (Label Distribution Protocol) is used to dynamically establish LSPs (Label

Switched Paths) between all PE and P routers and will immediately re-establish the LSP following an OSPF rerouting event.

**Telecommunications Service Priority (TSP)** – TSP is a federally-established program under which the Office of Priority Telecommunications in the Executive Office of the President prioritizes the restoration and provisioning of telecommunications services – including services to states, private companies and institutions -- that support national security or emergency preparedness (NS/EP). TSP services are in two categories: Priority Provisioning (including Emergency Provisioning and Essential Provisioning) and Priority Restoration. Note a customer may subscribe to either Emergency Provisioning or Essential Provisioning for a circuit, but may not subscribe to both.

1. Emergency Provisioning is provided by MCI in response to an emergency, when the Customer's need for a service is critical and must be provisioned at the earliest possible time, without regard to the cost to the Customer. In Emergency Provisioning MCI will take immediate action to allocate the resources necessary to provision circuit(s) and any related special construction assigned an Emergency Provisioning priority level as soon as possible, including dispatching personnel outside normal MCI business hours.
2. Essential Provisioning is provided for new essential NS/EP service that must be installed by a specific date that cannot be met using normal MCI business procedures. In Essential Provisioning, MCI will adjust its resources to make its best effort to provision the circuit(s) and any related special construction assigned an Essential Provisioning priority level, by the requested service due date, based on the priority level assigned.
3. Priority Restoration designation establishes priorities for restoring NS/EP service in the event of an outage or failure of multiple services. MCI will dispatch personnel outside normal business hours if necessary to restore circuit(s) (and provide any related special construction) assigned a Priority Restoration level of 1, 2, or 3. MCI will dispatch personnel outside normal business hours to restore circuits (and provide any related special construction) assigned a Priority Restoration level of 4 or 5 only when the next business day is more than 24 hours away.

TSP services are available on any circuit type: PRI, T1, Analog, Internet Dedicated, Frame, ATM, Private Line, etc.

State and Local agencies can get sponsorship for TSP from the National Communications System at <http://tsp.ncs.gov>.

## **SERVICE LEVELS:**

Verizon Business is committed to providing superior performance on our Private IP Service which is demonstrated by the Service Level Standards available to new and renewal U.S.-contracted customers utilizing pre-VBS, VBS I, or VBS II rate structures. The Private IP SLA is available to customers with a minimum of a one-year Service commitment and a total of three or more Private IP circuits.

### **Service Level Standards**

Following is a summary of the Service Level Standards offered:

- **End-to-end Circuit Availability** – The total number of Eligible Hard Outage Minutes in a calendar month for a specific customer Connection, divided by the total number of minutes based on a 30-day calendar month. End-to-end Circuit Availability includes the local access from the customer premise to the Verizon Private IP Provider Edge (PE) and the Private IP Network including customer's Type 1, Type 2, or Type 3 Access, but excludes CPLL and the Customer CPE.
- **Site Availability - Dual Port** – Provided to Customer Sites utilizing the Disaster Recovery Port feature with Router Diversity, in addition to redundant local access, and is based on the total number of Eligible

Hard Outage Minutes in a calendar month during which the Site is available to exchange data, divided by the total number of minutes based on a 30-day calendar month, excluding any customer time required to re-route traffic to the Disaster Recovery Port or any other outage time applicable to any Service Level Standard exclusion.

- **Time to Repair (TTR)** – The time taken to restore Service during a Hard Outage on a specific Connection.
- **Private IP U.S. Network Delay** – U.S. Network Delay is the monthly network round trip average between Verizon-designated core backbone network across the contiguous United States Private IP network using 64-byte packets for measurement excluding any traffic that is re-routed as a result of a network outage or scheduled maintenance. The U.S. Network Delay SLA is 36MS round trip or less.
- **Private IP Provider Edge (PE) Pair Delay** – The PE-to-PE round trip delay in milliseconds between respective Provider Edge device pairs on the Verizon Private IP Network using 64-byte packets for measurement, that are utilized to deliver Service to Customer. The NTD performance guarantee is stated in the Private IP Network Transit Delay Matrix located within the [Verizon Business Customer Center \(VBCC\)](#) portal. In order to view the Private IP Network Transit Delay Matrix, select the Network Tools tab after logging into VBCC, select the "View SLA for Verizon Business and Local Services" link and select "None" as the ID.
- **Packet Delivery Ratio (PDR)** – The average ratio of Customer's packets within a specified traffic priority class that are successfully delivered to total Customer packets within the specified traffic priority class that are sent over Verizon's Private IP Network in a calendar month.
- **Jitter is the PE-to-PE** – Mean deviation of the difference in packet arrival time at the receiver compared to the sender for a pair of packets and applies only to EF traffic.
- **Service Installation Interval** – The period of time beginning on the Order Acceptance date and ending on the date Verizon completes installation of the Service and the Service is up and billable.
- **Moves, Adds, or Changes (MAC) Interval** – The period of time beginning on the Order Acceptance date and ending on the date Verizon completes the order for the Service.

The Service Level Standards vary by class of service, access type, geographic location and outage type and are applicable to the specific Connection(s) at customer's site based on these variables.

## Class of Service

Following are the available classes of service:

Queue	Naming
<b>EF*</b>	Real Time/Voice
<b>AF4</b> AF41, AF42/43	Video/Priority Data
<b>AF3</b> AF31, AF32/33	Mission Critical Data
<b>AF2</b> AF21, AF 22/23	Transactional Data
<b>AF1</b> AF11, AF 12/13	General Data
<b>BE</b>	General Business - Default

\*The EF queue is not designed for packets larger than 300 bytes or bursty traffic.

## Access Types

The Private IP-SLA covers the following access types:

- Type 1 Access – Circuits for which local access are furnished wholly via MCI Legacy Company facilities or circuits which are collocated in MCI Legacy Company facilities.
- Type 2 Access – Circuits for which local access is furnished in part via MCI Legacy Company facilities.
- Type 3 Access – Circuits for which local access is not furnished via MCI Legacy Company facilities, but where Verizon invoices the local access cost to Customer.
- Sites and Connections – Served by CPLL with the understanding that any service events or performance issues that are related to and/or caused by CPLL are within Customer's span of responsibility and will be excluded from Service Level Standard calculations.

## Service Level Standard Metrics by Region

### U.S. Region

(Contiguous 48 United States and Hawaii)

The United States Tier covers the 48 contiguous United States and Hawaii. Customers in the state of Alaska using the Frame Relay Extension (FRE) with our partner GCI are not covered in the Private IP SLA.

Access	End-to-end Circuit Availability	Site Availability - Dual Port	Private IP Network TTR	U.S. Network Delay	Private IP PE Pair Delay	Packet Delivery Ratio	Jitter - EF Class	Service Installation	Port and CAR Moves, Adds or Changes (MAC)
Type 1	100%	100%	2 Hours	36MS or less round trip	50 ms-one way (See Private IP Network Transit Delay Matrix)	EF - 99.995% AF - 99.99% BE - 99.5%	<5MS	45 Business Days	10 Business Days
Type 2, 3, or CPLL	99.9%	100%	4 Hours	36MS or less round trip	50 ms-one way (See Private IP Network Transit Delay Matrix)	EF - 99.995% AF - 99.99% BE - 99.5%	<5MS	45 Business Days	10 Business Days

### **SERVICE AVAILABILITY/LIMITATIONS:**

Private IP is available in all locations in Connecticut.

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**SERVICE NAME: Private IP (MPLS) Services**

Activity (Add, Delete, Change)	Date of Vendor Request	Date Approved By DOIT	Item	Item Code	Description of Service/Equipment	Unit	Non-Recurring Unit Cost	Recurring Monthly Cost
					<b>PIP - T1</b>			
Add	09/16/08	10/31/08	1		PIP - 64 Kbps	ea	\$0.00	\$ 48.75
Add	09/16/08	10/31/08	2		PIP - 128 Kbps	ea	\$0.00	\$ 86.00
Add	09/16/08	10/31/08	3		PIP - 256 Kbps	ea	\$0.00	\$ 138.50
Add	09/16/08	10/31/08	4		PIP - 512 Kbps	ea	\$0.00	\$ 219.25
Add	09/16/08	10/31/08	5		PIP - 768 Kbps	ea	\$0.00	\$ 274.50
Add	09/16/08	10/31/08	6		PIP - 1024 Mbps	ea	\$0.00	\$ 338.00
Add	09/16/08	10/31/08	7		PIP - T1 1.536 Mbps	ea	\$0.00	\$ 414.25
Add	09/16/08	10/31/08	8		PIP - 2xT1 3.072 Mbps	ea	\$0.00	\$ 689.75
Add	09/16/08	10/31/08	9		PIP - 3xT1 4.608 Mbps	ea	\$0.00	\$ 846.50
Add	09/16/08	10/31/08	10		PIP - 4xT1 6.144 Mbps	ea	\$0.00	\$ 919.25
Add	09/16/08	10/31/08	11		PIP - 5xT1 7.680 Mbps	ea	\$0.00	\$ 1,006.50
Add	09/16/08	10/31/08	12		PIP - 6xT1 9.216 Mbps	ea	\$0.00	\$ 1,120.50
Add	09/16/08	10/31/08	13		PIP - 7xT1 10.752 Mbps	ea	\$0.00	\$ 1,223.00
Add	09/16/08	10/31/08	14		PIP - 8xT1 12.288 Mbps	ea	\$0.00	\$ 1,325.25
					<b>PIP - T3</b>			
Add	09/16/08	10/31/08	15		T3 - 44.184/44.736 Mbps	ea	\$0.00	\$ 1,752.00
					<b>PIP - OC3</b>			
Add	09/16/08	10/31/08	16		OC3 - 155/155.52Mbps	ea	\$0.00	\$ 4,750.00
					<b>PIP - OC12</b>			
Add	09/16/08	10/31/08	17		OC12 - 622.08 Mbps	ea	\$0.00	\$ 14,600.00
					<b>PIP - PIP - Ethernet</b>			
Add	09/16/08	10/31/08	18		PIP - Ethernet - 1Mbps	ea	\$0.00	\$ 338.00
Add	09/16/08	10/31/08	19		PIP - Ethernet - 2 Mbps	ea	\$0.00	\$ 625.00
Add	09/16/08	10/31/08	20		PIP - Ethernet - 3 Mbps	ea	\$0.00	\$ 689.75
Add	09/16/08	10/31/08	21		PIP - Ethernet - 4 Mbps	ea	\$0.00	\$ 794.25
Add	09/16/08	10/31/08	22		PIP - Ethernet - 5 Mbps	ea	\$0.00	\$ 875.00
Add	09/16/08	10/31/08	23		PIP - Ethernet - 6 Mbps	ea	\$0.00	\$ 919.25
Add	09/16/08	10/31/08	24		PIP - Ethernet - 7 Mbps	ea	\$0.00	\$ 963.00
Add	09/16/08	10/31/08	25		PIP - Ethernet - 8 Mbps	ea	\$0.00	\$ 1,044.50
Add	09/16/08	10/31/08	26		PIP - Ethernet - 9 Mbps	ea	\$0.00	\$ 1,082.50
Add	09/16/08	10/31/08	27		PIP - Ethernet - 10 Mbps	ea	\$0.00	\$ 1,190.75
Add	09/16/08	10/31/08	28		PIP - Ethernet - 15 Mbps	ea	\$0.00	\$ 1,380.50
Add	09/16/08	10/31/08	29		PIP - Ethernet - 20 Mbps	ea	\$0.00	\$ 1,481.00
Add	09/16/08	10/31/08	30		PIP - Ethernet - 25 Mbps	ea	\$0.00	\$ 1,526.00
Add	09/16/08	10/31/08	31		PIP - Ethernet - 30 Mbps	ea	\$0.00	\$ 1,571.25
Add	09/16/08	10/31/08	32		PIP - Ethernet - 35 Mbps	ea	\$0.00	\$ 1,661.75
Add	09/16/08	10/31/08	33		PIP - Ethernet - 40 Mbps	ea	\$0.00	\$ 1,737.50
Add	09/16/08	10/31/08	34		PIP - Ethernet - 50 Mbps	ea	\$0.00	\$ 1,875.00
Add	09/16/08	10/31/08	35		PIP - Ethernet - 60 Mbps	ea	\$0.00	\$ 2,175.00
Add	09/16/08	10/31/08	36		PIP - Ethernet - 70 Mbps	ea	\$0.00	\$ 2,450.00
Add	09/16/08	10/31/08	37		PIP - Ethernet - 80 Mbps	ea	\$0.00	\$ 2,700.00
Add	09/16/08	10/31/08	38		PIP - Ethernet - 90 Mbps	ea	\$0.00	\$ 2,925.00
Add	09/16/08	10/31/08	39		PIP - Ethernet - 100 Mbps	ea	\$0.00	\$ 3,125.00
Add	09/16/08	10/31/08	40		PIP - Ethernet - 200 Mbps	ea	\$0.00	\$ 6,000.00
Add	09/16/08	10/31/08	41		PIP - Ethernet - 250 Mbps	ea	\$0.00	\$ 7,375.00
Add	09/16/08	10/31/08	42		PIP - Ethernet - 300 Mbps	ea	\$0.00	\$ 8,625.00

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Add	09/16/08	10/31/08	43		PIP - Ethernet - 350 Mbps	ea	\$0.00	\$ 9,875.00	
Add	09/16/08	10/31/08	44		PIP - Ethernet - 400 Mbps	ea	\$0.00	\$ 11,000.00	
Add	09/16/08	10/31/08	45		PIP - Ethernet - 450 Mbps	ea	\$0.00	\$ 11,800.00	
Add	09/16/08	10/31/08	46		PIP - Ethernet - 500 Mbps	ea	\$0.00	\$ 12,500.00	
Add	09/16/08	10/31/08	47		PIP - Ethernet - 600 Mbps	ea	\$0.00	\$ 14,250.00	
Add	09/16/08	10/31/08	48		PIP - Ethernet - 700 Mbps	ea	\$0.00	\$ 15,750.00	
Add	09/16/08	10/31/08	49		PIP - Ethernet - 800 Mbps	ea	\$0.00	\$ 17,000.00	
Add	09/16/08	10/31/08	50		PIP - Ethernet - 900 Mbps	ea	\$0.00	\$ 18,000.00	
Add	09/16/08	10/31/08	51		PIP - Ethernet - 1000 Mbps	ea	\$0.00	\$ 18,750.00	
					<b>PIP - PVC Silver CAR</b>				
Add	09/16/08	10/31/08	52		PIP - PVC 16 Kbps	ea	\$0.00	\$ 6.00	
Add	09/16/08	10/31/08	53		PIP - PVC 48 Kbps	ea	\$0.00	\$ 15.50	
Add	09/16/08	10/31/08	54		PIP - PVC 56 Kbps	ea	\$0.00	\$ 20.00	
Add	09/16/08	10/31/08	55		PIP - PVC 64 Kbps	ea	\$0.00	\$ 20.00	
Add	09/16/08	10/31/08	56		PIP - PVC 128 Kbps	ea	\$0.00	\$ 36.50	
Add	09/16/08	10/31/08	57		PIP - PVC 256 Kbps	ea	\$0.00	\$ 73.50	
Add	09/16/08	10/31/08	58		PIP - PVC 512 Kbps	ea	\$0.00	\$ 152.50	
Add	09/16/08	10/31/08	59		PIP - PVC 768 Kbps	ea	\$0.00	\$ 207.00	
Add	09/16/08	10/31/08	60		PIP - PVC 1024 Mbps	ea	\$0.00	\$ 264.50	
Add	09/16/08	10/31/08	61		PIP - PVC 1.536 Mbps	ea	\$0.00	\$ 285.00	
Add	09/16/08	10/31/08	62		PIP - PVC 3.072 Mbps	ea	\$0.00	\$ 324.50	
Add	09/16/08	10/31/08	63		PIP - PVC 4.608 Mbps	ea	\$0.00	\$ 486.50	
Add	09/16/08	10/31/08	64		PIP - PVC 6.000 Mbps	ea	\$0.00	\$ 642.50	
Add	09/16/08	10/31/08	65		PIP - PVC 6.144 Mbps	ea	\$0.00	\$ 658.00	
Add	09/16/08	10/31/08	66		PIP - PVC 7.680 Mbps	ea	\$0.00	\$ 822.50	
Add	09/16/08	10/31/08	67		PIP - PVC 8.000 Mbps	ea	\$0.00	\$ 856.75	
Add	09/16/08	10/31/08	68		PIP - PVC 9.008 Mbps	ea	\$0.00	\$ 964.75	
Add	09/16/08	10/31/08	69		PIP - PVC 9.216 Mbps	ea	\$0.00	\$ 987.00	
Add	09/16/08	10/31/08	70		PIP - PVC 10.000 Mbps	ea	\$0.00	\$ 1,071.00	
					<b>PIP - PVC Gold CAR</b>				
Add	09/16/08	10/31/08	71		PIP - PVC 16 Kbps	ea	\$0.00	\$ 6.00	
Add	09/16/08	10/31/08	72		PIP - PVC 48 Kbps	ea	\$0.00	\$ 15.50	
Add	09/16/08	10/31/08	73		PIP - PVC 64 Kbps	ea	\$0.00	\$ 20.00	
Add	09/16/08	10/31/08	74		PIP - PVC 128 Kbps	ea	\$0.00	\$ 36.50	
Add	09/16/08	10/31/08	75		PIP - PVC 256 Kbps	ea	\$0.00	\$ 73.50	
Add	09/16/08	10/31/08	76		PIP - PVC 512 Kbps	ea	\$0.00	\$ 152.50	
Add	09/16/08	10/31/08	77		PIP - PVC 768 Kbps	ea	\$0.00	\$ 207.00	
Add	09/16/08	10/31/08	78		PIP - PVC 1024 Mbps	ea	\$0.00	\$ 264.50	
Add	09/16/08	10/31/08	79		PIP - PVC 1.536 Mbps	ea	\$0.00	\$ 285.00	
Add	09/16/08	10/31/08	80		PIP - PVC 3.072 Mbps	ea	\$0.00	\$ 324.50	
Add	09/16/08	10/31/08	81		PIP - PVC 4.608 Mbps	ea	\$0.00	\$ 486.50	
Add	09/16/08	10/31/08	82		PIP - PVC 6.000 Mbps	ea	\$0.00	\$ 642.50	
Add	09/16/08	10/31/08	83		PIP - PVC 6.144 Mbps	ea	\$0.00	\$ 658.00	
Add	09/16/08	10/31/08	84		PIP - PVC 7.680 Mbps	ea	\$0.00	\$ 822.50	
Add	09/16/08	10/31/08	85		PIP - PVC 8.000 Mbps	ea	\$0.00	\$ 856.75	
Add	09/16/08	10/31/08	86		PIP - PVC 9.008 Mbps	ea	\$0.00	\$ 964.75	
Add	09/16/08	10/31/08	87		PIP - PVC 9.216 Mbps	ea	\$0.00	\$ 987.00	
Add	09/16/08	10/31/08	88		PIP - PVC 10.000 Mbps	ea	\$0.00	\$ 1,071.00	

**VENDOR NAME: Verizon Business d/b/a MCI WORLDCOM Communications, Inc.** **VENDOR FEIN: 47-0751768**

**SERVICE NAME: Private IP (MPLS) Services**

Activity (Add, Delete, Change)	Date of Vendor Request	Date Approved By DOIT	Item	Item Code	Description of Service/Equipment	Unit	Non-Recurring Unit Cost	Recurring Monthly Cost	
Add	09/16/08	10/31/08	89		PIP - PVC 10.752 Mbps	ea	\$0.00	\$ 1,151.50	
Add	09/16/08	10/31/08	90		PIP - PVC 12.288 Mbps	ea	\$0.00	\$ 1,316.00	
Add	09/16/08	10/31/08	91		PIP - PVC 15.360 Mbps	ea	\$0.00	\$ 1,645.00	
Add	09/16/08	10/31/08	92		PIP - PVC 20.000 Mbps	ea	\$0.00	\$ 2,142.00	
Add	09/16/08	10/31/08	93		PIP - PVC 24.576 Mbps	ea	\$0.00	\$ 2,632.00	
Add	09/16/08	10/31/08	94		PIP - PVC 30.000 Mbps	ea	\$0.00	\$ 3,090.25	
Add	09/16/08	10/31/08	95		PIP - PVC 34.368Mbps	ea	\$0.00	\$ 3,540.50	
Add	09/16/08	10/31/08	96		PIP - PVC 40.000 Mbps	ea	\$0.00	\$ 4,119.00	
Add	09/16/08	10/31/08	97		PIP - PVC 40.256 Mbps	ea	\$0.00	\$ 4,124.00	
Add	09/16/08	10/31/08	98		PIP - PVC 44.992 Mbps	ea	\$0.00	\$ 4,414.25	
					<b>PIP - Multicasting - Sending Sites</b>				
Add	09/16/08	10/31/08	99		Small tier 16k-511k	ea	\$0.00	\$ 40.00	
Add	09/16/08	10/31/08	100		Medium tier 512-1.4M	ea	\$0.00	\$ 160.00	
Add	09/16/08	10/31/08	101		Large tier 1.5M - 2.99M	ea	\$0.00	\$ 322.50	
Add	09/16/08	10/31/08	102		X Large tier 3M-5.99M	ea	\$0.00	\$ 642.50	
					<b>PIP Remote Configuration</b>				
					Standard Non-Recurring Charge for remote configuration standard work time (four hours per site).				
Add	09/16/08	10/31/08	103			ea	\$600.00	\$ -	
					<b>PIP WAN Analysis Reporting</b>				
					Standard Customer Standard Reporting				
Add	09/16/08	10/31/08	104			ea	\$0.00	Free	
Add	09/16/08	10/31/08	105		Standard Customer Standard Select Reporting	ea	\$0.00	\$ 15.00	per site
Add	09/16/08	10/31/08	106		Standard Customer ETM Reporting	ea	\$0.00	\$ 35.00	per site
Add	09/16/08	10/31/08	107		Standard Customer - ETM Select Reporting	ea	\$0.00	\$ 50.00	per site
Add	09/16/08	10/31/08	108		ETM Customer Standard Reporting	ea	\$0.00	Free	
Add	09/16/08	10/31/08	109		ETM Customer Standard Select Reporting	ea	\$0.00	Free	
Add	09/16/08	10/31/08	110		ETM Customer ETM Reporting	ea	\$0.00	Free	
Add	09/16/08	10/31/08	111		ETM Customer ETM Select Reporting	ea	\$0.00	\$ 15.00	per site
Add	09/16/08	10/31/08	112		Application Analysis Reporting	ea	\$0.00	\$ 3.50	per desktop
Add	09/16/08	10/31/08	113		Application Priority Reporting	ea	\$0.00	\$ 4.00	per desktop
					<b>Local Access</b> (T1 loop required) - Local Access Charges vary based on the location being served. Please call your VzB Account Team for exact pricing.				
Add	10/30/08	10/31/08	114		DS0 Access - Zone 1 Locations	ea	\$0.00	\$131.75	
Add	10/30/08	10/31/08	115		DS0 Access - Zone 2 Locations	ea	\$0.00	\$178.50	
Add	10/30/08	10/31/08	116		DS1 Access - Zone 1 Locations	ea	\$0.00	\$197.60	
Add	10/30/08	10/31/08	117		DS1 Access - Zone 2 Locations	ea	\$0.00	\$281.20	
Add	10/30/08	10/31/08	118		DS1 Access - Zone 3 Locations	ea	\$0.00	\$402.80	
Add	10/30/08	10/31/08	119		DS1 Access - Zone 4 Locations	ea	\$0.00	\$608.00	
Add	10/30/08	10/31/08	120		2xT1 (3.0M) Access - Multiply times 2	ea	\$0.00	x2	
Add	10/30/08	10/31/08	121		3xT1 (4.5M) Access - Multiply times 3	ea	\$0.00	x3	
Add	10/30/08	10/31/08	122		4xT1 (6.0M) Access - Multiply times 4	ea	\$0.00	x4	
Add	10/30/08	10/31/08	123		5xT1 (7.5M) Access - Multiply times 5	ea	\$0.00	x5	
Add	10/30/08	10/31/08	124		6xT1 (9.0M) Access - Multiply times 6	ea	\$0.00	x6	
Add	10/30/08	10/31/08	125		7xT1 (10.5M) Access - Multiply times 7	ea	\$0.00	x7	

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**SERVICE NAME: Private IP (MPLS) Services**

Activity (Add, Delete, Change)	Date of Vendor Request	Date Approved By DOIT	Item	Item Code	Description of Service/Equipment	Unit	Non-Recurring Unit Cost	Recurring Monthly Cost	
Add	10/30/08	10/31/08	126		8xT1 (12.0M) Access - Multiply times 8	ea	\$0.00		x8
Add	10/30/08	10/31/08	127		DS3 Access (please call the account team for improved pricing)	ea	\$0.00	\$3,000.00	
Add	10/30/08	10/31/08	128		10MB Lit Building Access	ea	\$0.00	\$533.00	
Add	10/30/08	10/31/08	129		5MB Access to 111 Country Club Road, Middletown, CT	ea	\$0.00	\$1,649.00	
Add	10/30/08	10/31/08	130		5MB Access Cross-Connect to IBM Sterling Forest	ea	\$0.00	\$442.00	
Add	10/30/08	10/31/08	131		TSP Emergency/Essential Provisioning without local access channel coordination	ea	\$460.00	\$0.00	
Add	10/30/08	10/31/08	132		TSP Emergency/Essential Provisioning with one local access channel coordination	ea	\$715.00	\$0.00	
Add	10/30/08	10/31/08	133		TSP Emergency/Essential Provisioning for each additional local access coordination	ea	\$715.00	\$0.00	
Add	10/30/08	10/31/08	134		TSP Emergency/Essential Provisioning for each Local Access Channel - CT	ea	\$118.02	\$0.00	
Add	10/30/08	10/31/08	135		TSP Priority Restoration without local access channel coordination	ea	\$305.00	\$16.00	
Add	10/30/08	10/31/08	136		TSP Priority Restoration with one local access channel coordination	ea	\$710.00	\$16.00	
Add	10/30/08	10/31/08	137		TSP Priority Restoration for each additional local access channel coordination	ea	\$710.00	\$16.00	
Add	10/30/08	10/31/08	138		TSP Priority Restoration Local Access Channel Charge - CT	ea	\$105.03	\$9.16	
Add	10/30/08	10/31/08	139		TSP Level or Design Change to a pending TSP service order without local access coordination	ea	\$45.00	\$0.00	
Add	10/30/08	10/31/08	140		TSP Level or Design Change to a pending TSP service order requiring local access coordination	ea	\$195.00	\$0.00	
Add	10/30/08	10/31/08	141		TSP Local Access Change Charge	ea	\$65.80	\$0.00	
Note: TSP charges apply to both Interstate and Interstate circuits and are the same for both									
NOTE: Grey highlighted items are no longer available. They have been either deleted, changed, and/or no longer apply.									