



MANAGED WAN OPTIMIZATION SERVICE

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1. GENERAL

- 1.1 **Service Definition.** Managed WAN Optimization Service (Managed WOS or MWOS) provides activation, management, and monitoring service for WAN Accelerators within Customer's Verizon Managed WAN service as well as optional features (subject to availability).
 - 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.
- 1.2 **Standard Service Features.** Customer may order 1 of 3 levels of Managed WOS in combination with its Managed WAN Services: 1) Monitor and Notify; 2) Physical Management; or 3) Full Management, each as described below.
 - 1.2.1 **Monitor and Notify.** The most basic level of Managed WOS is Monitor and Notify, under which Verizon provides the following capabilities.
 - **Monitoring.** Verizon proactively monitors each WAN Accelerator 24 hours a day, 7 days a week.
 - **Notification.** Verizon will create a trouble ticket and send a notification to Customer's designated point of contact within 15 minutes of Verizon's determination of a WAN Accelerator failure. Upon the creation of a trouble ticket, Verizon will inform Customer of the fault and monitor the ticket.
 - **Customer Portal.** Verizon will provide a Customer Portal (the Verizon Enterprise Center or other website provided by Verizon from time to time).
 - 1.2.2 **Physical Management.** Physical Management contains the capabilities of Monitor and Notify plus the additional capabilities of initial pre-implementation network design consultation, implementation, physical and logical WAN Accelerator fault isolation, detection, and monitoring. Verizon will manage the physical fault resolution by Verizon or an Approved Maintenance Provider.
 - 1.2.3 **Full Management.** Full Management contains the capabilities of Physical Management plus the following additional capabilities:
 - **Application Analysis Service.** Verizon will provide Application Analysis service as a network consulting service which provides ongoing WAN Accelerator performance reports analysis, WAN Accelerator reporting overview, and follow-up recommendations relating to key areas of WAN Accelerator network operation.
 - **Reporting.** Verizon will provide quarterly aggregate performance and utilization analysis and reporting to Customer for Customer's WAN Accelerator network. In addition, ad hoc reports can

be requested by Customer and will be fulfilled at Verizon's discretion. Reports are delivered via the Customer Portal or Customer may request email delivery. Verizon will schedule a telephone conference with the Customer to present and review the monthly reporting at a mutually acceptable time. Certain CPE configurations may require a Management Console to provide performance analysis and reports for Full Management.

- **Problem Notification and Resolution.** Verizon will provide problem notification and such resources as necessary to isolate and resolve performance issues with the WAN Accelerator network.
- **Performance Review.** Verizon and the Customer will review the performance of the WAN Accelerator network every 3 calendar months. Customer may accept or reject Verizon's recommendations at its option and accepted recommendations may be implemented by a Customer-initiated change management request.

1.3 **Optional Service Features**

- 1.3.1 **Implementation.** Customer can order either managed implementation or managed take-over implementation options to implement Managed WOS at each site. Managed implementation and managed take over for Managed WOS is performed in the same manner as Managed WAN and under the same terms and conditions as the Verizon Managed WAN terms.
- 1.3.2 **WAN Analysis Standard Select Reporting.** As part of Monitor and Notify, Customer may order WAN Analysis Reporting pursuant to the terms of the WAN Analysis service attachment. With this service, Verizon provides reporting services using an automated reporting and analysis tool that selects and condenses the management information base ("MIB") data into graphical reports available on demand via the Customer Portal.
- 1.3.3 **Network Engineering Service.** (For Customer Networks with 20 or more Managed Devices under Full Management). With Network Engineering, Verizon provides engineering planning, design and change-management support services.

~~1.3.4 **Wireless OOB.** Verizon may provide Customer with the option to order wireless out of band (OOB) access for approved Managed Devices. Wireless OOB provided on the SIM card will be machine-to-machine (M2M) data only (no voice) and carrier service data (CSD) and the PIN code of the SIM card will be removed.~~

1.4 **Customer Responsibilities**. Customer is responsible for the following:

- 1.4.1 **General.** Customer is responsible for the LAN connection and the operation and management of equipment necessary for inter-connection of the WAN Accelerator(s) and/or the Network or otherwise for use in conjunction with Managed WOS. Customer Equipment must continue to be compatible with Verizon's technical requirements related to Managed WOS.
- 1.4.2 **Monitor and Notify.** With Monitor and Notify, Customer is responsible for trouble isolation, diagnostics, repair and maintenance dispatch for the WAN Accelerator and associated downstream attached devices (e.g. cabling, servers, non-managed switches, firewalls, and personal computers). Customer is also responsible for the management of all equipment connected to the WAN Accelerator. Customer will provide Verizon with the SNMP ~~"Read Access Community String"~~ for all monitored WAN Accelerators. Customer is responsible for making and managing changes to its WOS network and any routine maintenance of each WAN Accelerator.
- 1.4.3 **Physical Management.** With Physical Management, logical faults are Customer's responsibility. Customer will inform Verizon once it has completed its logical troubleshooting.
- 1.4.4 **Full Management.** With Full Management, Customer is responsible for the resolution of Customer related issues.
- 1.4.5 **Customer Supplied WAN Accelerator.** If the WAN Accelerator is not provided by Verizon, Customer will ensure that it complies with Verizon's reasonable instructions and requirements to modify the WAN Accelerator to enable Verizon to provide, and Customer to receive, Managed WOS.

1.4.6 **Customer Portal.** Customer is limited to 10 user accounts and is responsible for ensuring that all users understand and comply with Verizon's confidentiality requirements.

1.4.7 **In-Band and OOB Access.** ~~Unless otherwise agreed, Customer will provide both in-band and OOB access to each Managed Device consistent with Verizon specifications for troubleshooting purposes. For Managed WOS Physical or Full Management, Customer also will provide Verizon read access to the Managed Device configuration, and will maintain any software licenses associated with Managed Devices. Customer will provide Verizon the SNMP read / write community string to any Managed Device whose configuration it wants Verizon to automatically backup. Managed WOS charges do not include OOB charges and such charges are payable by Customer directly to the provider, even if ordered via Verizon. OOB charges for Verizon-provided OOB are payable to Verizon. OOB access will only be used for Managed Device OOB management by Verizon.~~

1.4.8 **Dedicated Analog Line.** Where Managed WOS is provided with a non-Verizon supplied internet network connection and Customer has ordered Physical or Full Management, Customer must supply Verizon with OOB access via a separate dedicated analog line or CDMA or GSM/GPRS modem or dedicated analog line, as applicable. **Out-of-Band (OOB) Access.** Where available, OOB Access is a Managed WOS service option that can be selected by Customer for Managed WOS with the Physical Management or Full Management service level. Unless otherwise agreed, Customer will provide OOB Access to each Managed Device over a separate PSTN line (Analog OOB) or wireless connection (Wireless OOB). Direct console access connections are used to provide OOB Access to the Managed Devices. Console access works without an actual configuration on the Managed Device. Inline management requires a configured Managed Device. OOB Access is not required for the Monitor and Notify service level. Where Verizon provides OOB Access, Customer will not interfere with it, or use it for any purpose other than enabling OOB management by Verizon. Unless otherwise agreed to by Verizon, disconnecting the OOB Service voids any SLAs provided by Verizon.

For Customer Sites with Verizon's Managed WAN or Secure Gateway Remote Retail Office (RRO) with two or more circuits, Customer may utilize the Alternate Circuit or backup wireless options, where the backup access is used in lieu of either Analog OOB or Wireless OOB for inline management access to the Managed Devices, either by connecting into two separate Managed Devices or into a single Managed Device as part of Managed WAN or RRO.

Verizon also offers the No OOB option to Customers that do not have any OOB Access that can be used for management access.

~~1.4.8~~ 1.4.9 **Performance Review.** Customer will ensure that its contact details are up to date for quarterly review planning. If Verizon cannot reach the Customer contact by the provided phone or email, the review may be cancelled at Verizon's sole discretion.

~~1.4.10 **Disconnection of PSTN OOB.** Upon termination of the Managed WOS for whatever reason, it is Customer's responsibility to disconnect the PSTN lines at Customer Sites where Customer has provisioned the PSTN lines for OOB Access, as applicable.~~

2. **SUPPLEMENTAL TERMS.** In addition to the Master Terms, the following service-specific terms and conditions apply:

2.1 **Reports.** All reports and data are Verizon Confidential Information. Customer Confidential information embedded in such reports and data remains Customer Confidential Information. The Parties acknowledge that except as explicitly stated, reports are not designed for use in calculating SLA service performance, and so may not be useful for supporting SLA claims.

2.2 **WAN Accelerator and Software.** The WAN Accelerator, Management Console and related software, as well as software upgrades, may be ordered by a separate service attachment with Verizon and are governed by that agreement. Customer's use of WAN Accelerator and Management Console is subject to the manufacturer's end user agreement and software license, if any.

2.3 **Management Level.** The Managed WOS management level must be equal to or less than the management level of the Managed WAN Services at the same Customer Site. For locations with WAN

Accelerator modules within a Managed WAN Managed Device, the level of Managed WOS must be the same as the level of Managed WAN Services on that Managed WAN Managed Device.

2.4 **Maintenance Provider.** WAN Accelerators and Management Consoles must be under a 24 x 7 maintenance coverage plan with a ~~4~~four-hour response time with an Approved Maintenance Provider. Verizon Data Maintenance – Network may be ordered by a separate agreement with Verizon.

2.5 **Collocation.** If the WAN Accelerator managed as part of Managed WOS is collocated within a collocation facility, Customer's order of Managed WOS authorizes full access by Verizon representatives to the cabinet and the WAN Accelerator.

3. **SERVICE LEVEL AGREEMENT.** The service level agreement ("~~SLA~~") for Managed WOS may be found at the following URL: www.verizonenterprise.com/external/service_guide/reg/cp_mwos_sla.pdf for U.S. Services and non-U.S. Services

4. FINANCIAL TERMS

4.1 **Optimized Services.** Customer will pay the charges for Optimized Managed WOS + 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 for the associated service. MRCs and NRCs are based on management level. Managed WOS MRCs are fixed for the Service Commitment.

4.1.1 Administrative Charges

Administrative Charge	Charge Instance	NRC
Dispatch Charge	Dispatch/Re-Dispatch	\$300.00
Expedite Fee	Upon Customer Request	\$1,100.00
After Hours: Installation	Per site	\$600.00

4.1.2 **Managed Devices.** The standard WAN Accelerators and Management Consoles listed below apply to the rates in the Agreement. Devices not identified here are nonstandard CPE and may not be supportable or may be subject to different terms.

4.1.2.1 Small:

- CISCO: WAVE-274, WAVE-474, WAVE-574, WAVE-294, WAVE-594, SRE-710
- RIVERBED: CXA-255, SCC-1000

4.1.2.2 Medium:

- CISCO: WAVE-674, WAVE-694, SRE-910
- RIVERBED: CXA-570, CXA-755, CXA-3070, EXA-760, EXA-1160, EXA-1260, SMC-9000

4.1.2.3 Large:

- CISCO: WAE-7326, WAE-7341, WAVE-7541, WAVE-7571
- RIVERBED: CXA-1555, CXA-5055, INT-9350, CMC-8005, CMC-8006, CMC-8150

4.1.2.4 Extra Large:

- CISCO: WAVE-7571, WAVE-8541
- RIVERBED: CXA-5055, CXA-7055

4.1.3 **One-Time Management Charges.** Optional Change Management (OCM) provides additional remote change management support for Managed WOS for the NRC shown below. Customer can order specific OCM activities through the Customer Portal. The Standard Change Management activities shown in the Customer Portal are included in the MRC of the Managed WOS.

MWOS Optional Change Management Charges		
Change	Change Instance (Charged per device unless noted)	NRC
After Hours: Changes	Per request per site	\$600.00

Implementation (Modify Existing) ^{1,3}	Change per device	\$50.00
Design ^{2,3}	Change per device	\$250.00
Design Plus ^{2,3}	Change per device	\$400.00
<p>1. Implementation is used to modify existing features or protocols including the following: acceleration policies, backup, design and engineering changes, compression techniques, bandwidth changes, and traffic shaping and queuing.</p> <p>2. Design and Design Plus is used for requests to add single (Design) or multiple (Design Plus) new features, protocols or applications/policies that do not currently exist in the Customer Network, including the following: new design and engineering changes, perform device operating system change, perform device change out, conduct hardware module or hardware change, perform memory upgrade.</p> <p>3. Customer may create a new design at one site by selecting Design/Design Plus to add the new feature(s) or protocol(s) and then replicate the design across other sites by selecting Implementation for the remaining sites.</p>		

4.1.4 **Optional Services Charges.** Upon Customer's order, Customer will pay the NRCs and MRCs, as applicable, shown in an Agreement for Network Engineering and Wireless OOB.

4.2 **Non-Optimized Services.** Customer will pay MRCs and NRCs for non-Optimized Managed WOS service as specified in the Agreement. Online pricing for Service provided by a U.S. Verizon entity is at the following URL:

www.verizonenterprise.com/external/service_guide/reg/cp_mwos_legacy_rates_and_charges.pdf

5. **DEFINITIONS.** The following definitions apply to Managed WOS 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
Approved Maintenance Provider	A provider of maintenance services as approved by Verizon from time to time that is contracted for by the Customer. The current Approved Maintenance Providers are Verizon Data Maintenance, Cisco, Datacraft, Dimension Data, Juniper Networks and Wafer Systems.
Customer Network	A collection of Managed Devices and the network they are connected to.
Customer Portal	An Internet web portal that will provide a secure, scalable, consolidated view of Managed WOS information 24 hours a day, 7 days a week with real time access to project status, contact information, and information about Managed WAN Accelerators and Management Consoles. The Customer Portal can be accessed at: www.verizonenterprise.com .
Managed Device	The WAN Accelerators and Management Consoles managed by Verizon under Managed WOS.
Management Console	A device required by certain CPE vendor configurations in addition to the WAN Accelerator to provide performance analysis and reports for Full Management.
WAN Accelerator	Application accelerator equipment (including modules in Managed WAN Devices) and software.