Cisco Prime Optical 9.3

The following list of frequently asked questions is meant to help quickly address some of the commonly asked questions regarding Cisco Prime™ Optical Release 9.3. For more information on the product refer to the Cisco Prime Optical page at www.cisco.com/go/transport.

Q. What is Cisco Prime?

A. The Cisco Prime portfolio of enterprise and service provider management offerings empowers IT organizations to more effectively manage their networks and the services they deliver. Built on a service-centered foundation, the Cisco Prime portfolio of products supports integrated lifecycle management through an intuitive workflow-oriented user experience.

The suite of Cisco Prime for Service Providers solutions provides A-to-Z management for IP next-generation networks, mobility, video, and managed services.

Q. What is Cisco Prime Optical?

A. Cisco Prime Optical is Cisco's go-forward solution for service providers and other organizations that require carrier-grade capabilities for managing optical transport networks. Cisco Prime Optical 9.3 is the evolution of Cisco Transport Manager and includes all of the powerful capabilities of that offering combined with significant enhancements.

Q. Why is Cisco Prime Optical version 9.3?

A. Cisco Prime Optical 9.3 is the evolution of Cisco Transport Manager and the go-forward solution for service providers and other organizations that require carrier-grade capabilities for managing optical transport networks. Cisco Prime Optical 9.3 is an upgrade from Cisco Transport Manager. Customers on versions 9.x of Cisco Transport Manager are entitled to no cost upgrades to Cisco Prime Optical as long as they have current support contracts.

Q. What are the major enhancements for Cisco Prime Optical 9.3?

A. New features in Cisco Prime Optical 9.3 include:

- Single EMS solution for packet optical transport system: A single software application that integrates the management and provisioning of legacy transport technologies (SONET, Synchronous Digital Hierarchy [SDH] with Dense Wave Division Multiplexing [DWDM]) and packet optical transport systems, accelerating the deployment of end-to-end services
- Improved scale and performance: Manages 25 percent more network elements with doubled performance in initial discovery time
- Lower total cost of ownership (TCO): Includes an embedded database and support for Linux servers, significantly reducing Cisco Prime Optical deployment and maintenance costs
- Easy to integrate: Integration with an existing Operations Support System (OSS) infrastructure is easier with the TMF 814 standard-compliant northbound interface extended to Ethernet services over Multiprotocol Label Switching Transport Profile (MPLS-TP)

For a complete listing of new capabilities, refer to the Cisco Prime Optical "What's New" document located at www.cisco.com/go/transport.

Q. Does the Cisco Prime Optical 9.3 Transaction Language One (TL1) Gateway support all the network elements?

A. No, TL1 Gateway is no longer supported with Cisco Prime Optical 9.3.

Q. What are the hardware requirements for Cisco Prime Optical 9.3?

A. See Chapter 1, "System Requirements," of the Installation guide at www.cisco.com/en/US/products/ps11670/prod_installation_guides_list.html.

Q. Is the Gateway/CORBA northbound interface available for all network element types?

A. Cisco Prime Optical 9.3 supports fault and inventory through the CORBA interface for all network element types. In addition the CORBA interface can be used for equipment and circuit provisioning on the Cisco ONS 15305, ONS 15327, ONS 15310-CL, ONS 15310-MA, ONS 15454 SONET, ONS 15454 SDH, ONS 15600 SONET, and ONS 15600 SDH. The CORBA interface can be used for performance monitoring for the Cisco ONS 15302, ONS 15305, ONS 15327, ONS 15454 SONET, ONS 15454 SDH, ONS 15600 SONET, and ONS 15600 SDH.

For further details on coverage, refer to the Cisco Prime Optical Gateway/CORBA Release 9.3 User Guide and Programmer Manual, available at www.cisco.com/en/US/products/ps11670/products_programming_reference_guides_list.html.

Q. Is the Gateway/CORBA interface based on an industry standard?

A. Yes, Gateway/CORBA is based on and compliant with TMF 814 (Version 3.0) as published by the TeleManagement Forum.

Q. Does Cisco Prime Optical provide a Simple Network Management Protocol (SNMP) northbound API?

A. Yes, Cisco Prime Optical forwards traps from network elements that use SNMP to send traps northbound. Cisco Prime Optical also includes support for Reliable Transfer Mode (RTM) SNMP northbound interface for MGX® Voice Gateways. This northbound alarm interface provides a mechanism to forward and filter MGX alarms and events in a reliable (Cisco RTM) or nonreliable (standard User Datagram Protocol [UDP]) format.

Q. Can Cisco Prime Optical 9.3 support a network with mixed releases of the same network element?

A. Yes, it can. See the Cisco Prime Optical Release Notes at www.cisco.com/en/US/products/ps11670/prod_release_notes_list.html for an updated list of network elements and releases supported by Cisco Prime Optical 9.3.

Q. Does the Cisco Prime Optical product include the required hardware?

A. No. Cisco Prime Optical is a software-only application product that is based on industry-standard, off-the-shelf Sun and Cisco Unified Computing System (UCS) hardware platforms.

Q. Are hard copy manuals shipped with Cisco Prime Optical 9.3?

A. No, Cisco Prime Optical documentation is available online at www.cisco.com/en/US/products/ps11670/tsd_products_support_series_home.html.

Q. Are there different configurations for the Cisco Prime Optical server?

A. Yes, the Cisco Prime Optical server can be installed in different configurations depending on the number of nodes managed and the hardware configuration available. The Cisco Prime Optical server can be installed in small, medium, large, and high-end configurations. For further details refer to the Installation Guide for Cisco Prime Optical 9.3 at www.cisco.com/en/US/products/ps11670/prod_installation_guides_list.html. Additionally, during the upgrade, users can change the configuration size to the next available (that is, medium to large and large to high end; upgrade from the small configuration to the medium configuration is not supported).

Q. Does Cisco Prime Optical 9.3 support a high availability (HA) configuration?

A. Yes, Cisco Prime Optical 9.3 can be installed on redundant servers in a failover configuration. The redundant servers can either be colocated or geographically separated. Information on the High Availability Solution can be found later in this document and at www.cisco.com/en/US/products/ps11670/prod_technical_reference_list.html.

Q. Can I download Cisco Prime Optical 9.3 from Cisco.com?

A. No, you must order the software, which is delivered on CD. Documentation is available for download through www.cisco.com/en/US/products/ps11670/tsd_products_support_series_home.html.

Q. Is Cisco Prime Optical 9.3 demonstration software available?

A. Yes, you can obtain Cisco Prime Optical 9.3 for evaluation from your Cisco sales representative or email us at prime-optical.com.

Q. What warranty is included with Cisco Prime Optical 9.3?

A. Cisco Prime Optical 9.3 includes a standard software warranty from Cisco that warrants for 90 days from the date of delivery to you that (a) the media on which the software is furnished will be free of defects in materials and workmanship under normal use; and (b) the software substantially conforms to its published specifications.

Q. Is there a service contract available for Cisco Prime Optical 9.3?

A. Yes, you must purchase a Cisco Software Application Support (SAS) contract to receive access to technical assistance through the Cisco Technical Assistance Center (TAC) or Cisco.com. Cisco SAS also provides you with Cisco Prime Optical software updates (maintenance, minor) as they are made available for the duration of your contract. Software Application Support plus Upgrades (SASU) service contracts are no longer available for Cisco Prime Optical 9.3.

Q. Does Cisco Prime Optical 9.3 support all the configuration and provisioning features provided in the Cisco Transport Controller for the Cisco ONS Family?

A. No, there are some feature differences between Cisco Prime Optical 9.3 and Cisco Transport Controller for the Cisco ONS 15305, ONS 15310-CL, ONS 15310-MA, ONS 15327, ONS 15454 SONET, ONS 15454 SDH, ONS 15600 SONET, and ONS 15600 SDH, CPT 600, CPT 200, CPT 50 These differences are identified in the Cisco Prime Optical 9.3 User Guide.

Q. What TCP and SNMP ports does Cisco Prime Optical use?

A. This information is documented in the Cisco Prime Optical 9.3 User Guide, which can be found at www.cisco.com/en/US/products/ps11670/products_user_guide_list.html.

Q. Is the Cisco Prime Optical database schema published?

A. Yes, the database schema is published for each Cisco Prime Optical release and can be found at www.cisco.com/en/US/products/ps11670/prod_technical_reference_list.html.

Q. Does Cisco Prime Optical 9.3 Client support Windows 7?

A. Yes.

Q. What are the options for Oracle licenses?

A. You can install the embedded database with the Cisco Prime Optical installation DVD without any additional license; in this case the database can only be accessed by the Cisco Prime Optical application. You can license Oracle based on the number of CPUs installed in your system or based on the number of named users. The Cisco Prime Optical 9.3 Standalone Installation Guide located at www.cisco.com/en/US/products/ps11670/prod_installation_guides_list.html provides detailed information on the number of named users required. Full Oracle licensing is required for the primary Sun server; no additional Oracle licenses are required for the secondary Sun server. An Oracle sales representative can offer the best advice on exact licensing fees, based on your hardware configuration.

High Availability Solution for Cisco Prime Optical

General

Q. Is there a high availability version of Cisco Prime Optical 9.3?

A. The Cisco Prime Optical 9.3 software used in the standalone version and in the High Availability Solution is the same. For the Cisco Prime Optical High Availability Agent 3.0, both Veritas high availability clustering software and third-party hardware are needed to set up a high availability environment. Cisco Prime Optical HA is available only for the Oracle Sun Server version. On Cisco UCS server redundancy can be obtained using an Active / Active configuration where two independent servers are managing concurrently the same network.

Q. Where can I obtain the Cisco Prime Optical High Availability Agent 3.0?

A. The Agent 3.0 is available for Solaris system only and it is included on the installation CD with Cisco Prime Optical 9.3 and also available for evaluation from your Cisco sales representative. The product part numbers are OPTICAL-9.3-SBY-K9and OPT-9-UPG-CORBA.

Q. Is there a migration mechanism for standalone Cisco Transport Manager 8.x customers to migrate to Cisco Prime Optical 9.3 in a high availability configuration?

A. You can migrate your current standalone Cisco Transport Manager instance to a standalone instance of Cisco Prime Optical 9.3, provided you follow the correct migration steps outlined in the installation guide found at www.cisco.com/en/US/products/ps11670/prod_installation_guides_list.html. It is not possible to migrate from a standalone to a high availability configuration.

Q. What is the virtual IP address?

A. The virtual IP address hides or masks the physical IP addresses normally assigned to the Sun server Ethernet ports. By masking the physical IP address, all network elements, clients, and OSSs target the virtual IP address. In the event of a hardware failover, the standby UNIX server assumes this virtual IP address. Only the active UNIX server has the virtual IP address, so all entities are communicating with the same IP address.

Q. Does a high availability design affect the functionality of the Cisco Prime Optical clients, network-element access, or OSS?

A. All services and features are designed to operate identically to a standalone configuration.

Q. Can the High Availability Solution be installed on an existing standalone server?

A. No. There is no migration path from a standalone Cisco Prime Optical configuration to a high availability configuration. The Veritas File System and Volume Manager software technologies (included in Veritas Database Edition/High Availability for Oracle) need to be installed immediately after the Solaris 10 operating system is installed.

Q. What licenses will I need with Cisco Prime Optical in a high availability environment?

A. You will need to purchase the Cisco Prime Optical High Availability Agent 3.0 right-to-use (RTU) license. When the license is purchased, all high availability documentation will be shipped to you on a CD. Please refer to our web page at www.cisco.com/en/US/products/ps11670/prod_release_notes_list.html to download the latest electronic copy of the Cisco Prime Optical release notes.

Q. Is any other Cisco software necessary, other than Cisco Prime Optical 9.3 and the Cisco Prime Optical High Availability Agent 3.0?

A. No.

Q. Is there any customization needed in the high availability environment?

A. You may wish to modify specific aspects of the high availability configuration to fit your environment, such as adding more Ethernet modules, not mirroring internal disks, or modifying steps that are documented in the Cisco Prime Optical High Availability Installation Guide.

Q. What does the Cisco Prime Optical High Availability Agent do?

A. It is a software module that monitors processes and assesses the status of the primary server to help ensure that Cisco Prime Optical is operating correctly.

Q. Will Cisco provide information on how to back up Cisco Prime Optical in a high availability environment?

A. Cisco provides an application note similar to the one provided for the Cisco Prime Optical standalone servers.

Q. What options do I have for backing up data?

A. For more information, please see the Cisco Prime Optical 9.3 User Guide where all the options for backing up data are reported. The Cisco Prime Optical 9.3 User Guide can be found at www.cisco.com/en/US/products/ps11670/products_user_guide_list.html.

Q. What information is included in the Cisco Prime Optical High Availability Installation Guide?

A. The document discusses all the reference hardware, part numbers, diagrams, and the references to the installation instructions for all the software (Solaris, all hardware and software patches, Veritas, Oracle, Cisco Prime Optical 9.3, and Cisco Prime Optical High Availability Agent 3.0).

Q. Where can I find other documentation about the Cisco Prime Optical and High Availability Agent?

A. The complete High Availability Solution package - all documentation on the Cisco Prime Optical High Availability Agent - is available on Cisco.com at a password-protected location. After you have purchased a license to operate the Cisco Prime Optical High Availability Agent, you will receive a complete printed copy of all High Availability Solution documents and a password to access Cisco.com. This website also contains the most up-to-date Cisco Prime Optical release notes.

Installation and Support

Q. What maintenance contracts are required for a high availability configuration?

A. The maintenance contracts required are:

- External high availability support from third-party vendors (consists of support for Sun servers, Veritas software, and Oracle)
- Annual Cisco Prime Optical maintenance contract from Cisco
- Disk array support (EMC, Hitachi, and so on)
- Tape or system backup support

Q. What are the options for external high availability support?

A. You can obtain support from the individual third-party vendors mentioned previously, through joint support alliances, or you can rely on your own in-house expertise.

Q. Does the annual Cisco Prime Optical maintenance contract differ for installation on high availability servers versus standalone servers?

A. Yes. For installation on high availability servers, you need to purchase the standard Cisco SAS contract for Cisco Prime Optical, along with a high availability SAS. The minimum baseline joint support alliance contract is also required, but you can purchase higher levels of support - such as 2-hour hardware replacement, fly-to-site, priority queuing, and more - from each vendor.

Q. Because the Cisco Prime Optical High Availability Solution consists of two Sun servers, does this require the purchase of two copies of Cisco Prime Optical and two maintenance contracts?

A. No. Only the Cisco Prime Optical software and a single maintenance contract are required.

Q. Why has Cisco chosen to recommend outsourced support for my high availability infrastructure?

A. Because timely resolution of critical problems is best managed by those with the expertise to assist with these third-party products.

Third-Party Hardware and Software

Q. Can I deviate from the specified Sun Solaris and Oracle releases with Cisco Prime Optical in a high availability environment?

A. No. Cisco Prime Optical 9.3 has been validated on specific Solaris 10 and Oracle 11g releases, as specified in the installation guide. Deviation from the specified Solaris or Oracle release in the standalone or high availability architecture may cause problems that the Cisco TAC team would be unable to reproduce.

Q. What hardware release of Solaris is used in the high availability and standalone Cisco Prime Optical configurations?

A. Both have been validated with Solaris 10 10/09 OS and later.

Q. What software is required to run on the high availability configuration?

A. The software requirements for the high availability configurations are as follows:

- Solaris 10 10/09 OS or later
- Cisco Prime Optical 9.3
- Cisco Prime Optical High Availability Agent 3.0

- Oracle Enterprise Database Edition (Oracle 11g) for Sun Solaris 10
- Veritas Storage Foundation High Availability 5.1 for Oracle on Solaris

For geographic redundancy, add:

- Veritas Volume Replicator 5.1
- Veritas Cluster Server VVR Agent 5.1
- Veritas Global Cluster Manager 5.1 (with data-replication option) MP3

In addition, all software patches for Solaris, Veritas, PCI adapters, and Oracle are required.

Q. How many licenses are required?

A. Table 1 lists the required software licenses for the Cisco Prime Optical High Availability Solution.

Table 1. Software Licenses for the Cisco Prime Optical High Availability Solution

Software	Number of Required Licenses
Cisco Prime Optical 9.3	1 license
Cisco Prime Optical High Availability Agent 3.0	1 license
Oracle Database 11g	See vendor for options
Veritas Storage Foundation High Availability 5.1 for Oracle on Solaris	1 license per server
Veritas Volume Replicator 5.1	1 license per server
Veritas Cluster Server VVR Agent 5.1	1 license per server
Veritas Global Cluster Manager 5.1	1 license (with data-replication option) per site

Please contact your Veritas sales representative for more details on configurations and pricing of the Veritas global clustering solutions.

Q. What are the options for Oracle licenses?

A. You can pay Oracle based on the number of CPUs installed in your system or based on the number of named users. The Cisco Prime Optical 9.3 Standalone Installation Guide found at www.cisco.com/en/US/products/ps11670/prod_installation_guides_list.html provides detailed information on the number of named users required. Full Oracle licensing is required for the primary Sun server; no additional Oracle licenses are required for the secondary Sun server. An Oracle sales representative can offer the best advice on exact licensing fees, based on your hardware configuration.

Q. Are extra Oracle named users or licenses required with the data-replication option in the High Availability Solution?

A. As specified earlier, the Cisco Prime Optical 9.3 software used in the High Availability Solution is identical to the standalone Cisco Prime Optical 9.3 software. There are no extra named users or licenses needed to operate in a high availability configuration.

Q. What does Veritas Storage Foundation High Availability 5.0 MP3 for Oracle on Solaris consist of?

A. Veritas Storage Foundation High Availability 5.0 MP3 for Oracle on Solaris comprises the following:

- Veritas Volume Manager (VxVM) 5.0 MP3
- Veritas File System (VxFS) 5.0 MP3
- Veritas Cluster Server (VCS) 5.0 MP3
- Veritas Cluster Server Oracle Agent 5.0 MP3

Q. Will the Cisco Prime Optical High Availability Agent work with any Sun hardware?

A. Yes, if the Sun hardware is configured with Solaris 10. Customers should make sure the hardware they plan to deploy (servers and disk arrays) has been validated and will be supported by Veritas. Confirmation of this can be found at www.symantec.com/business/theme.jsp?themeid=datacenter.

Q. Is Sun Cluster Server or Oracle Parallel Server part of the High Availability Solution?

A. No. There are a variety of ways that high availability can be deployed using a multitude of vendor software and hardware. The goal is to provide customers with an architecture that has been tested using Cisco Prime Optical High Availability Agent 3.0. Veritas was selected because it is a leading software high availability solution integrator and uses best-in-class Sun hardware and Oracle Relational Database Management System (RDBMS).

Failover

Q. What causes the secondary server to assume the role of the primary server?

A. The secondary server assumes the load of the primary server in the event of primary server failure. Essentially, a number of criteria must be met for the high availability setup to determine that the primary server has failed. When the high availability setup has detected a failure, the primary system is shut down in an orderly sequence (assuming no system failures on the CPU, motherboard, and so on), and the secondary server activates all appropriate daemons, launches Oracle, activates the virtual IP, and restarts Cisco Prime Optical.

Q. What is the impact on the network in the case of a primary server failure?

A. Any alarms sent to the primary server when the systems are switching to the secondary server will be lost until Cisco Prime Optical resynchronizes with the network element and receives an updated alarm status. When the secondary Cisco Prime Optical server comes online, Cisco Prime Optical can synchronize either manually or automatically to every network element to obtain the latest alarm status.

Q. Will the secondary server toggle back to the primary server if the Cisco Prime Optical High Availability Agent detects a failure in the secondary server?

A. No. This requires a platform manager intervention and prevents the systems from toggling back and forth until someone investigates what caused the initial failover situation.

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