Cisco Prime Optical Release 9.5

The following list of frequently asked questions is meant to help quickly address some of the commonly asked questions regarding Cisco Prime™ Optical Release 9.5. For more information on the product refer to the Cisco Prime Optical page at http://www.cisco.com/go/transport.

Q. What is Cisco Prime for IP Next Generation Network (NGN)?

A. The Cisco Prime for IP NGN suite simplifies the design, provisioning, and management of carrier-grade networks. It facilitates efficient operations across the entire service lifecycle to lower operating costs while meeting the highest level of customer expectations. Cisco Prime for IP NGN achieves this by providing a comprehensive, end-to-end network management solution that centralizes and automates service design, fulfillment, assurance, and performance analysis.

Q. What is Cisco Prime Optical?

A. Cisco Prime Optical is a component of the Cisco Prime for IP NGN suite that provides end-to-end configuration and provisioning capabilities and fault management for the optical domain, giving service providers and other organizations that require carrier-grade capabilities advanced, integrated tools for managing optical transport networks. Cisco Prime Optical is the evolution of Cisco® Transport Manager and includes all of the powerful capabilities of that offering combined with significant enhancements.

Q. What is Cisco Prime Optical Release 9.5?

A. Cisco Prime Optical 9.5 is the latest evolution of Cisco Prime Optical. Customers on versions 9.x of Cisco Transport Manager or on Cisco Prime Optical Release 9.x are entitled to no-cost upgrades to Cisco Prime Optical 9.5 as long as they have current support contracts.

Q. What are the major enhancements for Cisco Prime Optical 9.5?

A. New features in Cisco Prime Optical 9.5 include:

- Support of the Cisco Optical Network System (ONS) product family Release 9.4 and Cisco Carrier Packet Transport (CPT) product family Release 9.5, including full management of the ONS 15454 Any Rate Muxponder/Xponder Cards that integrate the transport of the following services:

  - SONET/SDH: STM-1/OC-3, STM-4/OC-12, STM-16/OC-48

  - OTN: OTU-1, OTU-2

  - Ethernet: Fast Ethernet (FE), Gigabit Ethernet (GE)

  - SAN: Enterprise Systems Connection (ESCON), 1 Gigabit Fibre Channel or fiber connectivity (FICON), 2 Gigabit Fibre Channel or FICON, 4 Gigabit Fibre Channel or FICON, 8 Gigabit Fibre Channel or FICON

  - Video: SD-SDI (270 Mbps), HD-SDI (1.485 Gbps), Third-generation SDI (3G-SDI) (2.970 Gbps)

- Support for the Optical Impairment-Aware Wavelength Switched Optical Networks (WSON) Control Plane

- Management of the dense wavelength division multiplexing (DWDM) interface of the Cisco ASR 9000 and Cisco CRS-1 Carrier Routing System to provide end-to-end management of IP over DWDM (IPoDWDM)

- Support for Synchronous Ethernet (SyncE) and IEEE 1588v2 Precision Time Protocol on the Cisco Carrier Packet Transport product family Release 9.5

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

Q. Does the Cisco Prime Optical 9.5 Transaction Language One (TL1) Gateway support all the network elements?

A. No. TL1 Gateway is no longer supported with Cisco Prime Optical 9.3 and 9.5.

Q. What are the hardware requirements for Cisco Prime Optical 9.5?

A. See Chapter 1, "System Requirements," of the installation guide at http://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 9.5 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, and ONS 15600 SONET. For further details on coverage, refer to the Cisco Prime Optical Gateway/CORBA Release 9.5 User Guide and Programmer Manual, available at http://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.

Q. Can Cisco Prime Optical 9.5 support a network with mixed releases of the same network element?

A. Yes, it can. See the Cisco Prime Optical Release Notes at http://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 9.5.

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™ (Cisco UCS™) hardware platforms.

Q. Are hard copy manuals shipped with Cisco Prime Optical 9.5?

A. No. Cisco Prime Optical documentation is available online at http://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 9.5 at http://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 9.5 support a high availability (HA) configuration?

A. Yes, Cisco Prime Optical 9.5 can be installed on redundant servers in a failover configuration. The Cisco Prime Optical 9.5 High Availability Installation Guide will be available online as a password-protected PDF. Go to http://www.cisco.com/en/US/docs/net_mgmt/prime/optical/9.5/high_availability/installation/guide/po_95_ha_IOC.pdf.

Q. Can I download Cisco Prime Optical 9.5 from Cisco.com?

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

Q. Is Cisco Prime Optical 9.5 demonstration software available?

A. Yes, you can obtain Cisco Prime Optical 9.5 for evaluation from your Cisco sales representative or email us at prime-optical@cisco.com.

Q. What warranty is included with Cisco Prime Optical 9.5?

A. Cisco Prime Optical 9.5 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 9.5?

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 9.5.

Q. Does Cisco Prime Optical 9.5 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 9.5 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, and CPT 50. These differences are identified in the Cisco Prime Optical 9.5 User Guide.

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

A. This information is documented in the Cisco Prime Optical 9.5 User Guide, which can be found at http://www.cisco.com/en/US/products/ps11670/products_user_guide_list.html.

Q. Is the Cisco Prime Optical database schema published?

A. No, the database schema is no longer published.

Q. Does Cisco Prime Optical 9.5 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. License of the database also can be purchased from Oracle following Oracle's licensing schema (there are two: CPU-based or Named User Plus (NUP)-based as described in the installation guide).

The Cisco Prime Optical 9.5 Standalone Installation Guide located at http://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

Q. Is there a HA version of Cisco Prime Optical 9.5?

A. The Cisco Prime Optical 9.5 software used in the standalone version and in the HA solution are the same. For the Cisco Prime Optical HA (Solaris version) Agent 3.0, both Veritas HA clustering software and third-party hardware are needed to set up a HA environment. For the Cisco Prime Optical HA Linux version, Oracle Active Data Guard (ADG) is included in the embedded license, while the Red Hat Cluster Suite must be obtained from Red Hat.

Q. Where can I obtain the Cisco Prime Optical HA 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 9.5 and also available for evaluation from your Cisco sales representative. The product part number is OPTICAL-9.5-SBY-K9.

Q. Is there a migration mechanism for standalone Cisco Transport Manager 8.x customers to migrate to Cisco Prime Optical 9.5 in a HA configuration?

A. You can migrate your current standalone Cisco Transport Manager instance to a standalone instance of Cisco Prime Optical 9.5, provided you follow the correct migration steps outlined in the installation guide found at http://www.cisco.com/en/US/products/ps11670/prod_installation_guides_list.html. It is not possible to migrate from a standalone to a HA 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 HA 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 HA solution be installed on an existing standalone server?

A. No. There is no migration path from a standalone Cisco Prime Optical configuration to a HA configuration.

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

A. You will need to purchase OPTICAL-9.5-SBY-K9. When the license is purchased, all HA documentation will be available to you on Cisco.com. Please refer to our Web page at http://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 there any customization needed in the HA environment?

A. You may wish to modify specific aspects of the HA 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 HA Installation Guide.

Q. What does the Cisco Prime Optical HA 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 HA 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 9.5 User Guide where all the options for backing up data are reported. The Cisco Prime Optical 9.5 User Guide can be found at http://www.cisco.com/en/US/products/ps11670/products_user_guide_list.html.

Q. What information is included in the Cisco Prime Optical HA 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 9.5, and Cisco Prime Optical HA Agent 3.0).

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

A. The complete HA solution package - all documentation on the Cisco Prime Optical HA Agent - is available on Cisco.com at a password-protected location. After you have purchased a license to operate the Cisco Prime Optical HA Agent, you will receive a complete printed copy of all HA 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 HA configuration?

A. The maintenance contracts required for HA on the Solaris platform 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

The maintenance contracts required for HA on the Linux platform are:

- Red Hat Cluster Suite support subscription

- Annual Cisco Prime Optical maintenance contract from Cisco

- Disk array support (EMC, Hitachi, and so on) (if used in the HA architecture)

Q. What are the options for external HA 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 HA servers versus standalone servers?

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

Q. Because the Cisco Prime Optical HA solution consists of two servers, does this require the purchase of two copies of Cisco Prime Optical and two maintenance contracts?

A. No. With the OPTICAL-9.5-SBY-K9 license, only the Cisco Prime Optical software and a single maintenance contract are required.

Q. Why has Cisco chosen to recommend outsourced support for my HA 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. What hardware release of Solaris is used in the HA 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 HA configuration (Solaris) version?

A. The software requirements for the HA configurations include:

- Solaris 10 10/09 OS or later

- Cisco Prime Optical 9.5

- Cisco Prime Optical HA Agent 3.0

- Oracle Enterprise Database Edition (Oracle 11g) for Sun Solaris 10

- Veritas Storage Foundation HA 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. What software is required to run on the HA configuration (Linux Version)?

A. The software requirements for the HA configurations include:

- Red Hat Enterprise Linux 5.5 and Red Hat Cluster Suite

- Cisco Prime Optical 9.5 (includes Oracle ADG)

Q. What are the options for Oracle licenses?

A. An Oracle license is embedded in the Cisco Prime Optical licenses. However, if you would like to access the management SATA directly from the Oracle database, you must own and license the Oracle database. In this case 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 9.5 Standalone Installation Guide found at http://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. Is Sun Cluster Server or Oracle Parallel Server part of the HA Solution?

A. No. There are a variety of ways that HA 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 HA Agent 3.0. Veritas was selected because it is a leading software HA 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 HA setup to determine that the primary server has failed. When the HA 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 HA 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.