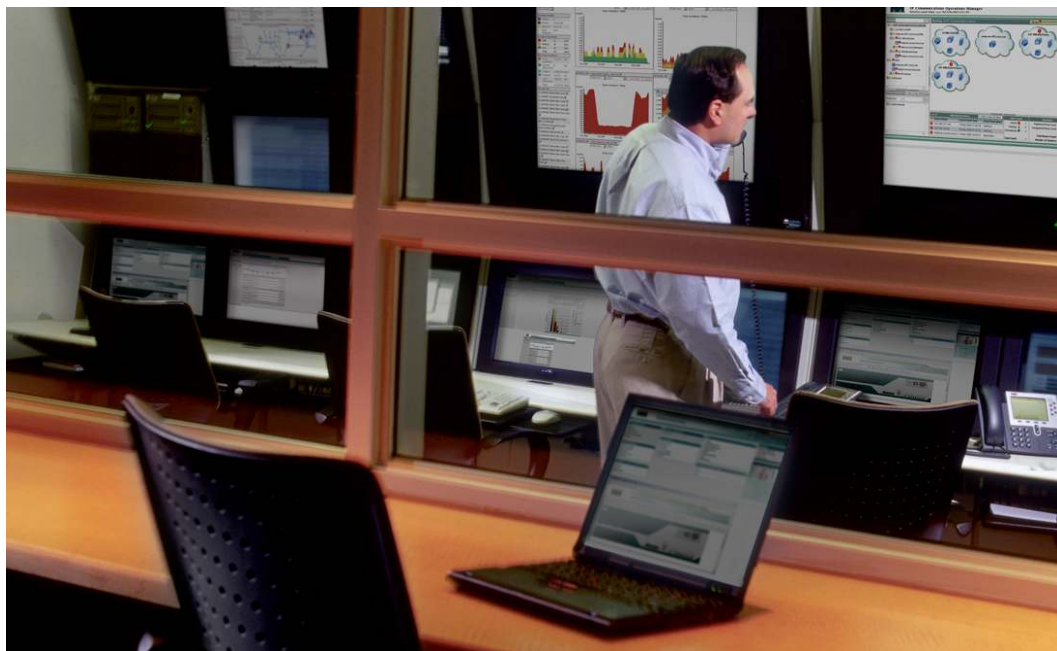


Cisco Transport Manager 8.0



Server and Client

Q. When is the Cisco® Transport Manager 8.0 first customer shipment (FCS)?

A. Cisco Transport Manager 8.0 FCS is scheduled for March 30, 2007.

Q. Are hard copy manuals shipped with Cisco Transport Manager 8.0?

A. No, the Cisco Transport Manager 8.0 kit includes PDF documents on a CD that can also be ordered online. Hard copy documents in ring-binder format can be ordered separately: This style is Bullet. For the Cisco Transport Manager 7.0 User Guide, order DOC-7817281=

- For the Cisco Transport Manager 8.0 User Guide, order DOC-7817619.
- For the Cisco Transport Manager 8.0 Installation Guide, order DOC-7817620.
- For the Cisco Transport Manager 8.0 GateWay/CORBA User Guide and Programmer Manual, order DOC-7817622.
- For the Cisco Transport Manager 8.0 High Availability Installation Guide, order DOC-7817283

Q. What are the major enhancements for Cisco Transport Manager 8.0?

A. New features for Cisco Transport Manager 8.0 are listed in Table 1.

Table 1. New Features in Cisco Transport Manager 8.0

Feature	Description
Operating system	Cisco Transport Manager 8.0 requires Sun Solaris 10 (Hardware Release 06/06) and Java Run Time 1.5.0 (JSE 1.5.0 Update 6) for the server platform and Windows 2000, Windows XP, or Solaris 10 for the client.
Table customization	Users can customize their table views. Customization is done by hiding or unhiding columns and changing column sizes and positions. Changes can be saved at the user level.

Bulk performance monitoring setting	Each user can enable or disable performance monitoring collection on multiple nodes at the same time.
Support access to Cisco nodes through non-Cisco Gateway nodes	Management of an IP network, connected across an external OSI network, is now supported. Access to the IP network is through a non-Cisco Gateway Network Element (GNE) that operates the Transaction Language 1 (TL1) translation device mediation function.
Scheduling of inventory export	Scheduled export of inventory data for MGX® Voice Gateway equipment and for Cisco IOS® Software XR-based devices (CRS-1 and XR 12000) is now supported.
Scheduling of software activation	A user can schedule activation of stand-by software on the node, which supports software activation at a specific time.
Circuit enhancements	Users can review the route manually provisioned and change the constraints by adding or removing nodes and spans for both dense wavelength-division multiplexing (DWDM) circuits and SONET/SDH circuits.
Workflow GUI	The Configuration Center supports an XML-driven workflow GUI to assist users during configuration.
Support of IEEE 802.17 Resilient Packet Ring (RPR)	Users can provision the setup parameters of an IEEE 802.17 RPR using a GUI. During the provisioning, users can designate an ML-1000 data card as a working or protected card (ML1000 1+1 protection).
Support of IP SLA feature on data cards	IP SLA is an application embedded in Cisco IOS Software. This application allows customers to monitor service-level agreements (SLAs) on IP networks. In Cisco Transport Manager 8.0, users can create an IP SLA session between a pair of data cards or a data card and a nondata card IP using a GUI.
Versioning support on data cards	The versioning feature allows users to delay software activation on data cards when new software is activated on a network element. This helps to retain existing Layer 2 topologies when the network element is upgraded to a newer version.
Support of Simple Network Management Protocol Version 3 (SNMPv3) for MGX	SNMPv3 provides a secure communications channel from Cisco Transport Manager 8.0 to MGX using authentication and encryption. Users can manage their SNMPv3 profile and view real-time SNMPv3 statistics for Cisco MGX nodes that are configured for SNMPv3 in the Diagnostic Center.
Extension of TL1 northbound interface to ONS 15600 SDH	With Cisco Transport Manager 8.0, northbound interface support is extended to Cisco ONS 15600 SDH 8.0, now that the node supports the TL1 agent.
Support of TMF v3.0 standard for Common Object Request Broker Architecture (CORBA) northbound interface	The CORBA northbound interface is compliant with TMF 814 v3.0 for provisioning operations.

For more information about Cisco Transport Manager 8.0, please refer to the Cisco Transport Manager 8.0 Product Bulletin, available at:

http://www.cisco.com/en/US/products/sw/opticsw/ps2204/prod_bulletins_list.html.

Q. Does the Cisco Transport Manager 8.0 TL1 gateway support all the network elements?

A. No, it supports only the ones with native TL1 protocol for communication with Cisco Transport Manager. The following network elements have a native TL1 protocol:

- Cisco ONS 15216 Erbium-Doped Fiber Amplifier 2 (EDFA2), EDFA3, 100-GHz Optical Add/Drop Multiplexer (OADM)
- Cisco ONS 15327 SONET Multiservice Platform
- Cisco ONS 15310-CL SONET Multiservice Platform
- Cisco ONS 15310-MA SONET Multiservice Platform
- Cisco ONS 15454 SONET Multiservice Platform
- Cisco ONS 15454 SDH Multiservice Platform (release 5.0 and later)
- Cisco ONS 15530 DWDM Multiservice Aggregation Platform
- Cisco ONS 15540 DWDM Extended Services Platform (ESP) and ESPx
- Cisco ONS 15600 SONET Multiservice Platform
- Cisco ONS 15600 SDH Multiservice Platform (release 8.0)

- Cisco ONS 15800 DWDM ANSI Platform
- Cisco ONS 15801 DWDM ETSI Platform
- Cisco ONS 15808 DWDM Platform

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

A. Cisco Transport Manager 8.0 supports fault and inventory through the CORBA interface for all network element types except Cisco 7609. 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. Optical Channel Connection provisioning through CORBA is supported also between ONS 15454 MSTP and CRS-1 DWDM PLIM cards. 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 Transport Manager Gateway/CORBA Release 8.0 User Guide and Programmer Manual, available at

http://www.cisco.com/en/US/partner/products/sw/opticsw/ps2204/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 Transport Manager provide an SNMP northbound API?

A. Yes, Cisco Transport Manager forwards traps from network elements that use SNMP to send traps northbound. Cisco Transport Manager also includes support for the 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 UDP) format.

Q. Can Cisco Transport Manager 8.0 support a network with mixed releases of the same network element?

A. Yes, it can; note anyway that Cisco Transport Manager 8.0 supports just the following releases:

- Cisco ONS 15216 100-GHz Optical Add/Drop Multiplexer (OADM) Releases 2.2.2, 2.2.3
- Cisco ONS 15216 100-GHz DWDM Red/Blue filters
- Cisco ONS 15216 Erbium-Doped Fiber Amplifier 2 (EDFA2) Releases 2.3, 2.4
- Cisco ONS 15216 EDFA3 Release 1.1
- Cisco ONS 15216 200-GHz OADM, EDFA1, DWDM filters, Optical Supervisory Channel (OSC), and Dispersion Compensation Unit (DCU)
- Cisco ONS 15216 FlexLayer
- Cisco ONS 15302 Multiservice Customer Access Platform Releases 2.0.1, 2.0.2
- Cisco ONS 15305 Multiservice Customer Access Platform Releases 2.0.2, 2.0.3, 3.0.5
- Cisco ONS 15310-CL SONET Multiservice Platform Releases 5.0.8, 6.0.1, 6.2, 6.2.2, 7.0, 7.0.2, 7.0.4, 7.2, 7.2.2, 8.0
- Cisco ONS 15310-MA SONET Multiservice Platform Releases 7.0, 7.0.2, 7.0.4, 7.2, 7.2.2, 8.0

- Cisco ONS 15327 SONET Multiservice Platform Releases 4.1.4, 4.1.82, 4.6.6, 5.0.4, 5.0.8, 6.0.1, 6.2, 6.2.2, 7.0, 7.0.2, 7.0.4, 7.2, 7.2.2
- Cisco ONS 15454 SONET Multiservice Platform Releases 4.1.4, 4.1.6, 4.1.82, 4.6.5, 4.6.6, 4.7 (MSTP only), 5.0.6, 5.0.8, 6.0, 6.0.1, 6.0.2 (MSPP only), 6.2, 6.2.2, 7.0, 7.0.1 (MSTP only), 7.0.2, 7.0.3 (MSTP only), 7.0.4, 7.2, 7.2.2, 8.0
- Cisco ONS 15454 SDH Multiservice Platform Releases 4.6.3, 5.0.6, 6.0, 6.0.1, 6.2, 6.2.2, 7.0, 7.0.1 (MSTP only), 7.0.2, 7.0.3 (MSTP only), 7.0.4, 7.2, 7.2.2, 8.0
- Cisco ONS 15501 DC Release 4.1
- Cisco ONS 15501 AC Release 4.1
- Cisco IOS Software Releases 12.2(29)SV for the Cisco ONS 15530
- Cisco IOS Software Releases 12.2(29)SV for the Cisco ONS 15540 Extended Services Platform (EXP)
- Cisco IOS Software Releases 12.2(29)SV for the Cisco ONS 15540 ESPx
- Cisco ONS 15600 SONET Multiservice Switching Platform (MSSP) Releases 1.3.1, 5.0.8, 6.0.1, 6.2, 6.2.2, 6.2.4, 7.0, 7.0.2, 7.0.4, 7.2, 7.2.2, 8.0
- Cisco ONS 15600 SDH MSSP Release 1.4, 8.0
- Cisco ONS 15800 DWDM ANSI Platform Release 2.1
- Cisco ONS 15801 DWDM ETSI Platform Release 2.1
- Cisco ONS 15808 DWDM Platform Release 2.2
- Cisco CRS-1 Releases 3.2, 3.2.1, 3.2.2, 3.3, 3.3.1, 3.3.2
- Cisco XR 12000 Series Router Releases 3.2, 3.2.1, 3.2.2, 3.3, 3.3.1, 3.3.2
- Cisco IOS Software Releases 12.2.18.SXF for Cisco 7609
- Cisco MDS 9000 Series
- Cisco MGX 8880 Media Gateway Releases 5.2.10, 5.3.10, 5.4.00
- Voice-enabled Cisco MGX 8850 Multiservice Switch Releases 5.2.10, 5.3.10, 5.4.00
- Voice-enabled Cisco MGX 8830 Multiservice Switch Releases 5.2.10, 5.3.10, 5.4.00
- Cisco VISM-PR Releases 3.3.20, 3.3.25, 3.3.30
- Cisco VXSM Releases 5.2.10, 5.3.10, 5.4.00
- Cisco Catalyst[®] OS Released 7.1(1), 7.1(1a), 7.1(2), 7.2(1), 7.2(2), 7.3(1), 7.3(2), 7.4(2), 7.4(3), 7.5(1), 7.6(1), 7.6(2), 7.6(2a), 7.6(3), 7.6(3a), 7.6(4), 7.6(5), 7.6(6), 8.1(1), 8.1(2), 8.1(3), 8.2(1), 8.3(2) for the Catalyst 6509 Switch

Q. Does the Cisco Transport Manager product include the required hardware?

- A.** No. Cisco Transport Manager is a software-only application product that is based on industry-standard, off-the-shelf Sun and PC hardware platforms.

Q. Are there different configurations for the Cisco Transport Manager server?

- A.** Yes, the Cisco Transport Manager server can be installed in different configurations depending on the number of nodes managed and the hardware configuration available. The Cisco Transport Manager server can be installed in small, medium, large and high-end configurations. For further details refer to the Installation Guide for Cisco Transport Manager 8.0 available at:
<http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/ctminst/index.htm>.
 Additionally, during the upgrade, users can change the configuration size to the next available.

(For example, a medium configuration can change to to large, and a large configuration to high end. Upgrade of a small configuration to a medium configuration is not supported).

Q. Does Cisco Transport Manager 8.0 support a high-availability configuration?

A. Yes, Cisco Transport Manager 8.0 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 the document and at http://www.cisco.com/en/US/products/sw/opticsw/ps2204/prod_white_papers_list.html.

Q. Can I download Cisco Transport Manager 8.0 from Cisco.com?

A. No, you must order the software, which is delivered on CD. Documentation is available for download through Cisco.com.

Q. Is Cisco Transport Manager 8.0 demonstration software available?

A. Yes, you can obtain Cisco Transport Manager 8.0 for evaluation from your Cisco sales representative.

Q. Is Cisco Transport Manager 8.0 compatible with earlier versions of the Cisco Transport Manager client, such as Release 4.7, Release 5.0, or Release 6.0?

A. No, all Cisco Transport Manager clients must be upgraded to the new Cisco Transport Manager 8.0 client.

Q. Can the same Cisco Transport Manager client and network element right-to-use (RTU) licenses obtained for use with earlier versions of Cisco Transport Manager be used with Cisco Transport Manager 8.0?

A. Yes, all network element and client RTU licenses that have been purchased in the past are still valid for Cisco Transport Manager 8.0 with no upgrade charge. Application (server and client), CORBA, and high-availability licenses must be upgraded.

Q. What warranty is included with Cisco Transport Manager 8.0?

A. Cisco Transport Manager 8.0 includes a Cisco standard software warranty, which 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 Transport Manager 8.0?

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 <http://www.cisco.com>. Cisco SAS also provides you with the Cisco Transport Manager software updates (maintenance, minor) as they are made available for the duration of your contract. Current Cisco Software Application Support plus Upgrades (SASU) service contracts, which are no longer available for Cisco Transport Manager 8.0, will be valid until their expiration.

Q. Does Cisco Transport Manager 8.0 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 Transport Manager 8.0 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. These differences are identified in the Cisco Transport Manager 8.0 User Guide.

Q. What TCP and SNMP ports does Cisco Transport Manager use?

- A.** This information is documented in the Cisco Transport Manager 8.0 User Guide, which can be found at:

<http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/usergde/index.htm>.

Q. Is the Cisco Transport Manager database schema published?

- A.** Yes, the database schema is published for each Cisco Transport Manager release and can be found at:

http://www.cisco.com/en/US/products/sw/opticsw/ps2204/prod_technical_reference_list.html.

High Availability for Cisco Transport Manager

General

Q. Is there a high-availability version of Cisco Transport Manager 8.0?

- A.** No, the Cisco Transport Manager 8.0 software used in the standalone and high-availability configurations is the same. For the Cisco Transport Manager High-Availability Agent Release 2.2, both VERITAS high-availability clustering software and third-party hardware are needed to set up a high-availability environment.

Q. Where can I obtain Cisco Transport Manager High-Availability Agent 2.2?

- A.** It is included on the installation CD with Cisco Transport Manager 8.0 and also available for evaluation from your Cisco sales representative. The product part numbers are CTM-8.0-HA and CTM-8.0-HA-UPG.

Q. Is there a migration mechanism for standalone Cisco Transport Manager 7.x customers to migrate to Cisco Transport Manager 8.0 in a high-availability configuration?

- A.** You can migrate your current standalone Cisco Transport Manager to the standalone Cisco Transport Manager 8.0, provided you follow the correct migration steps outlined in the installation guide. There is no documented mechanism to migrate from a standalone to a high-availability configuration; however it is possible to do this manually.

Q. What is the virtual IP address?

- A.** The virtual IP address is created by the VERITAS software during installation. This virtual 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 Transport Manager 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 Transport Manager 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 Transport Manager in a high-availability environment?

A. You will need to purchase the Cisco Transport Manager High-Availability Agent 2.2 RTU license. When the license is purchased, all high-availability documentation will be shipped to you. Please refer to Cisco.com to download the latest electronic copy of the Cisco Transport Manager release notes.

Q. Is any Cisco software necessary other than Cisco Transport Manager 8.0 and Cisco Transport Manager High-Availability Agent 2.2?

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 Transport Manager High-Availability Installation Guide.

Q. What does the Cisco Transport Manager High-Availability Agent do?

A. It is a sophisticated software module that monitors processes and assesses the status of the primary server to help ensure that Cisco Transport Manager, the Oracle database, and the hardware are operating correctly.

Q. Will Cisco provide information on how to back up Cisco Transport Manager in a high-availability environment?

A. Cisco provides an application note similar to the one provided for the Cisco Transport Manager standalone servers.

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

A. For more information, please see the Cisco Transport Manager 8.0 User Guide where all the options for backing up data are reported. The Cisco Transport Manager 8.0 User Guide can be found at <http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/usergde/index.htm>.

Q. What information is included in the Cisco Transport Manager High-Availability Installation Guide?

A. The document discusses all the reference hardware, part numbers, diagrams, and the complete installation instructions for all the software (Solaris, all hardware and software patches, VERITAS, Oracle, Cisco Transport Manager 8.0 and Cisco Transport Manager High-Availability Agent 2.2).

Q. Where can I find other documentation about Cisco Transport Manager and Cisco Transport Manager High-Availability Agent?

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

Hardware Configuration

Q. Can I deviate from this reference architecture?

A. Absolutely. In fact, Cisco anticipates that you will use your own disk arrays, fiber channel adapter cards, or Sun servers. If you deviate from the Cisco referenced architecture, however, you will need to establish your own high-availability support infrastructure and make sure that the hardware you plan to deploy (such as disk arrays and Sun servers) is supported by VERITAS.

Q. If I deploy the high-availability hardware infrastructure exactly as referenced, does this ensure qualification for high-availability support from Cisco?

A. The purpose of the reference architecture is to provide a template from which to build the high-availability infrastructure. You will still be responsible for establishing your own high-availability support from Cisco, as well as from the third-party vendor whose components you deploy.

Q. What is RAID?

A. RAID stands for Redundant Array of Independent Disks. Essentially, it allows customers to use a combination of hardware and software to implement a multitude of disk drives in various configurations (for example, RAID 0, 1, 1+0, 5, and so on). Each numeric value represents mirroring, striping, parity striping, or a combination of both (“+”).

Q. What RAID configuration can I use?

A. You may select any RAID configuration you would like to deploy. The reference configuration used has been set up as RAID 5+0 in the Cisco Transport Manager High-Availability Installation Guide.

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 Transport Manager 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 or through joint support alliances, or you can rely on your own in-house expertise.

Q. Does the annual Cisco Transport Manager maintenance contract differ for installation on high-availability servers compared with installation on standalone servers?

A. Yes. For installation on high-availability servers, you need to purchase the standard Cisco Transport Manager SAS, along with the 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 Transport Manager High-Availability solution consists of two Sun servers, does this require the purchase of two copies of Cisco Transport Manager and two maintenance contracts?

A. No. Only the Cisco Transport Manager 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 Transport Manager in a high-availability environment?

A. No. Cisco Transport Manager 8.0 has been validated on specific Solaris 10 and Oracle 9i 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 Transport Manager configurations?

A. Both have been validated with Solaris 10.

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

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

- Sun Microsystems Solaris administration
 - Cisco Transport Manager 8.0
 - Cisco Transport Manager High-Availability Agent Release 2.2
 - Oracle Enterprise Database Edition 9i Release 2 64-bit production (Oracle9i) for Sun Solaris 10
 - VERITAS Database Edition/High-Availability Release 4.1 for Oracle on Solaris
 - VERITAS Volume Manager (VxVM) 4.1
 - VERITAS File System (VxFS) 4.1
 - VERITAS Cluster Server (VCS) 4.1
 - VERITAS Cluster Server Oracle Agent 4.1
- For geographic redundancy, add:
- VERITAS Volume Replicator 4.1
 - VERITAS Cluster Server VVR Agent 4.1
 - VERITAS Global Cluster Manager 4.1 (with data-replication option)

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

Q. How many licenses are required?

A. Table 2 lists the required software licenses for the Cisco Transport Manager High-Availability configuration:

Table 2. Software Licenses for the Cisco Transport Manager High-Availability Configuration

Software	Number Of Required Licenses
Cisco Transport Manager 8.0	1 license
Cisco Transport Manager High-Availability Agent 2.2	1 license
Oracle Database 9i	See vendor for options
VERITAS Database Edition/High Availability 4.1 for Oracle on Solaris	1 license per server
VERITAS Volume Replicator 4.1	1 license per server
VERITAS Cluster Server VVR Agent 4.1	1 license per server
VERITAS Global Cluster Manager 4.1	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 Transport Manager 8.0 Standalone Installation Guide 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 required with the data-replication option in the high-availability environment?

A. As specified earlier, the Cisco Transport Manager 8.0 software used in the high-availability environment is identical to the standalone Cisco Transport Manager 8.0 software. There are no extra named users or licenses needed to operate in a high-availability configuration.

Q. What does VERITAS Enterprise Edition/High-Availability 4.1 for Oracle on Solaris consist of?

A. The VERITAS Enterprise Edition/High-Availability 4.1 for Oracle on Solaris comprises the following:

- VERITAS Volume Manager (VxVM) 4.1
- VERITAS File System (VxFS) 4.1
- VERITAS Cluster Server (VCS) 4.1
- VERITAS Cluster Server Oracle Agent 4.1

Q. Will the Cisco Transport Manager High-Availability Agent work with any Sun hardware?

A. Yes, if the Sun hardware is configured with Solaris 10. Customers should make sure that 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 <http://www.veritas.com>.

Q. Is Sun Cluster Server or Oracle Parallel Server part of the high-availability configuration?

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 Transport Manager High-Availability Agent 2.2. 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 parameters must be met for the Cisco Transport Manager High-Availability Agent to determine the primary server has failed. When the Cisco Transport Manager High-Availability Agent 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 Transport Manager.

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 Transport Manager resynchronizes with the network element and receives an updated alarm status. When the secondary Cisco Transport Manager server comes online, Cisco Transport Manager 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 Transport Manager 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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