



Release Notes for Cisco Info Center, 7.3

April 2010

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For more detailed information, see the documents listed in the *Cisco Info Center 7.3 Documentation Guide and Supplemental License Agreement* at the following location:

http://www.cisco.com/en/US/products/sw/netmgtsw/ps996/products_documentation_roadmaps_list.html

Introduction

Cisco Info Center is a Service-Level Management (SLM) system that provides a consolidated view of enterprise-wide events and status information. It collects event streams or messages from many different data sources and presents a single, consistent view of the current state of all Cisco Info Center managed systems. It distributes the event information to the operators and administrators responsible for monitoring service levels.



Corporate Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

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This information can then be:

- Assigned to operators
- Passed to Help Desk systems
- Logged in a database
- Replicated on a remote Cisco Info Center system
- Used to trigger automatic responses to certain events.

Cisco Info Center allows diverse management platforms, applications, and Internet protocols to be brought together to provide an administrator a single point of monitoring those platforms and applications. Cisco Info Center does not replace the management platforms. It instead complements them by providing an enterprise wide event/fault and status exchange. Cisco Info Center can also tie together domain limited network management platforms in remote locations.

Cisco Info Center tracks the state of events in a high performance distributed database and presents information of interest to specific users through individually configurable filters and views. Cisco Info Center automation functions can be used to perform intelligent processing on the current state of managed objects. Cisco Info Center can build upon existing management systems or applications and, therefore, uses existing management skills and minimizes deployment time.

Key System Features and Benefits

System Definition and Scope

Designed to scale from the smallest to the largest, most-complex multi-vendor environments, Cisco Info Center OMNIBus and Network Manager software helps organizations improve network visibility and drive reliability and performance. The software collects and distributes Layer 1 through Layer 3 network data-and thereby builds and maintains knowledge about physical and logical network connectivity. With accurate network visibility, you can efficiently and effectively visualize and manage complex networks-and, more importantly, the services delivered across them. Cisco Info Center ONM software easily integrates with operational support systems and other mission-critical workflow applications.

Cisco Info Center software also provides valuable advanced fault correlation and diagnosis capabilities. Real-time root-cause analysis helps operations personnel quickly identify the source of network faults and speed problem resolution.

Features and Benefits

Cisco Info Center OMNIBus and Network Manager provide the following key features and benefits:

- **Root-Cause Analysis**—Network faults are visualized with real-time analysis of the root cause, reducing the time needed to troubleshoot network issues. Consequential fault events are automatically correlated to the root-cause fault event in real time.
- **Manager of Managers**—This feature allows data from multiple tools to be managed under a single console in Cisco OMNIBus, improving the effectiveness of the network operations environment.
- **Real-Time Management Views**—Operations staff and executives have “anytime, anywhere” access to device and network status and actionable information through the Cisco Info Center Webtop GUI. Highly customizable dashboards offer a wide range of images, maps, charts, tables, and event lists to help provide immediate visibility of the network status.

Additional Cisco Info Center Products

In addition to the core product, Cisco Info Center includes a number of related products. For information on the products, see [Cisco Info Center 7.3 Products, page 8](#).

Integration with Cisco Network Management Solutions

Cisco Info Center is a key component in several Cisco network management solutions:

- **Cisco Video Assurance Management System (VAMS)**—A comprehensive video management solution that monitors events from industry standard video probes, Cisco Multicast Manager (CMM), the Cisco ROSA NMS, and from Cisco devices used to forward video traffic over IP multicast.
- **Carrier IP NGN Management Solution (CIMS)**—A comprehensive solution for activating and assuring Carrier Ethernet, Multiprotocol Label Switching (MPLS), and Mobile Transport over Packet (MToP) services.

Cisco Info Center plays the role of a Manager of Manager (MoM) in the VAMS solution and the CIMS solution. Cisco Info Center sits on top of the other solution components—CMM for VAMS and Cisco Active Network Abstraction (ANA) for CIMS and provides integration of the solution components into the OSS. In combination with the Impact product, Tivoli Integrated Portal (TIP) and Tivoli Business Service Manager (TBSM) provide business service impact analysis. Using Impact, enhanced events are generated from events received from the solution components and displayed in the TBSM application.

New Features and Enhancements with Release 7.3

The previous version of Cisco Info Center (CIC 7.2) is based on OMNIBus 7.2 and OMNIBus & Network Manager 8.1 and will be upgraded to OMNIBus 7.3 and OMNIBus & Network Manager 8.2. The principal changes are set out in the following sections:

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Adoption of IBM Tivoli Netcool/Webtop into Tivoli Netcool/OMNIbus

Netcool/OMNIbus V7.3 includes the strategic Event Management Desktop—the web user interface previously provided by Netcool/Webtop— for event visualization and management functionality. The new combined product brings enhanced functionality to both users and administrators and delivers significant enhancements in the following areas:

- Usability, performance, and scalability
- Ease of deployment, integration, and interoperation

New Installer Technology

Tivoli Netcool/OMNIbus V7.3 now shares a common installer technology with related Tivoli products such as:

- IBM Tivoli Network Manager IP Edition V3.8
- IBM Tivoli Netcool/Webtop V2.2
- IBM Tivoli Business Service Manager V4.2. Wizard

Console and silent modes of installation and uninstallation are supported on all operating systems.

The current set of probes and gateways have been repackaged to use the new installer technology. The repackaged probes and gateways include all the IBM prerequisites to which customers are automatically entitled. All new probes and gateways will also use this installer technology. Customers must download and use only repackaged or new probes and gateways in their V7.3 installation.

Remote Deployment of Probes

Probes can now be deployed to remote computers from a central location.

SQL Performance Enhancements

Tivoli Netcool/OMNIbus V7.3 provides improvements to the way in which SQL queries are parsed, resolved, and executed.

Extension of Tivoli Netcool/OMNIbus Functionality

Tivoli Netcool/OMNIbus provides a number of customizations that you can use to extend the functionality of the product. Functionality can be extended in the following ways:

- Configuration and deployment of a multi-tiered architecture.
- High availability.
- Detection of event floods and anomalous event rates.
- Self monitoring of probes. Probes can be configured to generate ProbeWatch Heartbeat events as a self-monitoring mechanism.
- Predictive analytics. You can configure predictive event generation and monitor predictive events within an integrated environment that contains installations of Tivoli Netcool/OMNIbus V7.3, the Probe for Tivoli EIF, and IBM Tivoli Monitoring V6.2.2.

- Capability to monitor ADDM events. IBM Tivoli Application Dependency Discovery Manager (ADDM), which is a subsystem of the IBM Tivoli Change and Configuration Management Database product, can be configured to transmit notification events to Tivoli Netcool/OMNIBus when configuration changes are discovered in an IT environment.
- Management of virtual environments. You can manage a virtual environment by using an integrated solution that contains installations of Tivoli Netcool/OMNIBus V7.3, the Probe for Tivoli EIF, IBM Tivoli.
- Monitoring V6.2.2, and an IBM Tivoli Monitoring for Virtual Servers agent.

Support for LDAP Authentication

Tivoli Netcool/OMNIBus V7.3 introduces support for the Lightweight Directory Access Protocol (LDAP).

New Probe Rules Function for Sending Alerts to Multiple ObjectServers and Tables

A new function named *genevent* has been added to the rules file syntax for probes. This function can be used by a probe to create and send the same alert to more than one registered ObjectServer or to more than one table.

Inclusion of the Tivoli Event Integration Facility Toolkit in Netcool/OMNIBus

The Tivoli Event Integration Facility (EIF) toolkit, which was previously delivered as a component of the Tivoli Enterprise Console product has been updated, and is now shipped as part of Tivoli Netcool/OMNIBus.

Enhanced Web GUI Features

The Web GUI component offers the following new and enhanced features:

- **Active Event List Performance**—The Active Event List (AEL) has been improved to provide increased event capacity, better performance, and a better user experience.
- **Load Balancing**—The Web GUI can be deployed in a load balancing environment. To store the data that is to be replicated between servers, an IBM DB2 Enterprise Edition V9 database must be deployed and configured before installation of the Web GUI.
- **Single Active Event List for Multiple Data Sources**—The Web GUI can obtain events from multiple ObjectServers and display them in a single AEL.
- **Enhanced Environment**—The Web GUI provides a number of improvements to the network operator and network administrator environments, making it faster and simpler for operators to obtain an overview of events:
 - **Improvements to Maps**—The graphical technology used to support the display of maps has been improved. New icons have been provided.

- **Event Dashboard**—A new user interface, called the Event Dashboard, has been developed to provide an overview of events. The Event Dashboard displays different sets of event information, as defined by filters, in the form of monitor boxes.
- **URF-8 Encoding Support for Windows**—On Windows, support is provided to run the *nco_dbinit* utility, ObjectServer, ObjectServer Gateway, *nco_postmsg* utility, and individual probes and gateways in UTF-8 encoding.
- Improved date and time formatting and parsing with ICU4C.
- Adoption of the ISO 8601 format for recording timestamps in log files.

New Modules: SQM, CEM, ADDM

Service Quality Management (SQM)

The CIC Business Service Manager (BSM) platform has been updated to include optional extensions for Service Quality Management (SQM) and Customer Experience Management (CEM).

Tivoli Netcool Service Quality Manager Service Solutions are integrated with the operational support system (OSS) environment through open application programming interfaces (APIs), and conform to Java Platform, Enterprise Edition (Java EE), OSS/J and 3rd Generation Partnership Project (3GPP) standards.

Each service solution collects data through predefined, open application programming interfaces (APIs). Tivoli Netcool Service Quality Manager uses that data to derive qualitative and quantitative measurements—providing data in terms accessible to customers as well as employees. Key Quality Indicators (KQIs) are derived from a number of underlying network, application and customer-specific measurements, and offer an enriched, end-to-end view of the service in question. Network and service operations teams can monitor these measurements in near-real time through prepackaged, internal SLAs. The underlying measurements can be reused across multiple SLAs, delivering information in terms relevant to various business units.

Each service solution contains:

- Service model definition.
- Predefined KQI definitions.
- Adapters to the selected set of data sources.
- A sample set of SLAs and SLA templates which can be used to manage the service quality for the target service.
- A prepackaged set of reports.
- Service solution documentation.

Customer Experience Manager (CEM)

The Tivoli Netcool customer experience management solution collects, correlates, filters, aggregates, and presents customer and network data to help you proactively ensure that all the groups in your organization focus on problems that directly impact the customer experience.

Once a problem has been detected, Tivoli Netcool customer experience management enables customer representatives to open a trouble ticket and then identify and take steps to minimize the impact on high-value subscribers. For example, a text message could be sent to let customers know that it is being repaired. Tivoli Netcool customer experience management monitors service delivery and consumption and detects potential problems before they impact customers.

CEM can be easily and cost-effectively upgraded to full service quality management (SQM).

Use Intelligence to Prioritize Responses to Service Issues

The Customer Experience Management solution provides the detailed answers that operations and service representatives need to assure customers that the organization is aware of the problem and is taking the necessary steps to resolve it. Through a single dashboard, you can provide status information on each customer's experience, eliminating back-and-forth communication with network operations

Tivoli Netcool customer experience management helps you quickly determine:

- If customers are able to access the available services.
- If there is a problem related to a specific customer, customer group, location, device type or a combination of these factors.
- When the problem first arose, and whether the problem has abated.
- The historical performance of one customer's experience.

Built-in intelligence within the Tivoli Netcool customer experience management solution, such as key performance indicator (KPI) calculations, enables automated problem investigation to help speed resolution and lessen the impact on customers. The software delivers dynamic monitoring and robust reporting tools, helping you access a variety of rich data to determine which actions to take and when, based on multiple revenue-impacting performance metrics.

Access Easy-to-Use Web Dashboards

These metrics are presented in easy-to-use Web dashboards specifically designed to offer the most useful view to different users, from network operations to customer support to account management. These views include:

- Individual customer view.
- Customer segment view (prepaid, postpaid, roaming groups and more).
- CService view (e-mail, voice, text, DSL and more).
- Device type view.
- Network (location) view.

Summary

Tivoli Netcool customer experience management delivers:

- Near-real-time views of the individual customer experience.
- Predefined analytic views.
- Prepackaged service metrics.
- Correlation with overall service quality trends.

Application Dependency Discovery Manager (ADDM)

IT Monitoring and IT Composite Application Manager (CAM), replace the obsolete SSM, ASM, ISM products.

This robust, scalable solution automatically discovers application, system, network and storage dependencies; detects changes to them; and maintains an up-to-date picture of the application's IT dependencies. The information is then readily available to external data stores and CMDBs, to support critical operational processes. The detailed configuration and change reports provided by Application Dependency Discovery Manager further extend the value of this service dependency model. Users can directly access the reports through right-click actions—and thus can obtain greater intelligence to help improve mean time to problem resolution.

ADDM is tightly integrated with Business Service Manager (BSM) and SQM, delivering rapid, out-of-the-box value.

Cisco Info Center 7.3 Products

This section describes the Cisco Info Center 7.3 products.

Cisco Info Center Omnibus and Network Manager

Cisco Info Center OMNIBUS and Network Manager is the core Cisco Info Center product. Cisco Info center Omnibus and Network Manager comprises the following main components:

- **Object Server**—The core of the Cisco Info Center system. An active, main-memory database that stores and manages events. The Cisco Info Server consolidates, associates, and normalizes event data received from Cisco Info Mediators, Cisco Info Gateways, and monitors.
- **IBM Netcool Tivoli Probes**—Applications that act as a data acquisition agent. Cisco Info Mediators acquire data from events sources such as Cisco WAN Manager, HP Network Node Manager, Cisco IOS Syslog processes, Cisco Element Management System (Cisco EMF)-based applications, the Cisco Transport Manager application, and a variety of SNMP-enabled devices.
- **Info Gateways**—Software modules that allow the Cisco Info Server to read events from and write events to third party applications and forward alerts between Cisco Info Servers.
- **MTTrapd Info Mediator**—Multi-threaded probe that interfaces with a variety of SNMP-enabled devices and event correlation engines such as CiscoWorks2000 (DFM and ITM) and MWFM. This also includes specific enhancements and fixes recommended by the CERT team.

The Cisco MTTrapd Probe also processes events transmitted by element managers that support the Northbound Event Interface (NEI) included with the Cisco Element Manager System version 3.2 and higher.

- **Syslogd Probe**—Receives syslog messages from a wide variety of Cisco devices.
- **CTM Probe**—Receives events from the Cisco Transport Manger (CTM) product.
- **Additional Probes**—Additional probes that work with a variety of hardware and software can be ordered in addition to Cisco Info Center.

Cisco Info Center Impact

Impact is a value-added application that assists network operators in monitoring Service Level Agreements by providing additional event analysis beyond that available with Cisco Info Center. For example, Impact users can determine the consequences of an event, such as what or when services are affected and which users are affected by specific alarm conditions.

Business Service Manager

Tivoli Business Service Manager (TBSM) delivers the real-time information that you need in order to respond to alerts effectively and in line with business requirements, and optionally to meet service-level agreements (SLAs).

The TBSM tools enable you to build a service model that you integrate with IBM Tivoli Netcool/OMNIBus alerts or optionally with data from an SQL data source. TBSM includes optional components that let you access data from other IBM Tivoli applications such as IBM Tivoli Enterprise Console, IBM Tivoli Monitoring, and IBM Tivoli Application Dependency Discovery Manager. TBSM processes the external data based on the service model data you created in the TBSM database and returns a new or updated TBSM service event to Netcool/OMNIBus.

The TBSM console provides a graphical user interface (GUI) that allows you to logically link services and business requirements within the service model. The service model provides an operator with a view of how, second by second, an enterprise is performing at any given moment in time or how the enterprise has performed over a given time period.

Cisco Info Center Service Quality Management Center

Service Quality Management Center is a bundle of three components: Business Service Manager, Service Quality Manager, and Customer Experience Manager. The bundle is priced by the following chargeable components and metrics.

Netcool/Reporter

Netcool/Reporter is a real-time, Web-based client-server application that provides accurate, historical reporting on Cisco Info Center event data forwarded from the Cisco Info Server.

Webtop

The Netcool/Webtop product, which provides Web-based event visualization and management functionality, has been repackaged as a component of Tivoli Netcool/OMNIBus, and renamed Tivoli Netcool/OMNIBus Web GUI. With the convergence of these two products into a single Tivoli Netcool/OMNIBus V7.3 offering, their documentation sets have been merged into a single information center unit.

Composite Application Manager Products

This section describes the Composite Application Manager products.

Composite Application Manager for SOA

Tivoli Composite Application Manager for Service Oriented Architecture (SOA) monitors the SOA life cycle to ensure high availability and performance.

Composite Application Manager for SOA includes integrated management tools that speed and simplify identification and resolution of SOA problems:

- A services topology view that displays actual service-to-service relationships, including drill down to service status and metrics.
- Support for heterogeneous SOA platforms, including the IBM WebSphere family, Microsoft .NET and BEA WebLogic, which make it easy to monitor composite application performance and availability.
- Automated SOA management and SOA monitoring software that helps you meet established service levels with built-in alerts, message mediations, situations and workflows.
- Features that help development teams and other preproduction users understand service use, flows and relationships, facilitating management throughout the SOA development life cycle.

Composite Application Manager for Applications

Tivoli Composite Application Manager for Applications provides an integrated solution for proactive monitoring, management, capacity planning, and historical analysis for heterogeneous applications and application infrastructure. Tivoli Composite Application Manager for Applications allows you to:

- Consolidate application management across the enterprise with one integrated solution.
- Simplify monitoring and management tasks with customizable, role-based views.
- Leverage a common data model to provide a consistent view of performance and availability metrics across multiple application resources.
- Enable more effective problem-solving efforts across middleware, databases and applications.
- Quickly identify and isolate problems and take action or route to the appropriate SME.
- Improve mean-time-to-recovery and pursue incident avoidance for operating systems.

Composite Application Manager for Transactions

IBM Tivoli Composite Application Manager for Transactions allows you to proactively monitor response time and availability of business applications, which helps you to quickly and easily detect and isolate transaction response and availability issues, enabling faster problem resolution. Using Composite Application Manager for Transactions, you can:

- Enable proactive management of transactions, identifying bottlenecks and other potential problems before they impact customer satisfaction.
- Detect and isolate response time and availability problems more quickly.
- Monitor end-user response time for both Web and Microsoft Windows applications using both robotic and real-user analysis capabilities.
- Use auto-generated topology mappings to follow the path of a user transaction across the domains of your infrastructure in a process that is transparent to end users.
- Launch in-context SME capabilities for deep-dive analysis directly from the topology mapping.
- Integrate seamlessly with other IBM Service Management and IBM Tivoli software products to provide end-to-end management of your applications.

- Composite Application Manager for Transactions is supported on the Linux operating system.

Composite Application Manager for J2EE

Tivoli Composite Application Manager for J2EE offers integrated management tools for Web and enterprise infrastructures. It helps you quickly pinpoint the source of bottlenecks or other defects in application code, server resources and external system dependencies before they affect customers. Tivoli Composite Application Manager for J2EE:

- Offers valuable management capabilities in both distributed and IBM z/OS environments.
- Integrates tightly with ITCAM for WebSphere for a consistent way to manage composite applications across WebSphere, BEA WebLogic, JBoss, Oracle, SAP NetWeaver, and Tomcat environments.
- Provides a set of diagnostics, reporting, analysis and resolution tools that enable advanced monitoring and management of J2EE applications.
- Enables you to detect, analyze and repair application server performance issues, maintain high uptime, performance and responsiveness standards for both mainframe and distributed systems, and understand overall application health at a glance across multiple system types.
- Includes management functions that enable you to view all in-flight J2EE transactions, analyze problematic transactions historically and in real time, and set traps and alerts to detect and fix potentially troublesome situations before they affect end users.
- Helps you analyze resource consumption patterns, perform trends and historical analysis, and plan for future growth.

System Requirements

Server Compatibility, Performance and Scale

Server Compatibility

Hardware sizing for Cisco Info Center (Tivoli Netcool) depends on a number of variables, including event throughput, number of active events, number of users and the complexity of their desktop requirements, etc., as well as integrations with and third-party components installed on the server.

The predominant characteristic of Cisco Info Center is its memory-resident database, so the more memory the better. Another key contributor to the Object Server performance is CPU speed. In general, the faster the CPU the better.

For details on supported operating systems, hardware requirements, and installation prerequisites, please see the *Tivoli Netcool/OMNIBus 7.3 Installation and Deployment Guide* at the following location.

http://publib.boulder.ibm.com/infocenter/tivihelp/v8r1/topic/com.ibm.netcool_OMNIBus.doc_7.3.0/omn_pdf_ins_master_73.pdf

The only recommendation documented is the minimum disk space for the server. [Table 1](#) shows the minimum disk space required for complete installation on each operating system.

Table 1 **Minimum Server Disk Space**

Operating System	Minimum Disk Space for Server
AIX	474 MB
HP-UX	520 MB
Linux	399 MB
Solaris	515 MB
Windows	324 MB

These figures are based on the assumption that a full installation of the features is performed, in the following environment:

- A few probe installations (approximately four)
- Object Server gateways only
- Very small Object Server databases with 50-100 events

There are no specific hardware requirements for the probes as well, other than what is documented in the probe reference guide. In general the CPU and memory usage of the probe depends upon the types of alerts/traps being received, processed, and the frequency of the alerts/traps.

Hardware and Software Requirements for OMNIBus and Network Manager

This section describes the hardware and software requirements for IBM Tivoli Netcool/OMNIBus and Network Manager.

Supported Operating Systems

Tivoli Netcool/OMNIBus is supported on various versions of UNIX, Linux, and Windows.

On Sun Microsystems processors, the following versions are supported:

- Solaris 9 SPARC
- Solaris 10 SPARC
- Zones SPARC (Solaris 10)
- Solaris LDOM

On Hewlett-Packard PA-RISC-based processors and Intel Itanium architecture-based systems, the following versions are supported:

- HP-UX 11i v2 PA-RISC
- HP-UX 11i v3 PA-RISC
- HP-UX Integrity: HP-UX 11i v2 IA64
- HP-UX Integrity: HP-UX 11i v3 IA64

On IBM PowerPC-based systems, the following versions are supported:

- AIX 5.3: iSeries and pSeries
- AIX 6.1: iSeries and System p
- AIX LPAR

- AIX WPAR

On Intel and Advanced Micro Devices (AMD) x86 processors, the following versions are supported:

- Windows Server 2003 Datacenter Edition: x86-32
- Windows Server 2003 Datacenter Edition: x86-64
- Windows Server 2003 Enterprise Edition: x86-32
- Windows Server 2003 Enterprise Edition: x86-64
- Windows Server 2003 Standard Edition: x86-32
- Windows Server 2003 Standard Edition: x86-64
- Windows Server 2003 Standard x64 Edition: x86-64
- Windows Server 2008 Enterprise Edition: x86-32
- Windows Server 2008 Enterprise Edition: x86-64
- Windows Server 2008 Standard Edition: x86-32
- Windows Server 2008 Standard Edition: x86-64
- Windows XP Professional with FDCC x86-32 (client component only)
- Windows XP Professional: x86-64 (client component only)
- Windows Vista Enterprise with FDCC x86-32 (client component only)
- Windows Vista Ultimate: x86-64 (client component only)
- Windows 7 (client component only)
- Red Hat Enterprise Linux (RHEL) 4.0 WS x86-32 (client component only)
- Red Hat Enterprise Linux (RHEL) 4.0 WS x86-64 (client component only)
- Red Hat Enterprise Linux (RHEL) 5.0 AS/ES: x86-32
- Red Hat Enterprise Linux (RHEL) 5.0 AS/ES: x86-64
- Red Hat Enterprise Linux (RHEL) 5.0 WS: x86-32 (client component only)
- Red Hat Enterprise Linux (RHEL) 5.0 WS: x86-64 (client component only)
- SuSE Linux Enterprise Desktop (SLED) 10.0: x86-32 (client component only)
- SuSE Linux Enterprise Desktop (SLED) 10.0: x86-64 (client component only)
- SuSE Linux Enterprise Desktop (SLED) 11.0: x86-64 (client component only)
- SuSE Linux Enterprise Server (SLES) 10.0: x86-32
- SuSE Linux Enterprise Server (SLES) 10.0: x86-64
- SuSE Linux Enterprise Server (SLES) 11.0: x86-32
- SuSE Linux Enterprise Server (SLES) 11.0: x86-64
- VMWare ESX Server 3.x RHEL Environment x86-32
- VMWare ESX Server 3.x RHEL Environment x86-64
- VMWare ESX Server 3.x SLES Environment x86-32
- VMWare ESX Server 3.x SLES Environment x86-64
- VMWare ESX Server 3.x Windows Server Environment x86-32
- VMWare ESX Server 3.x Windows Server Environment x86-64

On IBM System z mainframes, the following versions are supported:

- Red Hat Enterprise Linux (RHEL) 5.0 AS/ES: zSeries and System z (server component only)
- SuSE Linux Enterprise Server (SLES) 10.0: zSeries and System z (server component only)
- SuSE Linux Enterprise Server (SLES) 11.0: zSeries and System z (server component only)

IBM Tivoli Network Manager IP Edition V3.8 supports the following operating systems:

- AIX V5.3 (System i/System p)
- AIX V6.1 (System i/System p)
- Solaris 9 for SPARC
- Solaris 10 for SPARC
- Red Hat Enterprise Linux (RHEL) 4.0 s390
- Red Hat Enterprise Linux (RHEL) 4.0 s390x
- Red Hat Enterprise Linux (RHEL) 4.0 x86-32
- Red Hat Enterprise Linux (RHEL) 4.0 x86-64
- Red Hat Enterprise Linux (RHEL) 5.0 s390
- Red Hat Enterprise Linux (RHEL) 5.0 x86-32
- Red Hat Enterprise Linux (RHEL) 5.0 x86-64
- SUSE Enterprise Linux 9 x86-32
- SUSE Enterprise Linux 9 x86-64
- SUSE Enterprise Linux 10 for s390x
- SUSE Enterprise Linux 10 x86-32
- SUSE Enterprise Linux 10 x86-64
- Windows Server 2003 Enterprise Edition x86-32
- Windows Server 2003 Enterprise Edition x86-64
- Windows Server 2008 Enterprise Edition x86-32
- Windows Server 2008 Enterprise Edition x86-64

Supported Browsers for Web Applications

To use the Cisco Info Center Web applications, make sure that clients use one of the supported Web browsers. [Table 2](#) describes the supported Web browsers and the Java Virtual Machine (JVM) versions for each client operating system.

Table 2 Supported Browsers for Web Applications

Web Browser	Client Operating System	Java Virtual Machine (JVM) Version
Internet Explorer 7.0	Windows 2003 Windows XP Windows Vista	IBM V1.5, V1.6 Sun V1.5, V1.6

Table 2 Supported Browsers for Web Applications (continued)

Web Browser	Client Operating System	Java Virtual Machine (JVM) Version
Internet Explorer 6.0	Windows 2003 Windows XP	IBM V1.5, V1.6 Sun V1.5, V1.6
Mozilla Firefox 2.0	Windows 2003 Windows XP Windows Vista Red Hat Enterprise Linux (RHEL) 4.0, 5.0 SUSE Enterprise Linux (SLES) 9, 10 Solaris 9, 10	IBM V1.5, V1.6 (not on Solaris) Sun V1.5, V1.6 Note If you are using Mozilla Firefox on UNIX operating systems, see the Firefox documentation to ensure that the Java plug-in is correctly installed, and that any symbolic links that may be necessary have been made.

Hardware and Software Requirements for BSM, SQM, and CEM

Table 3 lists the hardware and software requirements for BSM, SQM, and CEM.

Table 3 Hardware and Software Requirements for BSM, SQM, and CEM

Vendor	Operating System	Architecture	Version	Virtualization Support
Sun Microsystems	Solaris 8	Sun Sparc 32-bit	4.1.1	Solaris 10 Zones (SPARC)
	Solaris 9	Sun Sparc 32-bit	4.1.1, 4.2	
	Solaris 10	Sun Sparc 32/64 bit	4.2	
IBM	AIX 5L V5.2	PA-RISC 32 bit	4.1.1	
	AIX 5L V5.3	PA-RISC 32/64 bit	4.1.1, 4.2	
	AIX 6L V6.1	PA-RISC 32/64 bit	4.2,	
HP	HPUX 11iV3	PA-RISC 32 bit	4.1.1, 4.2	
Red Hat	Linux 3.0(AS)	Intel® x86 32 bit System	4.1.1	VMWare VMWare VMWare
	Linux 4.0(AS)	Intel x86/IA/PPC 32 bit	4.1.1, 4.2	
	Linux 5.0(AS)	Intel x86/IA 32/64 bit	4.2	
	Linux 5.0(AS)	System z 31/64 bit	4.2	

Table 3 *Hardware and Software Requirements for BSM, SQM, and CEM*

Vendor	Operating System	Architecture	Version	Virtualization Support
Novell	SLES 9	Intel x86/IA/PPC 32 bit	4.2	VMWare
	SLES 10	Intel x86/IA/PPC 32/ 64 bit	4.1.1, 4.2	VMWare
	SLES 10	System z 31/64 bit	4.1.1, 4.2	VMWare
Microsoft	Windows 2003 Server	Intel x86 32 bit	4.1.1, 4.2	VMWare
	Windows Vista Intel (client only)	Intel x86 32 bit	4.1.1, 4.2	VMWare
	Windows XP Professional (client only)	Intel x86 32 bit	4.1.1, 4.2	VMWare
	Windows 2008 Server	Intel x86 32/64 bit		

Browser Support

BSM, SQM, and CEM support the following browsers:

- Microsoft Internet Explorer 6.x, and 7.x
- Mozilla/Firefox 2.0x
- Java 1.5 or 1.6 required

Current 64-bit platform support is running in 32-bit emulation mode.

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http://www.cisco.com/en/US/products/sw/netmgts/ps996/products_documentation_roadmaps_list.html

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