



IBM Tivoli Endpoint Manager V8.2, built on BigFix technology, extends operating system platform support and upgrades its capabilities for endpoint lifecycle and security management

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At a glance

IBM® Tivoli® Endpoint Manager V8.2 solution helps simplify and automate endpoint lifecycle management tasks and is designed to assure endpoint security and compliance with internal security policies. It helps lower the cost of maintaining environments in such a compliant and production work-ready state by:

- Providing flexible deployment models that allow organizations to leverage existing assets and systems, allowing for sophisticated targeting of endpoints
- Automatically enabling adherence to, and remedying drifts of, the environment to the desired state of configuration compliance policies
- Automatically deploying and updating software and patches according to desired work-ready state defined policies

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For more information contact the Americas Call Centers at
800-IBM-CALL (426-2255).

Reference: YE001

Overview

IBM Tivoli Endpoint Manager solution, built on BigFix technology, provides real-time visibility and control through a single infrastructure, single agent, and single console for endpoint lifecycle and security management. This approach helps to manage global IT infrastructures securely, quickly, and accurately, and is designed to result in improved governance, control, visibility, and business agility.

IBM Tivoli Endpoint Manager delivers real-time visibility and control over servers, desktops, laptops, and mobile devices, regardless of endpoint location. A dynamic, content-driven messaging and management system, this innovative technology distributes the work of managing IT infrastructures out to the managed devices themselves, providing for greater scalability and flexibility. The single, multi-purpose agent controls multiple services regardless of where the endpoint roams, enhancing the user experience and reducing system impact. Specifically, the capabilities delivered via the IBM Tivoli Endpoint Manager unified management platform include:

- Lifecycle management (asset discovery and inventory, software distribution, patch management, operating system deployment, remote control)

- Security and compliance (security configuration management, vulnerability management, patch management, anti-virus and anti-malware client management, network self-quarantine)
- Patch management
- Power management
- Software use analysis
- Core protection

IBM Tivoli Endpoint Manager V8.2 further extends its flexible deployment model by:

- Allowing users to leverage directory services for provisioning of Tivoli Endpoint Manager management console operators, utilizing Active Directory as well as other Lightweight Directory Access Protocol (LDAP) providers
- Extending support for deployment of agents to new Linux™ on System z® platforms, AIX® V7.1, and Red Hat Enterprise Linux 6

The IBM Tivoli Endpoint Manager software distribution capabilities are upgraded to provide support for Microsoft™ App-V, allowing deployment of App-V virtualized packages as well as lightweight management over the App-V agent. This support allows for the adoption of virtualized packages alongside the existing physical packages in the IT environment.

IBM Tivoli Endpoint Manager remote control capabilities are upgraded to include integration of IBM Tivoli Remote Control, formerly separate product, which is now part of IBM Tivoli Endpoint Manager for Lifecycle Management.

IBM Tivoli Endpoint Manager operating system deployment capabilities can be exploited by using IBM Tivoli Provisioning Manager for OS Deployment. The standalone version of IBM Tivoli Provisioning Manager for OS Deployment is included as part of IBM Tivoli Endpoint Manager for Lifecycle Management.

Security reporting includes new historical trending information that tracks deployment success toward continuous compliance with internal security policies. A new data export API supports sharing of the compliance data with other enterprise reporting systems.

Key prerequisites

Refer to the [Hardware requirements](#) and [Software requirements](#) sections.

Planned availability date

- November 18, 2011: Electronic
- December 9, 2011: Physical media

Description

IBM Tivoli Endpoint Manager V8.2, specifically the capabilities delivered via the IBM Tivoli Endpoint Manager unified management platform, includes:

- Lifecycle management (asset discovery and inventory, software distribution, patch management, operating system deployment, remote control)
- Security and compliance (security configuration management, vulnerability management, patch management, anti-virus and anti-malware client management, network self-quarantine)
- Patch management
- Power management
- Software use analysis

- Core protection

IBM Tivoli Endpoint Manager V8.2 further extends its flexible deployment model by leveraging directory services for streamlined provisioning and management of console operator accounts. Integration with external identity management providers enables the creation of operator accounts based on group membership. Permissions are easier to manage through roles, which can be assigned directly to individual users or to Active Directory or Lightweight Directory Access Protocol (LDAP) groups.

The ability to provision users as local users without Active Directory or LDAP integration is maintained to provide ultimate flexibility. Password policies, such as password length and complexity, can be enforced to protect the security of local user accounts. When users upgrade, existing console operator accounts will automatically be migrated to local user accounts to facilitate a seamless transition to IBM Tivoli Endpoint Manager V8.2.

Other major enhancements in IBM Tivoli Endpoint Manager V8.2 products

IBM Tivoli Endpoint Manager V8.2 for Lifecycle Management

IBM Tivoli Endpoint Manager V8.2 for Lifecycle Management streamlines IT operational tasks with a lightweight, single-agent, single-console framework. The suite is upgraded with the following major capabilities:

- Patch management updates for Windows™ applications content site is updated to provide language support on the following languages: English, Simplified Chinese, German, French, Italian, Spanish, Japanese, Traditional Chinese, Korean, Brazilian Portuguese. Patch management content is upgraded to also support new operating system levels the agent support. Patch management content is not yet available for the following operating system platforms:
 - Linux: Debian, Ubuntu, CentOS
 - AIX V7.1
- Remote Control
 - Tivoli Remote Control components are now included as part of Tivoli Endpoint Manager Lifecycle Management providing the ability to initiate and manage sessions remotely in a widely distributed environment.
 - New fixlets are now available for Tivoli Remote Control Server and Gateway components and dashboard so users can visualize their presence.
- Software distribution provides a package library and automation toolkit for endpoint administrators managing Windows and Macintosh workstations and servers.
 - Microsoft App-V support: Import, deploy, and configure Microsoft App-V clients and sequenced packages for Windows systems plus integrated automatic creation of uninstalled fixlets for Microsoft Installer (MSI) App-V packages.
 - Support for Software Package Block (SPB), which provides the capability to import and deploy former Tivoli Configuration Manager SPB packages for Windows systems is extended to Linux.
 - Follow-the-user type of software distribution policies are available with new Microsoft Active Directory inspectors, allowing for software installations based on the logged on user's security groups, computers security groups, or combinations of both.
- Operating system deployment provides imaging and provisioning of operating systems as well as operating system migration capabilities, such as Microsoft Windows XP or Vista to Microsoft Windows 7.

IBM Tivoli Endpoint Manager V8.2 for Security and Compliance

IBM Tivoli Endpoint Manager V8.2 for Security and Compliance consolidates a suite of capabilities, including vulnerability management, automated security configuration management, and patch management for the costs, reducing complexity, and lower security risks. IBM Tivoli Endpoint Manager V8.2 for Security and Compliance brings together management of multiple endpoint protection tools, network self

quarantine, and removable device control under a single infrastructure. This means one management and reporting console, one management server, and one endpoint agent.

IBM Tivoli Endpoint Manager V8.2 for Security and Compliance suite has been upgraded with the following capabilities:

- A new web-based application, Tivoli Endpoint Manager for Security and Compliance Analytics, for endpoint security and risk assessment.

The system archives endpoint security compliance check results to help identify configuration issues and report levels of compliance with security configuration goals. Security and Compliance Analytics is a component of Tivoli Endpoint Manager for Security and Compliance, which includes libraries of technical checks (also known as controls) and tools based on industry best practices and standards for endpoint and server security configuration. The technical checks enable continuous, automated detection and remediation of security configuration issues. Note that certain Security Compliance Manager checklists are designed to work with the Security and Compliance Analytics reporting. For users having a range of "legacy" BigFix fixlets, Tivoli Endpoint Manager fixlets, and custom fixlets for security compliance in their deployment, these will continue to function correctly, however, only certain fixlets will appear within the Security and Compliance Analytics reports.

Report views and tools for managing the SCM Security and Compliance checks are provided by Security and Compliance Analytics. Security and Compliance Analytics generates the following reports, which can be filtered, sorted, grouped, and customized, and are exported using any set of Tivoli Endpoint Manager properties, such as:

- Overviews of compliance: Status and History
 - Checklists: Compliance, Status, and History
 - Checks: Compliance, Status, Values, and History
 - Computers: Compliance, Status, Values, and History
 - Computer Groups: Compliance, Status, and History
 - Exceptions: Management, Status, and History
- New set of Defense Information System Agency (DISA) Security Technical Implementation Guide (STIG) content sites for Windows, Linux, and UNIX™ operating systems are now available. This content, replacing the previous DISA STIG sites, is based on the latest guidance from DISA. The new content contains measured values analysis properties, and uses a new model for check parameterization. Each of these content sites contain security configuration checks that evaluate and, if desired, remediate the security settings of user endpoints according to the US Department of Defense DISA STIGs, which contain technical guidance to lock down information systems and software that might otherwise be vulnerable to a malicious computer attack. As with most of the existing content in the Tivoli Endpoint Manager for Security and Compliance library, most checks include a corresponding analysis property to report actual values (not just pass/fail), and many checks have a parameterized setting enabling simple customization for evaluation and remediation with respect to compliance with internal security policies.
 - Several new security configuration management checklists, based on guidance provided by National Institute of Standard and Technology (NIST) through the United States Government Configuration Baseline (USGCB), are now available:
 - USGCB Checklist for Internet Explorer 8
 - USGCB Checklist for Windows 7 Energy
 - USGCB Checklist for Windows 7 Firewall

Each of these content sites contains security configuration checks that evaluate and, if desired, remediate the security settings of endpoints according to the USGCB configuration baselines designed to improve and maintain effective configuration settings focusing primarily on security. For more information, visit

- Microsoft Forefront is now a formal part of the Client Manager for Endpoint Protection content.

IBM Tivoli Endpoint Manager V8.2 for Power® Management

IBM Tivoli Endpoint Manager V8.2 for Power Management allows IT organizations to enforce conservation policies across the enterprise, while providing granularity that enables application of these policies to a single computer. For end users, IBM Tivoli Endpoint Manager V8.2 for Power Management maximizes power policy deployment while minimizing usage impact through an optional opt-in approach. Granular controls also allow end users to save their work before shutting the system down, thereby, limiting loss to productivity. IBM Tivoli Endpoint Manager V8.2 for Power Management can be used either as a stand-alone offering or integrated with the IBM Tivoli Endpoint Manager V8.2 for Lifecycle Management and IBM Tivoli Endpoint Manager V8.2 for Security and Compliance.

Product benefits:

- Designed to reduce electric power costs while synchronizing energy conservation with maintenance processes
- Has endpoint power management combining policy-based energy conservation and wake-on-LAN technologies with Intel™ vPro power-on

IBM Tivoli Endpoint Manager V8.2 for Patch Management

IBM Tivoli Endpoint Manager V8.2 for Patch Management is a full solution for delivering Microsoft, UNIX, Linux, and Macintosh patches through a single console. It supports over 250,000 endpoints - regardless of their location or connection type or status. And with a single management server and bandwidth and delivery controls, IBM Tivoli Endpoint Manager V8.2 for Patch Management can help lower total cost of ownership. IBM Tivoli Endpoint Manager V8.2 for Patch Management can be used stand-alone or as part of IBM Tivoli Endpoint Manager V8.2 for Lifecycle Management or IBM Tivoli Endpoint Manager V8.2 for Security and Compliance for a more comprehensive solution.

IBM Tivoli Endpoint Manager V8.2 for Patch Management content has been upgraded to support new operating system levels that the Agent supports. Patch Management content is not yet available for the following operating system platforms:

- Linux: Debian, Ubuntu, CentOS
- AIX V7.1

Tivoli Endpoint Manager Patch Management updates for Windows applications content site is updated to provide language support for the following languages: English, Simplified Chinese, German, French, Italian, Spanish, Japanese, Traditional Chinese, Korean, and Brazilian Portuguese.

IBM Tivoli Endpoint Manager V8.2 for Software Use Analysis

A well-implemented Software Use Analysis initiative can create significant cost savings across your enterprise - both on software as well as on process and infrastructure. It can put you in a stronger negotiating position with software vendors and, most importantly, it can provide you with powerful peace of mind when it comes to the complexities of license compliance. With a healthy Software Use Analysis implementation within your environment, you can know what software you have, where it is, and how it is being used.

IBM Tivoli Endpoint Manager V8.2 for Software Use Analysis can be used either as a stand-alone offering or integrated with IBM Tivoli Endpoint Manager V8.2 for Lifecycle Management and is a powerful solution for discovering software installed on the desktops, laptops, and servers in your environment. Its powerful technology matches your software usage with the software's customer license information for immediate, accurate, and automated license verification. By identifying precise

information on software licensing and usage, you can quickly identify and remediate any noncompliant use of software, enterprise-wide.

Product benefits:

- Discovers software installed and matches software usage with the software's customer license information for immediate, accurate, and automated license verification. By identifying precise information on software licensing and usage, allows you to identify and remediate any noncompliant use of software, enterprise-wide.
- Supports contract negotiations, vendor audits, and IT budget planning; accurately identifies software and validates software license compliance; discovers and eliminates unauthorized or risky applications; helps reduce overspending and reallocate software based on usage trends; and feeds your asset repository with accurate and fresh data.

IBM Tivoli Endpoint Manager V8.2 for Core Protection

IBM Tivoli Endpoint Manager V8.2 for Core Protection delivers real-time antimalware functionality via protection methods such as file and web reputation, personal firewall, and behavior monitoring. IBM Tivoli Endpoint Manager for Core Protection helps to protect physical and virtual endpoints from damage caused by viruses, Trojan horses, worms, spyware, rootkits, web threats, and their new variants. It can help to reduce business disruptions that can result from endpoint infection, identity theft, data loss, network downtime, lost productivity, and compliance violations. IBM Tivoli Endpoint Manager for Core Protection cross references threat information with a large, cloud-based database created and managed by Trend Micro and is continuously updated via Trend Micro's Smart Protection Network for Microsoft Windows endpoints. The solution checks files and web addresses against this database for potential malicious activities in real time, in addition to delivering antimalware protection to Macintosh and Windows endpoints, as needed. IBM Tivoli Endpoint Manager for Core Protection provides security for both fixed, network connected endpoints and roaming, and Internet-connected endpoints. Constant, agent-based monitoring is an effective way to combat the extreme vulnerability of roaming endpoints. A laptop used in an airport, for example, can receive cloud-based protection from threats lurking on websites it visits or files it receives even though it is not connected to the network.

IBM Tivoli Endpoint Manager V8.2 for Core Protection is a reversioning change of IBM Tivoli Endpoint Manager for Core Protection V10.5 and has the same program number (5725-D25).

Product benefits:

- Helps to protect physical and virtual endpoints from damage caused by viruses, Trojan horses, worms, spyware, rootkits, web threats, and their new variants.
- Helps to reduce business disruptions that can result from endpoint infection, identity theft, data loss, network downtime, lost productivity, and violations of internal IT policies.

IBM Tivoli Endpoint Manager unified management platform is made up of four components, which create a lightweight communications fabric for continuous delivery and enforcement of a vast array of third-party enterprise security and system management services. The four components are the endpoint agent, server, policy messages (fixlets), and relays.

Endpoint Agent

The Endpoint Agent is the "brain" of the Tivoli Endpoint Manager platform. Continuously assessing the endpoint and enforcing policy, regardless of connectivity, this single, multi-purpose agent represents a departure from traditional client-server architectures and powers a resilient distributed intelligent infrastructure.

Server

The Tivoli Endpoint Manager Server component can manage up to 250,000 agents without requiring advanced resource configuration for the hardware server it will be installed on. You can use available commercial lower end hardware servers to install and run Tivoli Endpoint Manager Server even when the managed environment consists of 250,000 targets. When needed, scalability for environments over 250,000 endpoints is provided via a multi-server architecture.

Policy Messages

Policy Messages, also known as IBM Fixlet® messages, communicate policy information between agents and server environments. Policy Messages can contain logical criteria to trigger specific actions, for example, if vulnerability X exists on this client, update software module Y with the appropriate package. Additionally, you can use the Policy Messages included with the IBM Tivoli Endpoint Manager, which are delivered through the IBM Tivoli Endpoint Manager content delivery service, or you customize your own:

- Open architecture that allows users to easily create their own policies
- Secure authentication and audit trail

Relays

Relays act as communication and aggregation points and staging areas for Policy Messages and patch and remediation content. Relays help reduce network bandwidth requirements and provide an added degree of fault tolerance for the management systems. Relays can be installed on existing hardware, including desktops and multi-purpose systems such as file or print servers. No dedicated hardware is required.

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Section 508 of the US Rehabilitation Act

IBM Tivoli Endpoint Manager V8.2 products satisfy the applicable requirements of Section 508 of the Rehabilitation Act when used in accordance with IBM's associated documentation, provided that any assistive technology with the product or products properly interoperates. A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) can be requested via IBM's website

http://www.ibm.com/able/product_accessibility/index.html

Product positioning

IBM Tivoli Endpoint Manager V8.2 solution manages endpoint lifecycle to help reduce labor costs through policy-based desired state management and automation, and enhances endpoint security, performance, and stability while reducing IT costs.

IBM Tivoli Endpoint Manager V8.2 solution is a key product in the operational management suite of products in the service management strategy of IBM.

IBM Integrated Service Management helps organizations better manage their IT infrastructure to more effectively and efficiently deliver IT services.

IBM Tivoli Endpoint Manager V8.2 solution is positioned as the endpoint lifecycle management engine for integrated solutions that enforce efficient configuration

compliance, optimize change management processes, and enable a self-request software management service for the end users.

IBM Tivoli Endpoint Manager solution monitors and enforces security and compliance of enterprise endpoints with internal IT policies, providing a single management platform for endpoint security, compliance and endpoint lifecycle management.

Together with other IBM security offerings such as the Tivoli Access Manager for Enterprise Single Sign On, the IBM Tivoli Endpoint Manager solution provides comprehensive endpoint management and access control.

Program number

Program number	VRM	Program name
5725-C43	8.2	IBM Tivoli Endpoint Manager for Lifecycle Management
5725-C44	8.2	IBM Tivoli Endpoint Manager for Security and Compliance
5725-C45	8.2	IBM Tivoli Endpoint Manager for Patch Management
5725-C46	8.2	IBM Tivoli Endpoint Manager for Power Management
5725-F57	8.2	IBM Tivoli Endpoint Manager for Software Use Analysis
5725-D25	8.2	IBM Tivoli Endpoint Manager for Core Protection

Education support

Comprehensive education for IBM Tivoli products is offered through Worldwide Tivoli Education Delivery Services. A wide range of training options are available, including classes led by instructors, learning on demand, on-site training, and blended learning solutions.

For additional information, visit

<http://www-306.ibm.com/software/tivoli/education/>

Offering Information

Product information is available via the Offering Information website

<http://www.ibm.com/common/ssi>

Also, visit the Passport Advantage® website

<http://www.ibm.com/software/passportadvantage>

Publications

No publications are shipped with these programs.

The IBM Publications Center

<http://www.ibm.com/shop/publications/order>

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the U.S.) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries, free of charge.

Specified operating environment

Hardware requirements

The hardware requirements for IBM Tivoli Endpoint Manager solution can vary based on the managed environment and are mainly related to the machine on which the IBM Tivoli Endpoint Manager Server and the IBM Tivoli Endpoint Manager Console will be installed and running.

IBM Tivoli Endpoint Manager server hardware specifications

The values listed below are recommended hardware specifications that provide good performance for similar sized deployments of IBM Tivoli Endpoint Manager. If your deployment will have over 100 IBM Tivoli Endpoint Manager Console Operators, you should consider raising your hardware specifications to the next higher scale to support the large number of users or contact IBM Tivoli Endpoint Manager Technical Support for more help in selecting hardware.

For best performance, use the following recommendations:

Deployment size	CPU	Memory	Hard disks
< 250	2-3 GHz	2 GB	Standard HD
1,000	2-3 GHz - 2 Cores	4 GB	1 RAID Array (RAID 10, 5)
10,000	2-3 GHz - 2-4 Cores	8 GB	1-2 RAID Arrays (RAID 10)
50,000	2-3 GHz - 4 Cores	16 GB	2 RAID Arrays (RAID 10)
100,000	2-3 GHz - 4-8 Cores	16-32 GB	2 RAID Arrays (RAID 10)
> 200,000	2-3+ GHz - 8-16 Cores	32-64 GB	3 RAID Arrays (RAID 10)

Note: RAID arrays must support your using the disk cache for both reading and writing. The disk cache should be set to 50/50 read write.

Disk space requirements

The hard disk configurations listed above are focused on providing high performance disks for the database and IBM Tivoli Endpoint Manager Server. The physical capacity needed for IBM Tivoli Endpoint Manager is generally considered very small. A minimum of 5 GB free disk space is needed by the database, data files, and the file caches to run IBM Tivoli Endpoint Manager. It is recommended that an additional 20 GB to 50 GB of disk space be available for flexibility, when using for administrative tasks such as database backups and to allow for growth.

Multiple RAID arrays normally provide more than enough disk space for IBM Tivoli Endpoint Manager so capacity concerns are not common.

Network card specifications

The IBM Tivoli Endpoint Manager Server is the central communication hub of a IBM Tivoli Endpoint Manager deployment and should be positioned in a data center with a high-speed network connection.

Server network speed recommendations:

- 10 Mbps network connection is possible but not recommended for performance reasons.
- 100 Mbps network connection, or higher is recommended.
- 1000 Mbps network connection is recommended if possible.

For deployments over 25,000 seats, consider using teamed network cards or 1 GB connections to provide optimal network throughput for the IBM Tivoli Endpoint Manager Server.

Console hardware specifications

IBM Tivoli Endpoint Manager Consoles are typically installed on personal workstations and Terminal Servers or Citrix Servers.

- Users with high-speed network connections (10 Mbps+) to the IBM Tivoli Endpoint Manager Server database can use any computer that meets the requirements below.
- Remote users will typically need to use a Terminal Server or Citrix Server because their network connection is too slow.

The hardware requirements are based on the number of managed computers, which is the number of computers that a IBM Tivoli Endpoint Manager Console Operator will see in their IBM Tivoli Endpoint Manager Console. In most deployments, a IBM Tivoli Endpoint Manager Console Operator will see a subset of the total number of computers while a master IBM Tivoli Endpoint Manager Console Operator will see all of the computers.

Workstation installations

Number of managed computers	CPU	Memory	Hard disks (free space)
< 250	1 GHZ	512 MB	50 MB free
1,000	2 GHZ	512 MB	100 MB free
10,000	2-3 GHZ	1 GB	250 MB free
50,000	2-3 GHZ - 2 Cores	2 GB	1 GB free
100,000	2-3 GHZ - 2 Cores	3 GB	2 GB free
> 200,000	2-3 GHZ - 2-4 Cores	4 GB	3 GB free

Terminal Server and Citrix Server installations

The primary constraints for the IBM Tivoli Endpoint Manager Console are CPU and memory. The memory use of the IBM Tivoli Endpoint Manager Console goes up with the total number of managed IBM Tivoli Endpoint Manager clients. These configurations assume standard usage patterns for up to 10 to 20 simultaneous IBM Tivoli Endpoint Manager Console users:

Number of IBM Tivoli Endpoint Manager Agents	CPU	Memory	Hard disks (free space)
-			
< 250	2-3 GHZ-2 Cores	2 GB	1 Raid Array (RAID 5, 10)-5 GB free
1,000	2-3 GHZ-2 Cores	4 GB	1 Raid Array (RAID 5, 10)-10 GB free
10,000	2-3 GHZ-4 Cores	8 GB	1 Raid Array (RAID 5, 10)-20 GB free
25,000	2-3 GHZ-4 Cores	8-16 GB	1 Raid Array (RAID 5, 10)-40 GB free
100,000	2-3 GHZ-4-8 Cores	16-32 GB	1 Raid Array (RAID 5, 10)-80 GB free
200,000	2-3 GHZ-8-16 Cores	16-32 GB	1 Raid Array (RAID 5, 10)-150 GB free

Note: The values above reflect the number of simultaneous IBM Tivoli Endpoint Manager Consoles running on a single Terminal Server or Citrix Server, which means a single server can support many more IBM Tivoli Endpoint Manager Console Operators in total depending on IBM Tivoli Endpoint Manager Console usage patterns. Consider using more than one Terminal Server or Citrix Server if you will have more simultaneous users than the values listed here.

Important note: For larger deployments that expect over 50,000 IBM Tivoli Endpoint Manager Agents or over 50 IBM Tivoli Endpoint Manager Console operators, consult an IBM Tivoli Endpoint Manager deployment specialist for specific recommendations on Terminal Server and Citrix Server configurations.

Software requirements

The software requirements for IBM Tivoli Endpoint Manager solution are dependent on its components, which are:

- IBM Tivoli Endpoint Manager Server
- IBM Tivoli Endpoint Manager Console
- IBM Tivoli Endpoint Manager Agent
- IBM Tivoli Endpoint Manager Relay

IBM Tivoli Endpoint Manager server software specifications

Supported operating systems

- Windows 2008 (x86, x64) Enterprise
- Windows 2003 (x86, x64) Enterprise

Supported databases

- SQL Server 2008 (x86, x64) Enterprise
- SQL Server 2005 (x86, x64) Enterprise

SQL Standard edition is usually sufficient for smaller deployments with fewer than 50,000 computers. For more information, refer to the Microsoft knowledge base article

<http://www.microsoft.com/SqlServer/2005/en/us/compare-features.aspx>

Note: Always apply the latest service pack and hot fixes for SQL server and Windows operating systems.

Console system requirements

IBM Tivoli Endpoint Manager Consoles software specifications

Supported operating systems:

- Microsoft Windows XP
- Microsoft Windows 2003
- Microsoft Windows Vista
- Microsoft Windows 2008
- Microsoft Windows 7

Required software configurations:

- Internet Explorer 6, or later.
- Microsoft Data Access Components 2.7, or later.
- Office web components.
- Minimum 1024 x 768 screen resolution.
- High speed network connection to the IBM Tivoli Endpoint Manager Server database.
- IBM Tivoli Endpoint Manager requires Microsoft XML 6 and Windows Installer V3.1.
- Flash Player V9, or later is required to see the dashboards in the IBM Tivoli Endpoint Manager Console (and some of the web reports).

IBM Tivoli Endpoint Manager Agent software specifications

Supported operating systems

Microsoft Windows

- Windows 2003, Windows XP (x64) (including Windows 2003 R2)
- Windows Vista (x86, x64)
- Windows 2003 Itanium™
- Windows Server 2008 (x86, x64)
- Windows Server 2008 Core (x86, x64)
- Windows Server 2008 R2
- Windows Server 2008 R2 Core
- Windows 2008 Itanium
- Windows 7
- Windows Mobile 2003, 5.0, 6.5
- Windows XP Embedded, Windows Embedded Standard, Windows Embedded for Point of Service, Windows Embedded POS Ready 2009

HP UNIX

- HP-UX 11.11 (RISC)
- HP-UX 11.23 (RISC)
- HP-UX 11.23 (Itanium, in compatibility mode)
- HP-UX 11.31 (RISC)
- HP-UX 11.31 (Itanium, in compatibility mode)

IBM AIX

- AIX V5.3 (PowerPC®)
- AIX V6.1 (PowerPC)
- AIX V7.1 (PowerPC)

Sun Solaris

- Solaris 8, 9, 10 (SPARC)
- Solaris 10 (x86)

Linux

- Red Hat Enterprise Linux 6 (x86, x64)
- Red Hat Enterprise Linux 5 (x86, x64)
- Red Hat Enterprise Linux 4 (x86, x64)
- Red Hat Enterprise Linux 4 (Linux on System z x64)
- Red Hat Enterprise Linux 5 (Linux on System z x64)
- Red Hat Enterprise Linux 6 (Linux on System z x64)
- CentOS 4 (x86, x64)
- CentOS 5 (x86, x64)
- Oracle Enterprise Linux 4 (x86, x64)
- Oracle Enterprise Linux 5 (x86, x64)
- SuSE Linux Enterprise (SLED, SLES) 8, 9, 10, 11 (x86)
- SUSE Linux 10 Enterprise (SLED, SLES) (x64)
- SUSE Linux 11 Enterprise (SLED, SLES) (x64)
- SUSE Linux Enterprise 10 (Linux on System z x64)
- SUSE Linux Enterprise 11 (Linux on System z x64)

VMWare

- VMWare ESX Server 3.5
- VMWare ESX Server 4

Apple

- Mac OS X 10.4, 10.5 (PowerPC)
- Mac OS X 10.4, 10.5, 10.6 (Intel)
- Mac OS X 10.7 (Intel)

Ubuntu

- Ubuntu 8.04 LTS (x86, x64)
- Ubuntu 10.04 LTS (x86, x64)

Debian

- Debian 5 (x86, x64)

IBM Tivoli Endpoint Manager Relay software specifications

Supported operating systems

Microsoft Windows:

- Windows Vista (x86, x64)
- Windows Server 2008 (x86, x64)
- Windows Server 2008 Core (x86, x64)
- Windows Server 2008 R2
- Windows Server 2008 R2 Core
- Windows 7 (x86, x64)

IBM AIX:

- AIX V6.1 (PowerPC)
- AIX V7.1 (PowerPC)
- AIX V5.3 (PowerPC)

Sun Solaris

- Solaris 10 (x86, SPARC)

Linux

- Red Hat Enterprise Linux 4 (x86, x64)
- Red Hat Enterprise Linux 5 (x86, x64)
- Red Hat Enterprise Linux 6 (x86, x64)
- SUSE Linux Enterprise 11 (x86, x64)

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a readme file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

Planning information

Direct customer support

For technical support or assistance, contact your IBM representative or visit

Packaging

IBM Tivoli Endpoint Manager for Lifecycle Management V8.2, IBM Tivoli Endpoint Manager for Security and Compliance V8.2, IBM Tivoli Endpoint Manager for Patch Management V8.2, IBM Tivoli Endpoint Manager for Power Management V8.2, IBM Tivoli Endpoint Manager for Software Use Analysis V8.2, and IBM Tivoli Endpoint Manager for Core Protection V8.2 are distributed with:

- International Program License Agreement (Z125-3301)
- License Information document number L-TBRN-8L2U4V
- IBM Tivoli Endpoint Manager V8.2 Solution V8.2 Quick Start Guide
- CD-ROMs or DVDs

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, and will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

Security, auditability, and control

IBM Tivoli Endpoint Manager V8.2 V8.2, IBM Tivoli Endpoint Manager for Lifecycle Management V8.2, IBM Tivoli Endpoint Manager for Security and Compliance V8.2, IBM Tivoli Endpoint Manager for Patch Management V8.2, IBM Tivoli Endpoint Manager for Power Management V8.2, IBM Tivoli Endpoint Manager for Software Use Analysis V8.2, and IBM Tivoli Endpoint Manager for Core Protection V8.2 use the security and auditability features of IBM WebSphere® Application Server. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Software Services

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services or to contact a Software Services sales specialist, visit

<http://www.ibm.com/software/sw-services/>

Licensing metric definitions and pricing examples

Client Device

Client Device is a unit of measure by which the program can be licensed. A Client Device is a single user computing device or special purpose sensor or telemetry device that requests the execution of or receives for execution a set of commands, procedures, or applications from or provides data to another computer system that is typically referred to as a server or is otherwise managed by the server. Multiple Client Devices may share access to a common server. A Client Device may have some processing capability or be programmable to allow a user to do work. Examples include, but are not limited to actuators, appliances, automated teller machines, automatic meter readers, cash registers, disk drives, desktop computers, kiosks, notebook computers, personal digital assistant, point-of-sale

terminals, sensors, smart meters, tape drives, and technical workstations. Licensee must obtain entitlements for every Client Device which runs, provides data to, uses services provided by, or otherwise accesses the program and for every other computer or server on which the program is installed.

Resource Value Unit (RVU)

RVU is a unit of measure by which the program can be licensed. RVU Proofs of Entitlement (PoEs) are based on the number of units of a specific resource used or managed by the program. Licensee must obtain entitlements for this program sufficient to cover the resources managed by the program. Licensee must obtain sufficient entitlements for the number of RVUs required for licensee's environment for the specific resources as specified in the resource table found in the program's announcement and/or license Information document. RVU entitlements are specific to the program and the type of resource and may not be exchanged, interchanged, or aggregated with RVU entitlements of another program or resource.

Standby or backup systems

For programs running or resident on backup machines, IBM defines three types of situations: cold, warm and hot. In cold and warm situations, a separate entitlement for the copy on the backup machine is normally not required and typically no additional charge applies. In a hot backup situation, the customer needs to acquire other licenses or entitlements sufficient for that server. All programs running in backup mode must be solely under the customer's control, even if running at another enterprise's location.

As a practice, the following are definitions and allowable actions concerning the copy of the program used for backup purposes.

Cold: A copy of the program may reside, for backup purposes, on a machine as long as the program is not started. There is no additional charge for this copy.

Warm: A copy of the program may reside for backup purposes on a machine and is started, but is idling, and is not doing any work of any kind. There is no additional charge for this copy.

Hot: A copy of the program may reside for backup purposes on a machine, is started, and is doing work. The customer must acquire a license or entitlement(s) for this copy and there will generally be an additional charge.

Doing work includes, for example, production, development, program maintenance, and testing. It also could include other activities such as mirroring of transactions, updating of files, synchronization of programs, data, or other resources (for example, active linking with another machine, program, database or other resource, and so on), or any activity or configurations that would allow an active hot switch or other synchronized switch-over between programs, databases, or other resources to occur.

Pricing examples

The resource for the purpose of the RVU calculation is Activated Processor Cores managed by the program. An Activated Processor Core is a processor core that is available for use in a physical or virtual server, regardless of whether the capacity of the processor core can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions. Licensee can deploy the program using either full capacity licensing or virtualization capacity (sub-capacity) licensing according to the Passport Advantage Sub-Capacity Licensing Terms (refer to the website below). If using full capacity licensing, each Activated Processor Core in the physical hardware environment managed by the program must be counted, except for those servers from which the program permanently no longer manages. If using virtualization capacity licensing, the Virtualization Capacity License Counting Rules at

defines how many Activated Processor Cores must be counted.

The RVU table for Tivoli Endpoint Manager is below:

Tier	From quantity	To quantity	Factor
1	0	2,500	1.00
2	2,501	10,000	0.80
3	10,001	50,000	0.60
4	50,001	150,000	0.40
5	150,001	-	0.20

Pricing example 1

A customer wishes to license Tivoli Endpoint Manager for the servers in the following core environment:

Distributed servers

- 20 one processor, single core servers
- 65 one processor, dual core servers
- 12 two processor, dual core servers
- 10 two processor, quad core servers
- One eight processor, dual core server with two virtual or logical partitions
- One four processor, quad core server
- One z800 server with two uniprocessor IFLs running Linux (also known as "Linux on System z")

Note: Linux on System z offerings may not be available for all Tivoli products. This licensing example assumes such availability. Linux on System z offerings have distinctly orderable part numbers in Passport Advantage, which should be used when ordering entitlements for IFLs running Linux.

If pricing products without a Linux on System z offering, you should exclude the z800 server entitlement requirement indicated below.

The customer wants to manage the applicable distributed server environment with Tivoli Endpoint Manager:

Systems managed	Quantity in customer environment	Processor cores to be licensed
One processor, single core	20	20
One processor, dual core	65	130
Two processors, dual core	12	48
Two processors, quad core	10	80
Eight Processors, Dual Core (2 logical partitions)	1	16
Four Processors, Quad Core	1	16
z800 server with 2 uniprocessor IFLs (requires Linux on System z availability) is managed	1	2
Total processors to be licensed		312

Based on the 312 managed cores, the customer would require 312 RVUs of Tivoli Endpoint Manager.

Pricing example 2

A customer wishes to license Tivoli Endpoint Manager in the following core environment:

- Servers with 45,000 managed cores
- 25,000 Client Devices

The following calculation is used to determine the number of RVUs required to license the 45,000 managed cores in the server environment.

Tier	Quantity of managed cores	RVUs
1	2,500	2,500
2	7,500	6,000
3	35,000	21,000
Total		29,500

The first tier based on the RVU table is used to calculate the first 2,500 managed cores at a factor of 1 per core or in the case above 2,500 RVUs (2,500 x 1.) The second tier is used to calculate the managed cores from 2,501 to 10,000 at a .8 factor or (7,500 x .8 = 6,000). The third tier is used for those managed cores between 10,001 and 50,000. In the example, 35,000 of the managed cores reside in tier 3 or (35,000 x .6 = 21,000). Adding the RVUs together for each tier, the customer requires 29,500 RVUs to license the 45,000 managed cores.

In addition, the customer would require 25,000 of the client device part number to license the 25,000 client devices in the environment.

Pricing example 3

A customer wishes to license Tivoli Endpoint Manager in the following core environment:

- 40 virtual images running on 4 managed cores

The following calculation is used to determine the number of RVUs required to license the 40 virtual images running on 4 managed cores in the server environment.

Tier	Quantity of Managed Cores	RVUs
1	4	4
Total		4

Ordering information

This product is only available via Passport Advantage. It is not available as shrinkwrap.

Product group: Tivoli
Product:

- IBM Tivoli Endpoint Manager for Lifecycle Management (5725-C43)
- IBM Tivoli Endpoint Manager for Security and Compliance (5725-C44)
- IBM Tivoli Endpoint Manager for Patch Management (5725-C45)
- IBM Tivoli Endpoint Manager for Power Management (5725-C46)
- IBM Tivoli Endpoint Manager for Software Use Analysis (5725-F57)
- IBM Tivoli Endpoint Manager for Core Protection (5725-D25)

Product category: TVCONFIG (Configurations and Operations)

Passport Advantage customer: Media pack entitlement details

Customers with active maintenance or subscription for the products listed are entitled to receive the corresponding media pack.

Media pack description	Part number
IBM Tivoli Endpoint Manager for Lifecycle Management V8.2.0 Windows Multilingual Media Pack	BJ00NML
IBM Tivoli Endpoint Manager for Software Use Analysis V8.2.0 Windows Multilingual Media Pack	BJ00PML
IBM Tivoli Endpoint Manager for Security and Compliance V8.2.0 Windows Multilingual Media Pack	BJ00QML
IBM Tivoli Endpoint Manager for Patch Management V8.2.0 Windows Multilingual Media Pack	BJ00RML
IBM Tivoli Endpoint Manager for Power Management V8.2.0 Windows Multilingual Media Pack	BJ00TML
IBM Tivoli Endpoint Manager for Core Protection V8.2.0 Windows Multilingual Media Pack	BJ00VML

Current licensees

Current licensees must place a new order for the new V8.2 media packs.

New licensees

Orders for new licenses will be accepted now.

Shipment will begin on the planned availability date.

Basic license

Ordering information for Passport Advantage

Passport Advantage allows you to have a common anniversary date Software Subscription and Support (SW S&S) renewals, which can simplify management and budgeting for eligible new versions and releases (and related technical support) for your covered products. The anniversary date, established at the start of your Passport Advantage Agreement, will remain unchanged while your Passport Advantage Agreement remains in effect. New software purchases will initially include twelve full months of Software Subscription and Support (also referred to as Software Maintenance). Software Subscription and Support in the second year (the first year of renewal) can be prorated to be coterminous with your common anniversary date. Thereafter, all Software Subscription and Support (Software Maintenance) will renew at the common anniversary date for twelve full months of Software Subscription and Support (Software Maintenance).

Refer to the IBM International Passport Advantage Agreement and to the *IBM Software Support Handbook* for specific terms relating to, and a more complete description of, technical support provided through Software Subscription and Support (Software Maintenance).

The quantity to be specified for the Passport Advantage part numbers in the following table is per required number of Resource Value Units. To order for Passport Advantage, specify the desired part number and quantity.

IBM Tivoli Endpoint Manager for Lifecycle Management - 5725-C43

Description	Part number
Tivoli Endpoint Manager for Lifecycle Management for zEnterprise™ BladeCenter® Extension and Linux on System z Resource Value Unit Lic + SW S&S 12 Mo	D0M1ZLL
Tivoli Endpoint Manager for Lifecycle Management for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Annual SW S&S Rnw1 S&S Rnw1	E0D6FLL
Tivoli Endpoint Manager for Lifecycle Management for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SW S&S Reinstate 12 Mo	D0M20LL
Tivoli Endpoint Manager for Lifecycle Management FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Initl FT Lic+S&S 12 Mo	D0N2ELL
Tivoli Endpoint Manager for Lifecycle Management FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SubSq FT Lic+S&S 12 Mo	E0D7FLL

IBM Tivoli Endpoint Manager for Software Use Analysis - 5725-F57

Description	Part number
Tivoli Endpoint Manager for Software Use Analysis for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Lic + SW S&S 12 Mo	D0N1RLL
Tivoli Endpoint Manager for Software Use Analysis for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Annual SW S&S Rnw1	E0D75LL
Tivoli Endpoint Manager for Software Use Analysis for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SW S&S Reinstate 12 Mo	D0N1SLL
Tivoli Endpoint Manager for Software Use Analysis FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Initl FT Lic+S&S 12 Mo	D0N2SLL
Tivoli Endpoint Manager for Software Use Analysis FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SubSq FT Lic+S&S 12 Mo	E0D7NLL

IBM Tivoli Endpoint Manager for Patch Management - 5725-C45

Description	Part number
Tivoli Endpoint Manager for Patch Management for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Lic + SW S&S 12 Mo	D0N1TLL
Tivoli Endpoint Manager for Patch Management for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Annual SW S&S Rnw1	E0D76LL
Tivoli Endpoint Manager for Patch Management for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SW S&S Reinstate 12 Mo	D0N1ULL
Tivoli Endpoint Manager for Patch Management FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Initl FT Lic+S&S 12 Mo	D0N2TLL
Tivoli Endpoint Manager for Patch Management FTL	E0D7PLL

for zEnterprise BladeCenter Extension and Linux
on System z Resource Value Unit SubSq FT Lic+S&S
12 Mo

IBM Tivoli Endpoint Manager for Power Management - 5725-C46

Description	Part number
Tivoli Endpoint Manager for Power Management for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Lic + SW S&S 12 Mo	D0N25LL
Tivoli Endpoint Manager for Power Management for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Annual SW S&S RnwI	E0D7CLL
Tivoli Endpoint Manager for Power Management for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SW S&S Reinstate 12 Mo	D0N26LL
Tivoli Endpoint Manager for Power Management FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Initl FT Lic+S&S 12 Mo	D0N78LL
Tivoli Endpoint Manager for Power Management FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SubSq FT Lic+S&S 12 Mo	E0D9XLL

IBM Tivoli Endpoint Manager for Security and Compliance - 5725-C44

Description	Part number
Tivoli Endpoint Manager for Security and Compliance for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Lic + SW S&S 12 Mo	D0N2BLL
Tivoli Endpoint Manager for Security and Compliance for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Annual SW S&S RnwI	E0D7DLL
Tivoli Endpoint Manager for Security and Compliance for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SW S&S Reinstate 12 Mo	D0N2CLL
Tivoli Endpoint Manager for Security and Compliance FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Initl FT Lic+S&S 12 Mo	D0N7ALL
Tivoli Endpoint Manager for Security and Compliance FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SubSq FT Lic+S&S 12 Mo	E0D9YLL

IBM Tivoli Endpoint Manager for Core Protection - 5725-D25

Description	Part number
Tivoli Endpoint Manager for Core Protection for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Lic + SW S&S 12 Mo	D0M2ILL
Tivoli Endpoint Manager for Core Protection for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Annual SW S&S RnwI	E0D6NLL
Tivoli Endpoint Manager for Core Protection for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SW S&S Reinstate 12 Mo	D0M2JLL

Tivoli Endpoint Manager for Core Protection FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit Initl FT Lic+S&S 12 Mo DON2DLL

Tivoli Endpoint Manager for Core Protection FTL for zEnterprise BladeCenter Extension and Linux on System z Resource Value Unit SubsQ FT Lic+S&S 12 Mo E0D7ELL

To order a media pack for Passport Advantage, specify the part number in the desired quantity from the following table:

Media pack description	Part number
IBM Tivoli Endpoint Manager for Lifecycle Management V8.2.0 Windows Multilingual Media Pack	BJ00NML
IBM Tivoli Endpoint Manager for Software Use Analysis V8.2.0 Windows Multilingual Media Pack	BJ00PML
IBM Tivoli Endpoint Manager for Security and Compliance V8.2.0 windows Multilingual Media Pack	BJ00QML
IBM Tivoli Endpoint Manager for Patch Management V8.2.0 Windows Multilingual Media Pack	BJ00RML
IBM Tivoli Endpoint Manager for Power Management V8.2.0 Windows Multilingual Media Pack	BJ00TML
IBM Tivoli Endpoint Manager for Core Protection V8.2.0 Windows Multilingual Media Pack	BJ00VML

The IBM Tivoli Endpoint Manager V8.2 suite is also available, via Web download, from Passport Advantage.

Terms and conditions

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

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S/390® and System z IBM Operational Support Services - SoftwareXcel is an option if you desire added services.

License Information form number

- IBM Tivoli Endpoint Manager for Lifecycle Management (5725-C43): L-TBRN-8L2U4V
- IBM Tivoli Endpoint Manager for Software Use Analysis (5725-F57): L-TBRN-8L2U4V
- IBM Tivoli Endpoint Manager for Security and Compliance (5725-C44): L-TBRN-8L2U4V
- IBM Tivoli Endpoint Manager for Patch Management (5725-C45): L-TBRN-8L2U4V
- IBM Tivoli Endpoint Manager for Power Management(5725-C46): L-TBRN-8L2U4V
- IBM Tivoli Endpoint Manager for Core Protection(5725-D25): L-TBRN-8L2U4V

The program's License Information will be available for review on the IBM Software License Agreement website

<http://www.ibm.com/software/sla/sladb.nsf>

Limited warranty applies

Yes

Limited warranty

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, consult the IBM Software Support Handbook found at

<http://www.ibm.com/support/handbook>

IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

Program technical support

This technical support allows you to obtain assistance (via telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Subscription and Support (Software Maintenance) also provides you with access to updates (modifications or fixes), releases, and versions of the program. You will be notified, via announcement letter, of discontinuance of support with 12 months' notice. If you require additional technical support from IBM, including an extension of support beyond the discontinuance date, contact your IBM representative or IBM Business Partner. This extension may be available for a fee.

Money-back guarantee

If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

For clarification, note that (1) for programs acquired under the IBM International Passport Advantage offering, this term applies only to your first acquisition of the

program and (2) for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

Other terms

Volume orders (IVO)

No

IBM International Passport Advantage Agreement

Passport Advantage applies

Yes, and through the Passport Advantage website at

<http://www.ibm.com/software/passportadvantage>

Usage restriction

Yes. Usage is limited to the quantity of Value Units, network nodes, and client devices that you have licensed.

Software Subscription and Support applies

Yes. Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express®. Product upgrades and Technical Support are provided by the Software Subscription and Support offering as described in the Agreements. Product upgrades provide the latest versions and releases to entitled software and Technical Support provides voice and electronic access to IBM support organizations, worldwide.

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For additional information about the International Passport Advantage Agreement and the IBM International Passport Advantage Express Agreement, visit the Passport Advantage website at

<http://www.ibm.com/software/passportadvantage>

IBM Operational Support Services - SoftwareXcel

No

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

Not applicable.

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To learn how Electronic Services can work for you, visit

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Prices

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In the Electronic tools category, select the option for Purchase/upgrade tools.

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For IBM representative: callserv@ca.ibm.com

For IBM Business Partner: pwswna@us.ibm.com

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