IBM Tivoli Provisioning Manager V7.1.1 provides enhanced capabilities and migration assistance

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At a glance

IBM® Tivoli® Provisioning Manager V7.1.1:

- Provides migration assistance for current Tivoli Provisioning Manager V5.1 users to the Tivoli process automation engine technology used in Tivoli Provisioning Manager V7.1
- Enhances the ability to manage virtual environments
- Provides additional platform support
- Supports the IPv6 networking standard
- Increases endpoint management capabilities

Overview

IBM Tivoli Provisioning Manager V7.1.1 is a key product in the IBM Service Management suite of products. It provides underlying resource provisioning and configuration management functions that can be executed as specific steps in systems management processes. The previous release, IBM Tivoli Provisioning Manager V7.1, integrated Tivoli Provisioning Manager functionality onto the Tivoli process automation engine. This platform is used by other IBM Service Management products such as IBM Tivoli Change and Configuration Management Database and IBM Tivoli Service Request Manager. In addition to new features and functions, this release provides significant migration assistance from Tivoli Provisioning Manager V5.1.1 to this new technology base.

IBM Tivoli Provisioning Manager V7.1.1 enhancements

- **Migration assistance** - Migration from Tivoli Provisioning Manager V5.1 is one of the primary technical capabilities provided in IBM Tivoli Provisioning Manager V7.1.1. It includes both technical aids and defined migration methodologies.
- **Additional platform support** - IBM Tivoli Provisioning Manager V7.1.1 provides support for additional platforms acting as either the management platform or the managed client.
- **Network enhancements** - The IPv6 networking protocol is now supported by IBM Tivoli Provisioning Manager.
- **High availability enhancements** - With V7.1.1, the managed agents can now be automatically reconfigured to work with a backup manager.
- **Virtualization support** - Support for the AIX® and VMWare virtualized server environments has been enhanced.
• Federal Information Processing Standard (FIPS) 140-2 - IBM Tivoli Provisioning Manager V7.1.1 will now support the Federal U.S. Government FIPs 140-2 standard for data encryption.
• Managed server enhancements - Several new functions are provided to enhance the manageability of target endpoints.
• Patch management - Patch management for a selected set of operating systems has been enhanced.

Key prerequisites

Refer to the Hardware requirements section.

Planned availability dates

August 28, 2009: Electronic
October 2, 2009: Physical media

Refer to the complete letter for national language availability.

Description

IBM Tivoli Provisioning Manager V7.1, which announced in December 2008, introduced a new underlying technology to the product -- the Tivoli process automation engine. This enhancement allows tighter integration between IBM Tivoli Provisioning Manager and other IBM Service Management products that use the Tivoli process automation engine. In addition to providing a variety of new features and functional enhancements, IBM Tivoli Provisioning Manager V7.1.1 provides current users of IBM Tivoli Provisioning Manager V5.1 migration methodologies and technical aides to move to this new technology.

IBM Tivoli Provisioning Manager V7.1.1 enhancements

Migration assistance - This is one of the primary technical capabilities provided in IBM Tivoli Provisioning Manager V7.1.1. Through the use of a formal migration guide and migration scripts, this release will aid the current users of IBM Tivoli Provisioning Manager V5.1 in moving to V7.1.1. Documented methodologies for moving the product forward to the new version are provided in addition to tools and scripts to aid in data and customization migration. Examples of migration functions provided in scripts include:

• Backing up IBM Tivoli Provisioning Manager V5.1.1 information including database, configuration, agent certificates, and LDAP output so that they can be restore during the migration process
• Restoring Tivoli Provisioning Manager V5.1.1 information to the Tivoli Provisioning Manager V7.1.1 management server
• Making appropriate host name changes within the solution infrastructure to allow Tivoli Provisioning Manager V7.1.1 to assume control of the solution

The scope of the migration methodologies and scripts include the manager, deployment infrastructure, and agents.

Additional platform support - IBM Tivoli Provisioning Manager V7.1.1 will add the following platforms to the options for running the IBM Tivoli Provisioning Manager management server:

• AIX V6.1
• Red Hat Enterprise Linux® R5 on x86 and System z® architectures
• SUSE Enterprise Linux Server V10 on x86 and System z architectures
• Sun Solaris 10 on the SPARC architecture
• Windows® Server 2003 Enterprise Edition R2
• Windows Server 2008 Enterprise and Standard Editions

A managed agent for Red Hat Enterprise Linux R5 on System z architecture is also added to the currently supported list of managed endpoints.

**Virtualization support** - Multiple new and enhanced features supporting server virtualization have been added. These include:

• Checking the availability of resources prior to requesting a virtual machine
• Checking for the availability of a "slot" before requesting a new AIX LPAR
• Support of AIX Multi Path IO configurations
• Support of the VMWare template deployment methodology
• Displaying the status of virtual machines on the IBM Tivoli Provisioning Manager console

**Managed endpoint enhancements** - IBM Tivoli Provisioning Manager V7.1.1 provides several new functions that aid in the management of servers. These include:

• Inventory scan extension capabilities that help users to increase the amount and type of information that can be retrieved from a managed server during an inventory scan. Scanning customizations can be included that retrieve customer-defined data from the managed server and include it in the Data Center Model description of the server.
• The ability to Pause/Resume a deployment operation. This provides the ability to start a deployment during a specified maintenance window and stop it during operational periods.
• Doubling the allowable size of a software deployment Software Package Block (SPB) to four gigabytes. This allows for larger packages to be distributed using the Scalable Deployment Infrastructure (SDI) and associated endpoint agents.
• Deployment of IBM Tivoli Provisioning Manager agent upgrades using the SDI. This provides a highly scalable solution when distributing updates to previously installed agents as opposed to the previous method of direct manager to agent distributions.

**Patch management** - Enhanced or new operating system patch management capabilities are included.

• New support for Red Hat Enterprise Linux R5 has been provided. Distribution of patches for this operating system can be done using SDI. This helps provide a more highly scalable solution when patching large numbers of Red Hat servers.
• Patching of SUSE Enterprise Linux Server V10 on the System z series architecture is now supported.
• Support for HP-UX operating system patching has been reinstated in IBM Tivoli Provisioning Manager V7.1.1.

**Network enhancements** - Initial support for the IPv6 networking protocol is supported in Tivoli Provisioning Manager V7.1.1. This implementation will allow users to run IBM Tivoli Provisioning Manager in a mixed environment of IPv6 and IPv4 communication stacks as a customer migrates to IPv6.

Support of the Network Address Translation (NAT) protocol is implemented in Tivoli Provisioning Manager V7.1.1.

**High availability enhancements** - With Tivoli Provisioning Manager V7.1.1, the managed agents can now be automatically reconfigured to work with a backup manager. Once the secondary manager has been established, the agents can be sent a command to re-configure themselves so they are associated with the new manager.

At the manager level, the IBM Tivoli Provisioning Manager for OS Deployment portion of the product now supports a high-availability failover scenario.
Federal Information Processing Standard (FIPS) 140-2 - IBM Tivoli
Provisioning Manager V7.1.1 will support the U.S. Federal Government FIPS 140-2 standard for data encryption.

Accessibility by people with disabilities

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


Product positioning

IBM Tivoli Provisioning Manager V7.1.1 is a key member of the operational management suite of products in the service management strategy of IBM. IBM Service Management helps organizations better manage their IT infrastructure to more effectively and efficiently deliver IT services. IBM Tivoli products can assist users in their efforts to ensure IT service continuity by helping users to:

- Help ensure service management processes are performed consistently by the correct staff using the proper data
- Help optimize costs by automating repetitive IT management processes and procedures
- Help create resilient IT services
- Help improve productivity with a predictive approach to IT management
- Help manage compliance and risk in the IT environment
- Provide data integrity and audit readiness

IT operational management products, such as IBM Tivoli Provisioning Manager, help automate tasks to address application or business service operational management challenges. These products can help optimize performance and availability of business-critical applications and supporting IT infrastructure.

IBM Tivoli Provisioning Manager can help automate the procedures to provision physical or virtual servers. This includes activities such as installing the operating system with required drivers and patches, adjusting network and storage settings, deploying middleware and applications, and applying patches. IBM Tivoli Provisioning Manager also has the capability to routinely run inventory scans and compliance checks to identify changes in desired resource configurations. IBM Tivoli Provisioning Manager may also aid the data center staff in responding to potential problems in essential system resources and help them automatically recover from critical business application situations through automating the provisioning and configuration of servers, storage, and network devices.

IBM Tivoli Provisioning Manager helps support more strategic data center initiatives, such as solutions that can automatically provide production or test center server capabilities based on customer requests, solutions that reduce or optimize data center power consumption, or solutions that monitor and return resources to a desired state. In all of these solutions, IBM Tivoli Provisioning Manager may be configured to work in concert with other IBM products to help provide increased value to the operation of the data center and the management of its resources.

Availability of national languages

IBM Tivoli Provisioning Manager V7.1.1 is enabled to support all language environments and are translated into the following languages, available via the Information Center (including PDF for some of the books). The publications can be found at

Tivoli Provisioning Manager V7.1
Tivoli Provisioning Manager V7.1.1

Note: The Tivoli Provisioning Manager V7.1.1 Web site will be available on August 28, 2009.

Availability date:

- October 2, 2009: Electronic

Language

French
German
Italian
Spanish
Czech
Hungarian
Russian
Polish

Program number

<table>
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<td>7.1.1</td>
<td>IBM Tivoli Provisioning Manager</td>
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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


Offering Information

Product information is available via the Offering Information Web site

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

Also, visit the Passport Advantage® Web site

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

Publications

No publications are shipped with these programs.
Technical information

Specified operating environment

Hardware requirements

Management server

- Free disk space: 50 GB
- Minimum memory requirement: 4 GB RAM (Windows 32-bit systems) or 8 GB RAM (Windows 64-bit systems and UNIX® and Linux systems)

Managed Server Agent

- Free disk space: approximately 200 MB
- Minimum memory requirement: approximately 60 MB RAM

The detailed hardware requirement specifications for Tivoli Provisioning Manager V7.1.1 can be found at

http://www.ibm.com/support/docview.wss?rs=1015&uid=swg27013598

Software requirements

Tivoli Provisioning Manager V7.1.1 will continue to support a select number of 32-bit operating systems as management platforms. You are encouraged to consider using a 64-bit operating system if possible. The inherent performance improvements of a 64-bit system and the possibility of integrating Tivoli Provisioning Manager with other Tivoli products to provide a more robust solution are two of the advantages of considering a 64-bit operating system.

Management Server supported platforms

Windows

- Microsoft® Windows Server 2003 Enterprise Edition SP2, 32-bit Intel®
- Microsoft Windows Server 2003 Enterprise Edition R2, 32-bit Intel
- Microsoft Windows Server 2003 Standard x64 Edition SP2, 64-bit AMD64 and EM64T
- Microsoft Windows Server 2003 Enterprise x64 Edition SP2, 64-bit AMD64 and EM64T
- Microsoft Server 2008 Enterprise Edition 64-bit Intel
- Microsoft Server 2008 Standard Edition 64-bit Intel

AIX

- AIX 5L™ V5.3 TL8 (System p® 64 bit)
- AIX 5L V6.1 (System p 64 bit)

Red Hat

- Red Hat Enterprise Linux V4 AS Update 5 (x86 32 bit)
- Red Hat Enterprise Linux V5 AS (x86 64 bit)
- Red hat Enterprise Linux V5 AS (System z 64 bit)

Sun Solaris

- Sun Solaris 10 on SPARC

SUSE Linux Enterprise Server

- SUSE Linux SLES 10.0 Enterprise Edition (x86 64 bit)
- SUSE Linux SLES 10.0 Enterprise Edition (System z 64 bit)
The latest information on Updated IBM Tivoli Provisioning Manager supported operating systems for the management server can be found at following Web site

http://www.ibm.com/support/docview.wss?rs=1015&uid=swg27013596

Management Server middleware server requirements:

Database:

   DB2® V9.1.4 or V9.5 (Microsoft Windows, AIX, Red Hat)
   or
   Oracle Database 10.2.0.1g (AIX, Red Hat)

J2EE server:

   WebSphere® Application Server Network Deployment V6.1.0.23

Directory server:

   Tivoli Directory Server 6.1.0.10, or 6.2
   or
   Microsoft Active Directory 2003

Administrative workstation:

   Microsoft Windows (for installation, fixes, upgrades only)

The following products are included with Tivoli Provisioning Manager V7.1.1, with a restricted use license.

• IBM DB2 Universal Database™ Enterprise Server Edition V9.5
• IBM Tivoli Directory Server V6.2
• IBM WebSphere Application Server Network Deployment V6.1.0.23
• IBM Tivoli Provisioning Manager for Operating System Deployment V7.1

The latest information on the detailed specifications for managing server requirements, database environment, application server environment, and directory server environment can be found at

http://www.ibm.com/support/docview.wss?rs=1015&uid=swg27013597

Managed server agent supported platforms

An installable agent is available to aid in the management of the following operating systems. The agents are designed for 32-bit operations and will operate in 32-bit emulation mode on 64-bit architectures.

   Windows 2003 Server Standard Edition SP2 (AMD 64 bit)
   Windows 2003 Server Enterprise Edition SP2 (AMD 64 bit)
   Windows 2003 Server Standard Edition SP2 (x86 32 and 64 bit)
   Windows 2003 Server Enterprise Edition SP2 (x86 32 and 64 bit)
   Windows XP Professional (32 and 64 bit)
   Windows Vista Ultimate Edition (32 and 64 bit)
   Windows Vista Enterprise Edition (32 and 64 bit)
   Windows 2008 Standard edition (32 and 64 bit)
   Windows 2008 Enterprise Edition (32 and 64 bit)
   AIX V5.3 (System i®, System p) (ML3, or later)
   AIX V6.1 (System i, System p)
   Solaris 10 (AMD 64)
   Solaris 10 (x86 64)
   Solaris 10 (Sparc)
   Solaris 9 (Sparc)
Linux RHEL 4 AS (x86 32 bits)
Linux RHEL 4 AS (System i)
Linux RHEL 4 AS (System p)
Linux RHEL 4 AS (AMD 64 bit)
Linux RHEL 5 x86 32 bit and 64 bit
Linux RHEL 5 (System z 64 bit)
Linux SLES 9 Enterprise Edition SP3 (x86 32 bit and 64 bit)
Linux SLES 9 Enterprise Edition SP3 (System i)
Linux SLES 9 Enterprise Edition SP3 (System p)
Linux SLES 9 Enterprise Edition SP3 (System z 64 bit)
Linux SLES 10.0 Enterprise Edition SP1 or SP2 (x86 32 bit and 64 bit)
Linux SLES 10.0 Enterprise Edition SP1 or SP2 (System z 64 bit)
Linux SLES 9 Enterprise Edition SP3 (AMD 64 bit) 32-bit emulation
HP-UX 11i V2 - PA-RISC
HP-UX 11i V3 - PA-RISC
HP-UX 11i V3 - IA64

For the latest list of supported hardware and application software, refer to the IBM Tivoli Provisioning Manager support site

IBMTivoliProvisioningManager.html

Software prerequisites

Microsoft Windows software

- Cygwin DLL V1.5.10, or later is required on a Microsoft Windows 2003 server environment for installation only. It is available at
  http://www.cygwin.com/

AIX

The following packages are required for AIX:

- Expect AIX V5.4, or later; glib2 perl-5.8.2; bash; bash-doc; wget-1.9 perl-5.8.2, tc, tk, unzip
  You can obtain these packages from
- openssl, openssl
  You can obtain these packages from:
- For open SSH:
  https://sourceforge.net/projects/openssh-aix
- For open SSL:
- For GNU tar:
- For xlC.rte (Version 8.0.0.6):

Required packages when using Oracle:

gcc
gcc-c++
libgcc
libstdc++
libstdc++._devel
These packages can be obtained at


These files are located on AIX CD ROM 1:

bos.adt.libm
bos.adt.prof
bos.cifs_fs.rte
bos.perf.proctools

**Linux**

The following packages are required on Linux:

An SSH client (for example, openssh)
Expect 5.42
libstdc++.so.5 (required for the Tivoli middleware installer)
telnet
ftp
gtk
perl
tcl
tk
wget
compat-gcc-32-3.2.3-47.3
compat-gcc-32-c++-3.2.3-47.3
compat-db-4.1.25-9
rpm-build-4.3.3-22_nonptl
rpm-build-4.3.3-13xorg-x11-xfs
fonts-xorg-base
fonts-xorg-75dpi
fonts-xorg-100dpi
xorg-x11-font-utils

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**

**Packaging**

IBM Tivoli Provisioning Manager V7.1.1 is distributed with:

- International Program License Agreement (Z125-3301)
- License Information document (GI11-6481)
- Tivoli Provisioning Manager V7.1 Quick Start Guide
- CD-ROMs or DVDs

This program, when downloaded from a Web site, 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 Provisioning Manager V7.1.1 uses 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.

Global Technology Services

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings for the efficient installation, implementation, or integration of this product.

IBM Tivoli Enhanced Value-Based Pricing

Tivoli software products are priced using Tivoli's Enhanced Value-Based Pricing. The Enhanced Value-Based Pricing system is based upon the IBM Tivoli Environment-Managed Licensing Model, which uses a managed-environment approach -- whereby price is determined by what is managed rather than the number and type of product components installed.

For example, all servers monitored with IBM Tivoli’s monitoring product (IBM Tivoli Monitoring) require entitlements sufficient for those servers. Other Tivoli products may manage clients, client devices, agents, network nodes, users, or other items, and are licensed and priced accordingly.

Unlike typical systems management licensing models that require entitlements of specific software components to specific systems, the IBM Tivoli Environment-Managed Licensing Model provides the customer flexibility to deploy its IBM Tivoli software products within its environment in a manner that can address and respond to the customer's evolving architecture. That is, as the architecture of a customer's environment changes, the customer's implementation of IBM Tivoli software can be altered, as needed, without affecting the customer's license requirements (as long as the customer does not exceed its entitlements to the software).

Under Enhanced Value-Based Pricing, licensing and pricing of server-oriented applications are determined based upon the server's use in the customer's environment. Typically, such applications are licensed and priced in a manner that corresponds to each installed and activated processor of the server managed by the IBM Tivoli application to help correlate price to value while offering a simple solution.

Enhanced Value-Based Pricing recognizes the convergence of RISC and UNIX, and Microsoft Windows and Intel technologies, in order to simplify your licensing requirements, and to provide a smoother, more scalable model. Pricing and licensing does not differentiate between non-System z server platforms or operating systems. For some products, this platform neutrality extends to System z and other host servers as well.

IBM Tivoli Enhanced Value-Based Pricing terminology definitions

Client device or client

A client device is a computing device that requests the execution of a set of commands, procedures, or applications from another computer system that is typically referred to as a server. Multiple client devices may share access to a common server. A client device generally has some processing capability or is programmable to allow a user to do work. Examples include, but are not limited to, notebook computers, desktop computers, desk side computers, technical workstations, appliances, automated teller machines, point-of-sale terminals, tills and cash registers, and kiosks.
**Engine**

An engine is also referred to as a central processor (CP) or processor. Engines for traditional workloads are called General Purpose CPs. Engines for Linux workloads are called Integrated Facility for Linux (IFL) engines or Linux-only engines. Engines for Coupling Facility workloads are called Integrated Coupling Facility (ICF) engines.

**Enterprise**

An enterprise is a person or single entity and those subsidiaries with more than 50 percent ownership.

**IBM Integrated Facility for Linux (IFL)**

This optional facility enables additional processing capacity exclusively for Linux workload, with no effect on the model designation of a System z or OS/390® server. Consequently, executing Linux workload on the IFL will not, in most cases, result in any increased IBM software charges for z/OS®, OS/390, VM, VSE, or TPF operating systems and applications. There is, as indicated, a charge associated with the IFL, and there may also be a charge for applications which run on the IFL.

The IFL may be dedicated to a single Linux-mode logical partition or it may be shared by multiple Linux-mode logical partitions. Installations should note that the Linux workspace enabled by this facility will not support any of the traditional S/390® operating systems (OS/390, TPF, VSE, or VM). Only Linux applications or Linux operating in conjunction with the Virtual Image Facility, an environment that operates within a logical partition or in native S/390 mode and provides the capability to create multiple Linux images, are supported by IBM S/390 IFL.

**Network node or node**

Network nodes include routers, switches, hubs, and bridges that contain a network management agent. A single network node may contain any number of interfaces or ports.

**Partitions**

A server's resources (CPU, memory, I/O, interconnects, and buses) may be divided according to the needs of the applications running on the server. This partitioning can be implemented with physical boundaries (physical partitions) or logical boundaries (logical partitions).

Physical Partitions are defined by a collection of processors dedicated to a workload and can be used with systems that have either multiple cards or multiple frames, each of which can be configured independently. In this method, the partitions are divided along hardware boundaries and processors, and the I/O boards, memory, and interconnects are not shared.

Logical Partitions are defined by software rather than hardware and allocate a pool of processing resources to a collection of workloads. These partitions, while separated by software boundaries, share hardware components and run in one or more physical partitions.

**Processor (per processor charging under full capacity)**

In full capacity charging, PoE must be acquired for all activated processors (available for use) that are on the server where the program or a component of the program is run.

**Notes:**

1. IBM defines a physical processor in a computer as a functional unit that interprets and executes instructions. A physical processor consists of at least an instruction control unit and one or more arithmetic and logic units.
2. Multicore technology allows two or more processors (commonly called cores) to be active on a single silicon chip. With multicore technology, IBM considers each core
to be a physical processor. For example, in a dual-core chip, there are two physical processors residing on the single silicon chip.

3. In the System z IFL environment, each IFL engine is considered a single physical processor.

4. Threading, a technique which makes a single processor seem to perform as two or more, does not affect the count of physical processors.

5. Where blade technology is employed, each blade is considered a separate server and charging is based upon the total number of processors on the blade on which the program is run.

6. When a server is shipped with six processors, but two of them are inactive, four processors are active for the customer.

7. Not all processors require the same number of Value Unit entitlements. To determine the number of Value Unit entitlements required, refer to the processor value unit conversion table on the Passport Advantage Web site: http://www.ibm.com/software/passportadvantage

**Processor Value Unit**

Processor is descriptive of one of the Value Unit charge metrics. For more information on Value Units in general, see the Value Unit definition. Processor Value Unit (PVU) entitlements are based on processor families (vendors and brands). A Proof of Entitlement (PoE) must be obtained for the appropriate number of Processor Value Units based on the level or tier of all processor cores activated and available for use by the program on the server. Some programs allow licensing to less than the full server, or what is sometimes referred to as sub-capacity licensing. For these programs, if a server is partitioned (utilizing eligible partitioning technologies), then a PoE must be obtained for the appropriate number of Processor Value Units based on all activated processor cores available for use in each partition where the program runs. Refer to the International Passport Advantage Agreement Attachment for Sub-Capacity Terms. The Processor Value Unit entitlements are specific to a program and may not be exchanged, interchanged, or aggregated with Processor Value Unit entitlements of another program.

For a general overview of PVUs for processor families (vendors and brands), refer to http://www-306.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

**Server**

A server is a computer system that executes requested procedures, commands, or applications to one or more user or client devices over a network. A PoE must be obtained for each server on which the program or a component of the program is run or for each server managed by the program. Where blade technology is employed, each blade is considered a separate server.

**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 license 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 entitlements 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.

In the case of a program or system configuration that is designed to support a high availability environment by using various techniques (for example, duplexing, mirroring of files, or transactions, maintaining a heartbeat, active linking with another machine, program, database, or other resource), the program is considered to be doing work in the hot situation and a license or entitlement must be purchased.

**Value Units**

A Value Unit is a pricing charge metric for program license entitlements, which is based upon the quantity of a specific designated measurement used for a given program. Each program has a designated measurement. The most commonly used designated measurements are processor cores and MSUs. However, for select programs, there are other designated measurements such as servers, users, client devices, and messages. The number of value unit entitlements required for your specific implementation of the given program must be obtained from a conversion table associated with the program. You must obtain a PoE for the appropriate number of Value Unit entitlements for your implementation. The value unit entitlements of a given program cannot be exchanged, interchanged, or aggregated with Value Unit entitlements of another program. Whenever the designated measurement is a processor core, not all processors require the same number of processor Value Unit entitlements. To determine the number processor value unit entitlements required, refer to the processor Value Unit conversion table on the Passport Advantage Web site

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

**Product and licensing Web sites**

A complete list of IBM Tivoli products is available at

http://www.ibm.com/software/tivoli

IBM Tivoli product licensing documents are available at


**Passport Advantage**

Through the Passport Advantage Agreement, you may receive discounted pricing based on their total volume of eligible products, across all IBM brands, acquired worldwide. The volume is measured by determining the total Passport Advantage points value of the applicable acquisitions. Passport Advantage points are only used for calculating the Entitled Passport Advantage discount.

To determine the required IBM Tivoli product configuration under Passport Advantage, the IBM Tivoli Enhanced Value-Based Pricing Model applies. The customer's environment is evaluated on a per-product basis.
Use the following two-step process to determine the total Passport Advantage points value:

1. Analyze your environment to determine the number of charge units for a product. The quantity of each product's part numbers to be ordered is determined by that analysis.

2. Order the Passport Advantage part numbers. A Passport Advantage point value, which is the same worldwide for a specific part number regardless of where the order is placed, is assigned to each IBM Tivoli product part number. The Passport Advantage point value for the applicable part number, multiplied by the quantity for that part number, will determine the Passport Advantage points for that IBM Tivoli product part number. The sum of these Passport Advantage points determines the Passport Advantage point value of the applicable IBM Tivoli product authorizations which then may be aggregated with the point value of other applicable Passport Advantage product acquisitions to determine the total Passport Advantage points value.

The discounted pricing available through Passport Advantage is expressed in the form of Suggested Volume Prices (SVPs), which vary depending on the SVP level. Each SVP level is assigned a minimum total Passport Advantage point value, which must be achieved, in order to qualify for that SVP level.

Media packs and documentation packs do not carry Passport Advantage points and are not eligible for SVP discounting.

For additional information on Passport Advantage, refer to the following

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

The following Passport Advantage part number categories may be orderable:

- License and Software Maintenance 12 Months - This is the product authorization with maintenance to the first anniversary date.
- Annual Software Maintenance Renewal - This is the maintenance renewal for one anniversary that applies when a customer renews their existing coverage period prior to the anniversary date at which it expires.
- Software Maintenance Reinstatement 12 months - This is for customers who have allowed their Software Maintenance to expire, and later wish to reinstate their Software Maintenance.
- Media packs - These are the physical media, such as CD-ROMs, that deliver the product's code.
- Documentation packs - These contain printed documentation such as the User's Guide and Release Notes.

**Pricing examples**

The following examples are provided to illustrate your licensing requirements.

References to processor-based licensing **do not** represent the actual number of entitlements required. Entitlement requirements are Value Unit-based. Processors referenced in these examples represent the designated measurement on which the required number of Value Unit entitlements will be calculated. The number of Value Units required per processor will depend on the processor type. For more information, refer to Value Unit and processor Value Unit in IBM Tivoli Enhanced Value-Based Pricing terminology definitions. To determine the number of Value Unit entitlements required per processor, refer to the processor Value Unit conversion table on the Passport Advantage Web site

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

References to all other non-processor-based metrics **do** represent the actual number of entitlements required, unless other designated measurements are referenced or unless otherwise specified.
The pricing examples below should be used to determine required license entitlements for IBM Tivoli Provisioning Manager.

Pricing example 1:
A customer wants to use IBM Tivoli Provisioning Manager to automate quick and reliable provisioning of changes across resources in the environment. The customer environment consists of 550 distributed servers, 20 network nodes, and 1,500 client devices.

Servers:
- Three hundred 2-way servers
- Two hundred 4-way servers
- Fifty 8-way servers

Others:
- 10 firewall devices and 10 switches (20 network nodes)
- 500 workstations and 1,000 laptops (1,500 client devices)

Since licensing is based on number of processors on the servers configured, the customer must obtain the following entitlements for the servers:

<table>
<thead>
<tr>
<th>Systems managed</th>
<th>Quantity in customer environment</th>
<th>Processor entitlements required</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-way</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>4-way</td>
<td>200</td>
<td>800</td>
</tr>
<tr>
<td>8-way</td>
<td>50</td>
<td>400</td>
</tr>
</tbody>
</table>

Total processor entitlements: 1,800

The customer must obtain the following entitlements for the network nodes:

<table>
<thead>
<tr>
<th>Systems managed</th>
<th>Quantity in customer environment</th>
<th>Network node entitlements required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network nodes</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

Total network node entitlements: 20

The customer must obtain the following entitlements for the client devices:

<table>
<thead>
<tr>
<th>Systems managed</th>
<th>Quantity in customer environment</th>
<th>Client entitlements required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients</td>
<td>1,500</td>
<td>1,500</td>
</tr>
</tbody>
</table>

Total client entitlements: 1,500

Pricing example 2:
A customer wants to use IBM Tivoli Provisioning Manager to manage the provisioning of changes in a data center with 162 servers.

- Fifty 2-way servers
- One hundred 4-way servers
- Ten 8-way servers
- One 16-way Sun Ultra server with two 8-way physical partitions (only one of which is managed by Tivoli applications)
- One z800 server with two uniprocessor IFLs running Linux (Linux on System z)

<table>
<thead>
<tr>
<th>Systems managed</th>
<th>Quantity in customer environment</th>
<th>Processor entitlements required</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-way</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>4-way</td>
<td>100</td>
<td>400</td>
</tr>
<tr>
<td>8-way</td>
<td>10</td>
<td>80</td>
</tr>
</tbody>
</table>
16-way 1 16
(2 physical partitions, only one of which is managed by the Tivoli application)
z800 1 2
(server with 2 uniprocessor IFLs running Linux on System z)

Total processor entitlements 598

Notes:

• Separate processor Value Unit part numbers exist for licensing on distributed and Linux on System z servers.
• A trade up is required for customers with current entitlement for IBM Tivoli Configuration Manager to move to IBM Tivoli Provisioning Manager.

Ordering information

For ordering information, consult your IBM representative or authorized IBM Business Partner, or visit


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

Product Group: IBM Tivoli Provisioning
Product: IBM Tivoli Provisioning Manager (5608-TPM)
Product Category: Tivoli Provisioning

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.

IBM Tivoli Provisioning Manager V7.1.1 media pack

Entitled maintenance offerings description
Tivoli Provisioning Manager Proc
Tivoli Provisioning Mgr Ntwrk Node
Tivoli Intelligent Orchestrator Proc
Tiv Intelligent Orchestrator Ntwrk Node
Tivoli Provisioning MGR PR for zSer
Tiv Intelligent Orch PR for zSer
Tivoli Provisioning Mgr Client Dev
Tivoli Provisioning Manager 10 VU
Tivoli Provisioning Mgr zSer 10 VU
Tivoli Intelligent Orchestrator VU
Tiv Intelligent Orch for zSer VU

Media pack description Part number
IBM Tivoli Provisioning Manager V7.1.1 Media Pack MP ML BJOT4ML

Current licensees

Current licensees must place a new order for the IBM Tivoli Provisioning Manager V7.1.1 media pack.

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 for Software Maintenance 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 maintenance coverage. Maintenance in the second year (the first year of renewal) can be prorated to be coterminous with your common anniversary date. Thereafter, all Software Maintenance will renew at the common anniversary date and include twelve full months of maintenance.

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

The quantity to be specified for the Passport Advantage part numbers in the following table are per value unit, per network node, and per client device. To order for Passport Advantage, specify the desired part number and quantity.

The following license part numbers were previously announced for IBM Tivoli Provisioning Manager (5608-TPM)

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Units</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager 10 Processor Value Units License and Software Maintenance 12 Months</td>
<td>DSSZNL</td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager 10 Processor Value Units Annual Software Maintenance Renewal</td>
<td>E0279L</td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager 10 Processor Value Units Software Maintenance Reinstatement 12 Months</td>
<td>DSSZPL</td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager 10 Processor Value Units from IBM Tivoli Provisioning Manager for Software Trade Up License + SW Subscription &amp; Support 12 Months</td>
<td>D56P1L</td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager for Linux on System z 10 Processor Value Units License and Software Maintenance 12 Months</td>
<td>DSSZQL</td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager for Linux on System z 10 Processor Value Units Annual Software Maintenance Renewal 12 Months</td>
<td>E027CL</td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager for Linux on System z 10 Processor Value Units Software Maintenance Reinstatement 12 Months</td>
<td>DSSZRL</td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager for Linux on System z 10 Processor Value Units from IBM Tivoli Provisioning Manager for Software Trade Up License + SW Subscription &amp; Support 12 Months</td>
<td>D56P2L</td>
</tr>
<tr>
<td>Network nodes</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Provisioning Manager Network Node License and Software Maintenance 12 Months</td>
<td>D52VHL</td>
</tr>
</tbody>
</table>
IBM Tivoli Provisioning Manager Network Node          E00ZWLL
Annual Software Maintenance Renewal

IBM Tivoli Provisioning Manager Network Node          D52VILL
Software Maintenance Reinstatement 12 Months

Client devices

IBM Tivoli Provisioning Manager Client Device          D58SYLL
License and Software Maintenance 12 Months

IBM Tivoli Provisioning Manager Client Device          E02I7LL
Annual Software Maintenance Renewal

IBM Tivoli Provisioning Manager Client Device          D58GOLL
Software Maintenance Reinstatement 12 Months

IBM Tivoli Provisioning Manager Client Device from     D584DLL
IBM Tivoli Provisioning Manager for Software           
Trade Up License + SW Subscription & Support          
12 Months

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

<table>
<thead>
<tr>
<th>Media packs</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Tivoli Provisioning Manager V7.1.1 Media Pack MP ML</td>
<td>BJ0T4ML</td>
</tr>
</tbody>
</table>

IBM Tivoli Provisioning Manager V7.1.1 is also available via Web download from Passport Advantage.

**Part number withdrawal**

The following IBM Tivoli Provisioning family Doc Packs will be withdrawn, effective on October 9, 2009.

<table>
<thead>
<tr>
<th>Tivoli Management Framework Doc Pack description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DIE</td>
</tr>
<tr>
<td>International English Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DBP</td>
</tr>
<tr>
<td>Brazilian Portuguese Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DSC</td>
</tr>
<tr>
<td>Simplified Chinese Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DTC</td>
</tr>
<tr>
<td>Traditional Chinese Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DDE</td>
</tr>
<tr>
<td>German Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DIT</td>
</tr>
<tr>
<td>Italian Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DJA</td>
</tr>
<tr>
<td>Japanese Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DKO</td>
</tr>
<tr>
<td>Korean Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DES</td>
</tr>
<tr>
<td>Spanish Doc Pack</td>
<td></td>
</tr>
<tr>
<td>IBM Tivoli Management Framework Version 4.1</td>
<td>BJ06DFR</td>
</tr>
<tr>
<td>French Doc Pack</td>
<td></td>
</tr>
</tbody>
</table>
Replacement part number

The following replacement media pack may be ordered.

**Tivoli Management Framework**

<table>
<thead>
<tr>
<th>Doc Pack description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Tivoli Management Framework for Multiplatforms Version 4.1.1 Multilingual CD ROM 128 Bit Media Pack</td>
<td>BJ06CML</td>
</tr>
</tbody>
</table>

The following IBM Tivoli Provisioning family Doc Packs are being withdrawn, effective on October 9, 2009.

**Tivoli Configuration Manager**

<table>
<thead>
<tr>
<th>Doc Pack description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Tivoli Configuration Manager Version 4.2 Simplified Chinese Doc Pack</td>
<td>BJ06BSC</td>
</tr>
<tr>
<td>IBM Tivoli Configuration Manager Version 4.2 Traditional Chinese Doc Pack</td>
<td>BJ06BTC</td>
</tr>
<tr>
<td>IBM Tivoli Configuration Manager Version 4.2 German Doc Pack</td>
<td>BJ06BDE</td>
</tr>
<tr>
<td>IBM Tivoli Configuration Manager Version 4.2 Italian Doc Pack</td>
<td>BJ06BIT</td>
</tr>
<tr>
<td>IBM Tivoli Configuration Manager Version 4.2 Japanese Doc Pack</td>
<td>BJ06BJA</td>
</tr>
<tr>
<td>IBM Tivoli Configuration Manager Version 4.2 Korean Doc Pack</td>
<td>BJ06BKO</td>
</tr>
<tr>
<td>IBM Tivoli Configuration Manager Version 4.2 French Doc Pack</td>
<td>BJ06BFR</td>
</tr>
</tbody>
</table>

Replacement part number: None

For information about Value-Based Pricing and Software Maintenance options, contact your IBM representative.

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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 Provisioning Manager (5608-TPM): L-TBRN-7QHJA2

The program’s License Information will be available for review on the IBM Software License Agreement Web site


**Limited warranty applies**
Yes

**Limited warranty**
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**Other terms**

**Volume orders (IVO)**
Yes. Contact your IBM representative.
IBM International Passport Advantage Agreement

Passport Advantage applies
Yes, and through the Passport Advantage Web site at
    http://www.ibm.com/software/passportadvantage

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

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

System i Software Maintenance applies
No

Variable charges apply
No

Educational allowance available
Education allowance does not apply.

Education software allowance does not apply.

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http://www.ibm.com/support/electronic

Prices

Passport Advantage

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https://www.ibm.com/software/howtobuy/passportadvantage/paoreseller/emea/channelannouncement

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