IBM SmartCloud Provisioning V2.3 simplifies the creation and administration of cloud services

At a glance

IBM SmartCloud® Provisioning V2.3 provides a broad set of cloud management capabilities that:

- Provides a robust, open, and powerful cloud platform that supports a broad range of hypervisors and hardware platforms
- Delivers production ready Infrastructure as a Service capabilities
- Offers dynamic Platform as a Service features using virtual system and virtual application pattern technology
- Controls your environment with pervasive virtual machine insight and management, industry-leading patch delivery and flexible placement policies

Overview

Today’s organizations face an unparalleled rate of change. According to an IBM® study, 71 percent of CEOs see changes in technology as the number one external factor that will impact their organization.

To help meet these changes in technology, many organizations are turning to cloud computing, an approach that promises to improve IT service delivery and increase utilization of resources while reducing operating expenses.

IBM SmartCloud Provisioning provides true infrastructure management capabilities to reduce costs through a highly scalable, rapid-deployment environment for running applications and reacting to dynamic changes in user resource demands. Building on the infrastructure management foundation, IBM SmartCloud Provisioning delivers platform management features that make developing new services quick and easy through the use of virtual patterns.

IBM SmartCloud Provisioning is an easy step toward cloud computing, providing a hardware-agnostic approach to virtualize your workloads and integrate with other IBM solutions for a comprehensive service management solution.

IBM SmartCloud Provisioning V2.3 offers powerful new capabilities for creating and managing virtual environments. These new capabilities include:

- Integration with OpenStack to provide a robust Infrastructure as a Service layer, and deliver greater flexibility and a choice in how to implement the cloud solution.
- Endpoint patch management with cloud computing to enhance the configuration security of both traditional and cloud computing assets, with some simple
configuration you can bring the benefits of two of the IBM leading systems
management solutions.

- Virtual application patterns that allow you to build more dynamic and powerful
  patterns that can help increase efficiency. These patterns define the necessary
  IT components needed to run a certain type of workload. This style of patterns
  are designed to meet the needs of common use cases with little modification
  and deep automation. As such, virtual applications can offer a much more cost-
  effective way of deploying and managing suitable applications. Virtual application
  patterns are created by describing what the application looks like in a top-down
  approach.

- The Enterprise Grid Orchestrator (EGO) technical preview that provides
  enterprise resource management to optimize your OpenStack infrastructure
  resources to help you achieve your service level agreements (SLAs) and increase
  IT efficiency. The enterprise class resource scheduler provides placement
  and runtime policies that optimize compute and memory utilization, improve
  application performance through affinity rules, and reduce power consumption.
  The open architecture allows you to extend and customize policies to meet your
  organization's specific business needs.

IBM SmartCloud Provisioning V2.3 can help:

- Increase repeatability and reduce costly errors by allowing you to customize
  environments once, capture them, and redeploy them at the click of a button.
- Focus on your core business and enterprise application development by providing
  a simple and quick way for developer validation of applications, using virtual
  applications without having to worry about middleware and infrastructure.
- Increase flexibility and cost savings through use of open standards that support
  a broad range of hypervisors including Kernel-based Virtual Machine (KVM), IBM
  PowerVM®, and VMware.
- Save IT costs by automating operations and enabling self-service requests.
- Reduce complexity through ease of implementation and use, as well as simplified
  cloud administration.
- Control image sprawl, image drift, security vulnerability, and help reduce
  business risk through rich analytics, image versioning, and federated image
  library features.
- Transform the process of creating virtual images and virtual deployment patterns
  through the use of a graphical tool with image construction and composition
  tools.
- Increase agility and reduce time to value. It can help empower individual
  application managers, developers, and testers to manage IT infrastructure
  in a more autonomous and agile fashion by leveraging a shared self-service,
  multitenant environment.
- Reduce overall service downtime of your infrastructure by leveraging standard
  high-availability services.

IBM SmartCloud Provisioning V2.3 is also available for ordering using type model
feature (TMF) ordering processes. Licenses, when ordered using TMF ordering
processes, include Software Subscription and Support. The Software Subscription
and Support contracts are managed in Passport Advantage®. Refer to the Type
model feature (TMF) order handling section of this announcement for further details.

When TMF ordering processes are used, end-of-service dates are unaffected. The
product retains its initial general availability date for purposes of calculating end-of-
service dates for the version and release specified in the original Passport Advantage
announcement.

**Key prerequisites**

Refer to the Hardware requirements and Software requirements sections.
Planned availability date

- November 15, 2013: Electronic download
- December 6, 2013: Physical delivery

Availability of programs with encryption algorithm in France is subject to French government approval.

Description

IBM SmartCloud Provisioning V2.3 continues to be an innovative leader in the cloud management space by providing infrastructure and platform capabilities that deliver workload and image lifecycle management across heterogeneous environments. With the expansion of virtual application capabilities, SmartCloud Provisioning provides more dynamic repeatable pattern provisioning. This powerful combination of features puts you in control of your virtualized environment.

Built on open standards for an open world

IBM SmartCloud Provisioning is built on a foundation based in open standards. This foundation is driven by OpenStack, and provides a rich and powerful set of infrastructure features to provision workloads in a shared self-service multitenant environment.

IBM SmartCloud Provisioning can help empower individual application managers, developers, and testers to manage their IT infrastructure in a more autonomous and agile fashion. IBM SmartCloud Provisioning V2.3 also supports OASIS Topology and Orchestration Specification for Cloud Applications standard, which enables an interoperable description of application and infrastructure cloud services. Cloud services, based on OASIS Topology and Orchestration Specification for Cloud Applications specification, can be deployed and managed by any cloud management platform supporting the standard, thus helping you avoid vendor lock-in, and maintaining your investments in the definition and customization of cloud services.

These open standards allow IBM SmartCloud Provisioning to provide a rich and powerful Platform as a Service feature set that simplifies your ability to build powerful patterns and efficient cloud services while still providing a robust and comprehensive infrastructure to help you meet your cloud administration needs.

Accelerated deployments with reusable workload patterns

SmartCloud Provisioning enables rapid deployment and integration of cloud capabilities using workload patterns. Patterns can be created using a supplied pattern as a template or can be created from scratch. After a pattern is created, it can be reused over and over to create multiple identical instances in the cloud. Significant integration with middleware components and infrastructure resources can be achieved to optimize the components for a particular type of application workload. Little knowledge of the underlying components is required to deploy and use the solution. Dynamic and elastic capabilities are fully realized and the system can create or remove additional resources as required by the application demand.

Comprehensive image lifecycle management

The benefits of cloud computing include rapid service delivery and lower operational costs. However, the adoption of a cloud model can lead to a variety of new challenges including standardization of tools, processes, and services, centralization of resources, and increased security risks around data isolation, access control, and visibility of dynamic resources. With tools such as the Virtual Image Library, Image Construction and Composition Tool, Endpoint Manager and the Pattern Editor, SmartCloud Provisioning helps organizations manage image sprawl, track compliance, create base images, automate software installation, and build repeatable patterns. This breadth of capabilities helps ensure the organization not
only creates a robust cloud environment but also has the ability to control and manage that environment.

**Rapid provisioning and scalability**

With SmartCloud Provisioning, IT organizations can rapidly implement the specific type of cloud environment they need regardless of size and start taking advantage of the increased flexibility and performance that cloud computing offers. At any point, the cloud can be rapidly scaled up or down as needed, helping organizations meet changing IT requirements without disrupting operations and allowing you to scale to hundreds of virtual machines in less than five minutes.

**Unified management of heterogeneous environments**

SmartCloud Provisioning provides a single management platform helping reduce complexity and operational costs. SmartCloud Provisioning allows for design of consistent and repeatable composite applications for deployment into a cloud of virtualized hardware running a supported hypervisor. IBM SmartCloud Provisioning integrates compute, network, and storage with application delivery to help enable organizational consistency.

SmartCloud Provisioning uses IBM DB2® Enterprise Server Edition. IBM DB2 Enterprise Server Edition 10.1 offers significantly increased data protection, scalability, and performance for all its database intensive operations which, based on IBM DB2 technology, is designed to manage data more effectively and efficiently. Greater availability is delivered through enhancements such as online, automated database reorganization. In addition, the increased scalability and the ability to leverage the latest in server technology helps deliver increased performance of backup and recovery processes.

**Accessibility by people with disabilities**

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


**Product positioning**

The IBM SmartCloud foundation provides a comprehensive set of technologies that can enable organizations to deploy and manage Infrastructure as a Service and Platform as a Service. It enables organizations to build and scale private cloud environments with enhanced time to market, integration, and management.

IBM SmartCloud Provisioning helps to enable cloud agility and fault tolerance across mixed vendor environments through ultra-scalable, heterogeneous image provisioning, and lifecycle management capabilities. It provides breadth and openness allowing it to be expandable to enterprise-scale advanced orchestration and rich workflow automation.

IBM SmartCloud Provisioning V2.3 is aimed at helping service providers quickly leverage the benefits of a cloud delivery model. The ease-of-use and the graphical composition capabilities of IBM SmartCloud Provisioning V2.3 allow organizations of any size to quickly realize the cost benefits of a fully automated cloud delivery model.

**Program number**

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Product identification number

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Type model feature (TMF) order handling

To allow for ease of order submission, the offerings in this announcement can be configured in conjunction with eligible IBM System x® hardware, software, and license-only configurations that can be created for the product based on existing supported hardware system units in a given business environment.

Licenses for offerings in this announcement include one or three years of Software Subscription and Support. Software Subscription and Support renewals for all features are aligned through Passport Advantage Express® or Passport Advantage, reducing the administrative burden of keeping your Subscription and Support up to date.

If a new release or version of a given offering in this announcement is made generally available in Passport Advantage after the announcement of the offering in TMF ordering systems, you may elect to take delivery of any release or version generally available for that offering during the product registration process.

Eligible software products, offered and selected during the ordering process with each hardware system, are enabled for electronic download for the system unit for which the product was ordered. Optionally, software and license-only orders can be created for these products based on existing supported hardware system units in the business environment. Offerings included in this announcement are available exclusively by electronic download. However, after registration, you may elect to order one free copy of the media, if available.

Orders placed for the eligible offerings in this announcement will be routed and fulfilled through Passport Advantage Express. Invoicing for the initial license orders will occur through the order management system in which the initial order was placed. Subscription and Support renewals will be managed through Passport Advantage.

Passport Advantage allows you to have a common anniversary date for Software Subscription and Support renewals. The anniversary date, established at the order ship date for the initial product acquisition, will remain unchanged while your Passport Advantage Agreement remains in effect. New software purchases initially include 12 or 36 full months of Subscription and Support coverage. Subscription and Support in the second year (the first year of renewal) can be prorated to be coterminous with your common anniversary date but managed and invoiced through Passport Advantage. Thereafter, all Software Subscription and Support will renew at the common anniversary date and include 12 full months of Subscription and Support.

When TMF ordering processes are used, end-of-service dates are unaffected. The product retains its initial general availability date for purposes of calculating end-of-service dates for the version and release specified in the original Passport Advantage announcement.

Education support

IBM training provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers are on the IBM training website.
Contact your IBM representative for course information.

**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**

IBM SmartCloud Provisioning for Cloud Quick Start Guide will be delivered on the Quick Start CD in PDF and HTML format.

At general availability, IBM SmartCloud Provisioning Installation and User’s Guide (English) may be downloaded from

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

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.

**Technical information**

**Specified operating environment**

**Hardware requirements**

The following are the minimum required values for memory and disk space for IBM SmartCloud Provisioning V2.3. IBM SmartCloud Provisioning V2.3 distributed install requires at least four servers, three to host the central services and at least one server for the cloud regions.

Each of the distributed servers needs the following minimum requirements:

- Memory: 16 GB RAM
- Processors: 4
- Hard disk: 200GB

Processor: x86-64 with Virtualization Technology capability

Linux™ on x86-64 for Virtual Image Library (It can run on physical or virtual machines.)

Optional

- Linux for Image Construction and Composition Tool (can run on physical or virtual machines)
Number of processors: 1 (2 are recommended.)
Memory: Greater or equal to 1 GB (greater or equal to 2 GB if two CPUs)
Disk:
-- 100 GB of disk space for building native VMware images.
-- 60 GB of disk space, depending on your cloud providers.
-- The /drouter directory is used by Image Construction and Composition Tool, 100 GB is recommended. It is important to ensure that additional disk space is reserved for the growth of the /drouter directory.

IBM Power Systems™ server running VMControl V2.4.3 hypervisor

You can obtain the most current and up-to-date hardware requirements at http://pic.dhe.ibm.com/infocenter/tivihelp/v48r1/index.jsp

Software requirements

The following systems are supported by IBM SmartCloud Provisioning V2.3.

Required

- IBM DB2 is the OpenStack backend database. The supported version is DB2 10.1 x86-64.
- IBM Virtual Image Library requires Red Hat Enterprise Linux 6.1, 6.2, 6.3, or 6.4 (64 bit).
  - Depending on the Red Hat version, a list of packages are installed during the installation procedure by using Yum from the Red Hat installation media. The list is available in the file rpmList_rhel_6.x.txt located where the il_install_package.zip had been unzipped.
- Required libraries
  - gtk2.x86-64
  - ibXtst.x86-64
- IBM SmartCloud Provisioning installer supports Red Hat Enterprise Linux 6.3 and 6.4 x86-64.
- IBM SmartCloud Provisioning runs a hypervisor as a virtualization layer between the hardware and the operating system. Supported hypervisors are:
  - VMware ESXi V4.1, VMware vSphere 5.0, VMware vSphere 5.1.
  - Kernel-based Virtual Machine (KVM) hosted on Red Hat Enterprise Linux 6.3 and 6.4 x86-64

Note: Ports 80 (default HTTP) and 443 must not be in use or reserved by other applications.

- IBM PowerVM VMControl V2.4.3 hypervisor with these detailed specifications:
- Services contract for IBM Implementation Services for Power Systems on either AIX® V6.1 or V7.1 and IBM Migration Services for Power Systems AIX V6.1. For more information, refer to Services Announcement ZS08-0150, dated June 24, 2008.
- AIX V7.1 license is required with:
  - IBM Network Installation Manager Server V6.1
  - IBM System Director V6.3.2
- IBM Systems Director VMControl™ Image Manager V2.4.3
- IBM Systems Director for Power Systems V6.3.2
- IBM Hardware Management Console (7042-CR5 or 7042-CR6) with firmware V7.3.3, or later (dedicated)
- IBM Virtual I/O Server V2.2.2
One of the following machines:

- IBM Power Systems server with POWER6® technology-based processor with firmware EL340_095, or later
- IBM Power Systems server with POWER7® technology-based processor with firmware AL720_066, or later

You can obtain the most current and up-to-date software requirements at


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.

**IBM Electronic Support**

The IBM Support Portal is your gateway to technical support. This includes IBM Electronic Support tools and resources, for software and hardware, to help save time and simplify support. The Electronic Support tools can help you find answers to questions, download fixes, troubleshoot, automate data collection, submit and track problems through the Service Request online tool, and build skills. All these tools are made available through your IBM support agreement, at no additional charge.

Read about the Electronic Support portfolio of tools

http://ibm.com/electronicsupport

Access the IBM Support Portal

http://ibm.com/support

Access the online Service Request tool

http://ibm.com/support/servicerequest

**Planning information**

**Packaging**

IBM SmartCloud Provisioning V2.3 is distributed with:

- International Program License Agreement (Z125-3301)
- License Information document
- CDs and DVDs
- Publications (refer to the Publications section)

**Products in Advanced Administrative System (AAS)**

Eligible software products, offered and selected during the ordering process with each hardware system, are enabled for electronic download for the system unit for which the product was ordered. Optionally, software and license-only orders can be created for these products based on existing supported hardware system units in the business environment. Offerings included in this announcement are available exclusively by electronic download. However, after registration you may elect to order one free copy of the media, if available.

After receipt of an order, the Business Partner or end-user customer will be required to register and accept Passport Advantage or Passport Advantage Express terms and conditions. The product includes the license and one year or three years of Software Subscription and Support.
Your Proof of Entitlement for this program is a copy of a paid sales receipt, purchase order, invoice, or other sales record from IBM or its authorized reseller from whom you acquired the program, provided that it states the license charge unit (the characteristics of intended use of the program; for example, number of processors, number of users) and quantity acquired. 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 SmartCloud Provisioning V2.3 uses the security and auditability features of the host hardware or software. 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.

Ordering information

This IBM Workstation Software product is being announced as a dual-pipe offering, and is available for ordering by program and feature number or by part number.

When ordering by part numbers, this product can be obtained through IBM Passport Advantage®. Contact your IBM representative or IBM Business Partner Reseller and Distributors for Workstation Software.

For more information, contact your IBM sales specialist, IBM Business Partner, or visit


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

These products may only be sold directly by IBM or by authorized IBM Business Partners for Software Value Plus.

For more information about IBM Software Value Plus, visit

http://www.ibm.com/partnerworld/page/svp_authorized_portfolio

To locate IBM Business Partners for Software Value Plus in your geography for a specific Software Value Plus portfolio, visit

http://www.ibm.com/partnerworld/wps/blocator/

Product group: Tivoli® IT Service Management
Product: IBM SmartCloud Provisioning (5725-C88)

Product category: IBM SmartCloud Provisioning

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 Software Maintenance. Software 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 for twelve full months of 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 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.

Product name: IBM SmartCloud Provisioning V2.3

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

IBM SmartCloud Provisioning V2.3

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IBM SmartCloud Provisioning V2.3 is also available, via Web download, from Passport Advantage.
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.

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Products in Advanced Administrative System (AAS)

Program delivery

Except where noted, configuration aid ECMPWR must be used for creation of valid software and hardware orders for the offerings in this announcement.

New license

Orders for new licenses will be accepted now. Electronic download ability begins on the planned availability date.

Basic license

To order the programs described in this announcement, specify the type model number, order type description, and quantity of desired licenses for the appropriate one-time charge (OTC) features listed in the tables below. After receipt of your order, you will be requested to register through Passport Advantage Express to allow for entitlement for support and notification of upgrades. Upon registration completion you will be provided with a website for the electronic download. The one-time charge for the product includes the license and one year or three years of Software Subscription and Support.

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Products in Advanced Administrative System (AAS)

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Resource Value Unit (RVU)

RVU is a unit of measure by which the program can be licensed. RVU Proofs of Entitlement are based on the number of units of a specific resource used or 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 program specific table. 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. Refer to the program specific RVU table.

Note: Some programs may be licensed on a managed basis only. In that case, the following applies. Instead of the entitlements required for the resources used by the program directly, licensee must obtain entitlements for this program sufficient to cover the resources managed by the program.

Terms and conditions for PID and feature ordering

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 International Passport Advantage Express Agreement.

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