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## Highlights

- Simplified virtualization and cloud management for IBM® Power Systems™
  - Easily replicate virtual machines for consistency and fast deployment
  - Self-service portal enables provisioning of new workloads easily into a cloud
  - Automated configuration of I/O resources enables mobility and highly available configurations
  - Policy-based workload placement simplifies and automates administration
  - Virtual image management, including virtual machine capture, deployment and catalog
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# IBM PowerVC

## *Virtualization and Cloud management solution for IBM Power Systems*

IBM PowerVC is an advanced virtualization and cloud management offering, built on OpenStack, that provides simplified virtualization management and cloud deployments for IBM AIX®, IBM i and Linux virtual machines (VMs) running on IBM Power Systems. PowerVC is designed to improve administrator productivity and simplify the cloud management of VMs on Power Systems servers. PowerVC provides the foundation for Power Systems scalable cloud management, including integration to higher-level cloud orchestrators based on OpenStack technology.

PowerVC helps Power Systems customers lower their total cost of ownership with a simplified user experience that allows simple cloud deployment and movement of workloads and policies to maximize resource utilization. PowerVC has been built to require little or no training to accelerate cloud deployments on Power Systems. PowerVC has the capability to manage the existing infrastructure by automatically capturing information, such as existing VM definitions, storage, network and server configuration information.

PowerVC allows clients to capture and manage a library of VM images, enabling IT managers to quickly deploy a VM environment by launching a stored image of that environment, instead of having to manually recreate a particular environment. By saving virtual images and centralizing image management, IT managers and administrators can migrate and move virtual images to available systems to expedite deployment.

PowerVC allows IT managers and administrators to create groups of resources that are needed to support workloads. These can then be quickly leveraged to support workload demands to increase utilization and help lower administrative costs, while making IT nimbler when reacting to business needs and market trends.



## IBM Cognitive Systems Data Sheet

The architecture of PowerVC uses the OpenStack platform to provide virtualization and cloud management customized for Power Systems. This includes an IBM Power®-specific user interface, and IBM-specific OpenStack drivers for Power Systems management interfaces like the hardware management console (HMC), plus scheduling capabilities. Clients looking for a fully open virtualized infrastructure can use PowerVC to manage their PowerKVM on Power deployments as well.

Additionally, PowerVC offers the following value to clients:

- Installation and configuration for the entire hardware stack (host, storage and network) and software stack (PowerVC components)
- Can be installed and configured in hours by administrators of any skill level
- Small footprint and excellent client experience throughout the solution lifecycle, including deployment, operation and support
- Reliable, extendable and cost-effective platform that provides virtualization and cloud capabilities for Power Systems

- Industry-standard APIs that are extendable for adding on higher level cloud capabilities on Power Systems simple to operate and maintain virtualization and cloud management solution
- Dynamically balances workloads based on policy-based optimization by either moving resources to workloads or by moving workloads to underutilized systems

PowerVC is available as a standalone offering with three options.

1. The Standard edition which manages KVM on Power (OpenPOWER) and PowerVM(R) systems.
2. IBM Cloud PowerVC Manager provides all the features of the Standard edition plus the PowerVC cloud functions which includes the self-service portal, policy approvals and metering data.
3. IBM Cloud PowerVC Manager for SDI. This bundle includes IBM Cloud PowerVC Manager as well as IBM Spectrum Scale™ to enable clouds to make use of the Software Defined Storage feature set.

PowerVC Features	PowerVC Benefits
<b>Simple installation and configuration</b>	<ul style="list-style-type: none"> <li>• Quick time to value</li> </ul>
<b>Intuitive user interface</b>	<ul style="list-style-type: none"> <li>• No training required</li> <li>• Reduces implementation time and cost</li> <li>• Activities can be performed by less skilled personnel, saving the time of more skilled resources</li> </ul>
<b>OpenPOWER and PowerVM Support</b>	<ul style="list-style-type: none"> <li>• Manage both OpenPOWER (KVM on Power) and Enterprise Power (PowerVM) from a single PowerVC Installation</li> </ul>
<b>Image Import and Export</b>	<ul style="list-style-type: none"> <li>• Seamlessly import workload images into PowerVC and start deploying them immediately.</li> <li>• Easily export images and transport them to new environments (e.g., new data centers, cloud providers, etc.)</li> </ul>
<b>Software Defined Networking</b>	<ul style="list-style-type: none"> <li>• Deploy virtualized networks across your Power systems in seconds</li> </ul>
<b>Software Defined Storage</b>	<ul style="list-style-type: none"> <li>• Integrate with IBM Spectrum Scale to deploy a scalable storage solution</li> <li>• Create SAN-less clouds leveraging standard Ethernet interconnects</li> <li>• Use solid state drives (SSDs) for fast read caches</li> </ul>
<b>Resource pooling and placement policies</b>	<ul style="list-style-type: none"> <li>• Improves resource utilization to help save costs</li> <li>• Reduces the burden on IT staff to help save costs</li> </ul>

**IBM Cognitive Systems**  
Data Sheet

<b>PowerVC Features</b>	<b>PowerVC Benefits</b>
<b>Dynamic Resource Optimizer</b>	<ul style="list-style-type: none"> <li>• Policy-based automation that actively balances workloads within a host group based on CPU or memory usage</li> <li>• Balances workloads by either moving them to a less busy server or moving capacity-on-demand (COD) compute and memory resources to the workload</li> </ul>
<b>Host grouping</b>	<ul style="list-style-type: none"> <li>• Provides separate policy based control for a subset of the total managed resources</li> </ul>
<b>VM remote restart</b>	<ul style="list-style-type: none"> <li>• Allows VMs to be automatically restarted on a new server after a server failure</li> </ul>
<b>Affinity rules</b>	<ul style="list-style-type: none"> <li>• Provides mechanism to colocate VMs within a server or to separate VMs between servers</li> </ul>
<b>Automated configuration of I/O</b>	<ul style="list-style-type: none"> <li>• Simplifies and automates setup for mobility and highly available I/O configurations</li> </ul>
<b>Virtual image management</b>	<ul style="list-style-type: none"> <li>• Accelerates repeatable deployment of VMs</li> </ul>
<b>Targeted VM placement for deployment</b>	<ul style="list-style-type: none"> <li>• Reduces complexity</li> </ul>
<b>Third party-supported OpenStack drivers</b>	<ul style="list-style-type: none"> <li>• Accelerates management of third party I/O devices</li> </ul>
<b>One-click system evacuation</b>	<ul style="list-style-type: none"> <li>• Simplifies system evacuation for maintenance</li> </ul>
<b>VM templates</b>	<ul style="list-style-type: none"> <li>• Enables consistency to maintain standards and enable deployments to help reduce labor costs</li> </ul>

In addition to the listed feature above, **IBM Cloud PowerVC Manager provides the following features on top**

<b>IBM Cloud PowerVC Manager—Features</b>	<b>IBM Cloud PowerVC Manager—Benefits</b>
<b>Self-service Cloud Portal</b>	<ul style="list-style-type: none"> <li>• Accelerates workload deployment</li> </ul>
<b>Policy-based approvals</b>	<ul style="list-style-type: none"> <li>• Provides controls for the Self-service portal</li> </ul>
<b>Metering data</b>	<ul style="list-style-type: none"> <li>• Provides data to bill for cloud resources</li> </ul>
<b>Deploy Templates</b>	<ul style="list-style-type: none"> <li>• Enables cloud admin to preconfigure workload characteristics for self-service users</li> </ul>
<b>Database-as-a-Service (TechPreview)</b>	<ul style="list-style-type: none"> <li>• One-click deploy of several popular relational and non-relational database technologies to boost productivity</li> <li>• Easily create and delete databases and users for simple operational management</li> <li>• Conveniently integrated with PowerVC Cloud Manager for seamless self-service capabilities</li> </ul>

<b>IBM Cloud PowerVC Manager For SDI</b>	<b>IBM Cloud PowerVC Manager—Benefits</b>
<b>IBM Cloud PowerVC Manager with all its capabilities</b>	<ul style="list-style-type: none"> <li>• Accelerates workload deployment</li> </ul>
<b>Spectrum Scale Data Management Edition</b>	<ul style="list-style-type: none"> <li>• Provides software defined storage capabilities enabling SANless clouds, as well as management of KVM-based systems</li> </ul>

## Why IBM?

IBM is the trusted advisor for thousands of the world's leading businesses and governments. IBM offers a complete range of server, storage, application and services offerings that have been architected with virtualization at the core of their designs. IBM's depth and breadth of expertise in virtualization systems management with Power Systems is virtually unmatched.

IBM also has technical consultants worldwide who have broad experience in deploying IBM virtualization solutions to optimize IBM Systems. When you work with IBM to implement PowerVC you can benefit from the extensive intellectual capital that the entire IBM Global Services team has accumulated, tested and proven.

## For more information

To learn more about IBM PowerVC, please contact your IBM representative or IBM Business Partner, or visit the following website: [ibm.com/systems/power/software/virtualization-management/index.html](http://ibm.com/systems/power/software/virtualization-management/index.html) or follow us on Facebook at <http://facebook.com/ibmpowervc> or follow the PowerVC LinkedIn group at <http://tinyurl.com/linkedinpowervc>

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