



IBM PowerVM V2.2.4 and IBM PowerVC V1.3.0 enhancements deliver expanded function and new management capabilities

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At a glance

New features in this release of **IBM[®] PowerVM[®] V2.2.4** include support for the following:

- New NovaLink architecture for IBM POWER8[®] based systems, which allows for greater scalability for OpenStack cloud deployments
- New Virtual Network Interface Controller (vNIC), which enables improved efficiency, performance, and VM mobility for VMs with SRIOV adapters
- Live Partition Mobility improvements in resiliency, performance, and NPIV validation
- New features for Shared Storage Pool

New or improved features in this release of **IBM PowerVC V1.3.0** include support for the following:

- New advanced policy-based management to automate the dynamic optimization of systems
- Exploitation of the PowerVM NovaLink architecture, which improves scaling and performance
- New storage management capabilities, including support for IBM DS8000[®] NPIV and vSCSI storage
- Support for PowerVM Multiple Shared Processor Pools

Overview

IBM PowerVM V2.2.4 delivers industrial-strength enterprise virtualization for IBM AIX[®], IBM i, and Linux[™] environments on IBM POWER[®] processor-based systems, and has expanded function and new management capabilities.

- A new NovaLink partition can enable improved cloud scalability and performance for POWER8 processor-based systems by allowing direct host connection to PowerVM from OpenStack solutions like PowerVC. NovaLink is initially available on IBM Power[®] systems that are not managed with an HMC. PowerVM NovaLink is available as part of PowerVM V2.2.4 for HMC managed systems through a technology preview program that can be used for nonproduction evaluation. For further information on the technology preview program for PowerVM NovaLink, refer to the release notes section in the documentation.

- A new vNIC facility can enable efficiency, performance, and VM mobility when used with SRIOV adapters. This can provide all the benefits of SRIOV adapters, including improved bandwidth control and the added benefit of VM mobility.
- Shared Storage Pools have been enhanced with the following new capabilities:
 - Storage tiers within a Shared Storage Pool can allow greater flexibility and control for quality of service, isolation, and redundancy of storage. The new storage tier facility allows up to 10 tiers of storage to be defined within a storage pool. This facility allows customer control over the creation of a storage tier and the placement of data on the proper class of storage.
 - The ability to dynamically grow a virtual disk has been added.
- Live Partition Mobility improvements include the following:
 - Better NPIV storage validation
 - Improved performance
 - Improved resiliency by allowing LPM even when one VIOS has failed
 - The ability to select a target vSwitch, which is a virtual network on the target

New VIOS rules automate best practice settings for repeatable deployment and simplify initial VIOS setup and maintenance.

HMC V8.4 introduces new storage topology views that simplify PowerVM systems management.

IBM PowerVC V1.3.0 is an advanced virtualization management offering for Power Systems™ servers based on OpenStack technology. This comprehensive virtualization management offering is simple to install and use, and enables virtual machine setup and management.

PowerVC can help achieve the following goals:

- Improve resource usage to reduce capital expense and power consumption.
- Increase agility and execution to quickly respond to changing business requirements.
- Increase IT productivity and responsiveness.
- Simplify Power Systems virtualization management.
- Accelerate repeatable, error-free virtualization deployments.

PowerVC can manage AIX, Linux, and IBM i VMs running under PowerVM virtualization and Linux VMs running under PowerKVM virtualization. This release supports the enterprise Power Systems servers that are built on POWER8 technology.

PowerVC includes the following features and benefits:

- Virtual machine image capture, deployment, resizing, and management
- Policy-based VM placement to help improve usage and reduce complexity
- Policy-based workload optimization using either VM migration or resource movement using mobile capacity on demand
- VM Mobility with placement policies to help reduce the burden on IT staff in a simplified GUI
- A management system that manages existing virtualization deployments
- Integrated management of storage, network, and compute resources, which simplifies administration

Refer to the [Description](#) section for information about new PowerVC Standard Edition features and functions.

PowerVC Lifecycle

With the introduction of PowerVC V1.3, the end of service date for PowerVC V1.2 for standard support will be April 2017. For more information on the PowerVC lifecycle, visit

<http://www-03.ibm.com/systems/power/software/virtualization-management/lifecycle.html>

Key prerequisites

IBM PowerVC

- IBM PowerVM Standard Edition (5765-PVS) for basic functions, and IBM PowerVM Enterprise Edition (5765-PVE) or IBM PowerVM PowerLinux™ Edition (5765-PVL) for full function.
- IBM PowerKVM (5765-KVM).
- Firmware v8.2, or higher, is required for the new Remote Restart function for IBM PowerVM that is managed by IBM PowerVC.

IBM PowerVM

- Any IBM system that includes an IBM POWER7^(R), POWER7+™, or POWER8 processor.
- PowerVM NovaLink requires systems with a POWER8 processor and FW840, or higher, that is not managed by an HMC.

Planned availability date

- December 4, 2015, for IBM PowerVM
- December 11, 2015, for IBM PowerVC

Description

PowerVC Standard Edition includes the following new features and functions for managing PowerVM environments:

- Advanced policy-based management
 - A new Dynamic Resource Optimizer (DRO) component that uses policy-based control to either automatically move resources to workloads using Mobile COD or to move workloads to available resources using VM migration. The DRO component removes the need for manual rebalancing of workloads during periods of constrained CPU resources. The DRO facility has an advisor option so it is possible to see a simulation of the automation policy.
- Storage management enhancements
 - Support for IBM DS8000 NPIV and vSCSI storage
- Scaling improvements
 - Support for PowerVM NovaLink facility, which improves scalability by allowing PowerVC to manage up to 200 servers. This facility also simplifies deployment and management of PowerVM based servers by allowing PowerVC to manage PowerVM directly without the need for an HMC. The HMC is still needed for hardware systems management tasks.
 - Support for PowerVM Multiple Shared Processor Pools during initial placement and during the lifecycle of the virtual machine.

PowerVC Standard Edition includes the following new feature for managing PowerKVM environments:

- Advanced policy-based management
 - A new DRO component that uses policy-based control to automatically move workloads to available resources using VM migration. The DRO component removes the need for manual rebalancing of workloads during periods of constrained CPU.

Reference information

Refer to Software Announcement [AP15-0140](#), dated May 11, 2015.

Program number

Program number	VRM	Program name
5765-PVS/PVE/PVL	2.2.4	PowerVM
5765-VCS	1.3.0	PowerVC

Technical information

For technical information, refer to Software Announcement [AP15-0140](#), dated May 11, 2015.

Ordering information

For ordering information, refer to Software Announcement [AP15-0140](#), dated May 11, 2015.

Terms and conditions

For terms and conditions, refer to Software Announcement [AP15-0140](#), dated May 11, 2015.

Prices

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AP distribution

Country/Region	Announced
AP IOT	
ASEAN *	Yes
India/South Asia **	Yes
Australia	Yes
Hong Kong	Yes
Macao	Yes
New Zealand	Yes
People's Republic of China	Yes
South Korea	Yes
Taiwan	Yes
Japan IOT	
Japan	Yes

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