



Announce date: October 20, 2009

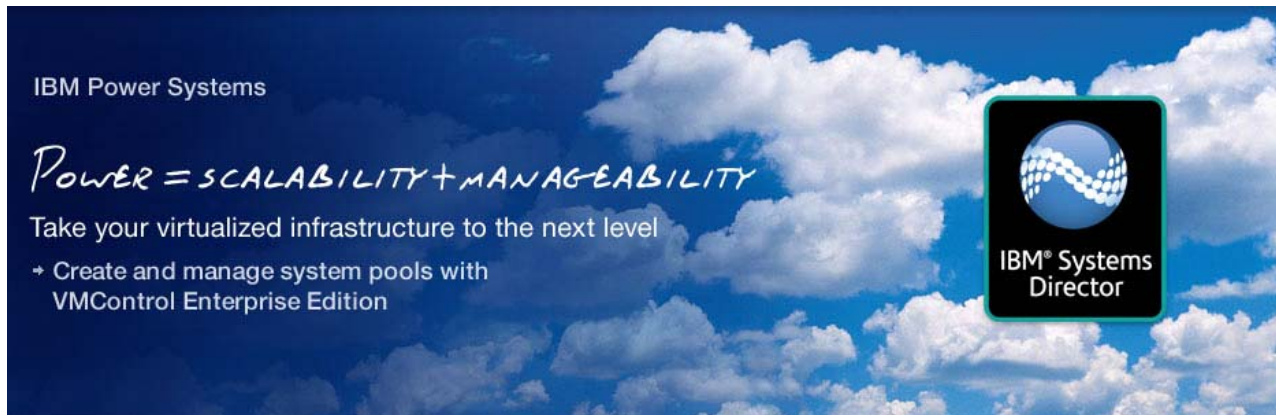
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## IBM Power Systems Announcement Overview

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### Power Systems Announcements Highlights

*Systems for a smarter planet: A workload optimized approach to system design, management and delivery:*

#### Virtualization

- Introducing the next generation of virtualization management with VMControl Enterprise Edition
- Extending IBM i SAN, integrated storage, and storage virtualization options
- Enabling lower cost consolidation & virtualization with Fibre Channel over Ethernet

#### Business Resiliency

- Manage risk and reduce cost of meeting changing business demands with DB2® pureScale
- Making multi-site DR solutions more affordable with PowerHA SystemMirror

#### Management

- Simplifying AIX® management, security & virtualization administration
- Accelerating Power Blades growth with high performance I/O options

#### Energy Efficiency

- Improved monitoring/control of server energy use with Active Energy Manager 4.2

## **IBM Systems Director VMControl Enterprise Edition**

### **IBM introduces the next generation of virtualization management**

- VMControl is the virtualization management component of IBM Systems Director
- Now available in three Editions – Express, Standard and Enterprise
- Clients select edition based on virtualized infrastructure needs

### **VMControl provides a single view of multiple virtualization technologies**

- VMControl manages virtualization across all IBM Systems
- Support for PowerVM™, z/VM®, VMware, Hyper-V and KVM virtualization

### **VMControl Enterprise Edition introduces management of system pools**

- System pools are grouped computing resources managed as a single entity
- VMControl Enterprise Edition allows clients to manage system pools
- Delivers enabling technology for cloud computing and a dynamic infrastructure

IBM Systems Director VMControl Enterprise Edition is a workload optimized approach to computing that is designed to drive down costs and improve service. A system pool is a pool of virtualized system components (servers, storage, and network) managed as a single entity. IBM Systems Director VMControl Enterprise Edition provides the management of virtualized workloads. This includes the ability to make dynamic virtual server adjustments and move virtual servers around within system pools providing efficiency and increased resilience for planned and unplanned downtime. IBM Systems Director VMControl Enterprise Edition manages a pool of virtualized systems resources with the simplicity of managing a single system.

IBM Systems Director VMControl Enterprise Edition extends the virtual server life cycle management and image management capabilities introduced in IBM Systems Director VMControl V2.1 with support for System Pools. IBM Systems Director VMControl encapsulates the complexity of hardware and virtualization technology, and shifts management to a workload-centric focus via virtual appliances. Virtual appliances are virtual machine images containing the entire software stack (that is, operating system and applications) for a business solution. Virtual appliances use the Open Virtual Machine Format (OVF) for packaging, delivery, and deployment of preconfigured, ready-to-run solutions, and they enable clients to more easily:

- Manage virtual servers and storage within the data center: It does this by simplifying the configuration using industry best practices for virtualized servers and storage, and by providing the means to address both single servers and pools of virtualized systems in a consistent manner.
- Manage virtualized appliances within the data center: It does this by providing the means to discover and federate distributed and heterogeneous image repositories; by enabling the creation of image libraries that organize and catalog virtualized images; and by enabling the deployment, capture, and customization of virtual appliances across IBM platforms.
- Manage running virtualized workloads: It provides for increased system utilization, availability, and improved energy efficiencies through pooling and automation. It enables workload resilience for planned and unplanned downtime.

In the data center, there is an emerging shift from managing virtualization to using virtualization to manage. Historically, the IT industry has treated virtualization and managing virtualization as a

hardware task, and has focused on the low-level controls within the hardware and virtualization technologies to partition and allocate resources to virtual machines. The workload, image-centric approach is designed to provide:

- A single, consistent solution for IBM systems
- Improved time-to-value for new solutions
- Automation for repeatable accuracy and consistency
- Higher utilization and efficiencies
- Ability to reduce energy costs
- Improved availability for business application workloads
- Support for an ecosystem around delivery of cloud services

The goal of platform management has evolved from the initial complexities of managing scale-out sprawl to physical consolidation, then to realizing abstraction and pooling through virtualization. The mantra of "virtualize more, manage less" has evolved the platform from physical servers to virtual servers to system pools. A system pool is a pool of virtualized system resources (servers, storage, network) that can be managed as a single entity with the simplicity of managing a single system.

PLANNED AVAILABILITY DATE: December 12, 2009

### **IBM Systems Director Active Energy Manager™ 4.2**

*Improved energy efficiency to help reduce data center costs/upgrades*

#### **Improved monitoring/control of server energy use**

- Enhanced 3rd-party facilities equipment support (more sensors and meters supported)
- Alerts surfaced for servers affected by a power or cooling failure
- Control and set energy caps for both AC and DC power

#### **Balance workloads across servers to fit electrical power and thermal profiles**

- Create and display relationships between all servers, and the power and cooling equipment supporting them
- Collect data to plan what servers to power off and when

AEM V4.2 builds upon AEM V4.1 and offers improved integration with facility providers such as Emerson Network Power, Eaton, and APC. In addition, AEM V4.2 will support new IBM server platforms, including updated POWER6 firmware levels and System z10 BladeCenter Extension.

Features and enhancements in AEM V4.2 include:

- Energy management of updated firmware levels for POWER6 servers: These servers continue to provide premier energy management functions.
- Energy monitoring of the IBM System z10 BladeCenter Extension (zBx): This includes the ability to monitor the power of the System z10 BladeCenter Extension, as well as monitoring the overall system as a group.

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- Enablement to aid in when to power on and off POWER technology-based servers: By collecting data such as the time to IPL and standby power, administrators can better plan what servers to power off and when, in order to save power.
- Ability to monitor more types of equipment through AEM integration with Emerson Network Power SiteScan: Sensor readings that help determine environmental conditions can now be polled from SiteScan.
- Ability to monitor additional meters and sensors from APC's InfraStruXure Central: AEM can automatically collect this vital information and allow IT equipment to be associated with it.
- Ability to retrieve power topology information from Eaton's Power Xpert and Foreseer applications: Users with data centers supported by these infrastructure management applications can now understand how systems can be affected by power.
- Ability to manually create relationships from systems to cooling and power units in data centers: Because the relationships between IT equipment and the uninterruptible power supplies and power distribution units (PDUs) that support them cannot always be detected automatically, users can now create these relationships. The cooling devices that support specific IT equipment can also be specified.

PLANNED AVAILABILITY DATE: Dec 11, 2009

### **Introducing DB2 pureScale with PowerHA pureScale Technology**

Ten days ago, IBM announced a new software technology called DB2 pureScale, running on IBM Power Systems, that helps clients increase their database transaction capacity while reducing the risk and cost of growing their IT systems. The new DB2 feature delivers the continuous availability and virtually unlimited computing power required to meet growing business demands.

With pureScale, companies can now buy only what they need to handle increasing amounts of data by simply adding servers to their DB2 pureScale systems. DB2 also offers the flexibility of adding and removing capacity with the option of paying for only the days clients need the additional software to handle peak workloads.

By incorporating new PowerHA pureScale technology, DB2 pureScale dramatically reduces the amount of communications required within the system - resulting in significantly less computing power wasted on overhead. Capacity growth achieved with DB2 pureScale does not require changes to applications or database tuning. This application transparency reduces risk and cost as clients grow computing power without service interruption. It also complements the capability delivered in DB2 9.7, which enables applications originally written for other database software, such as Oracle Database, to enjoy the benefits of DB2 with little or no changes.

DB2 pureScale will initially be available on Power 550 Express and Power 595 systems in December.

### **PowerHA pureScale Technology Enables Efficient and Continuous Operations**

*DB2 pureScale includes PowerHA pureScale technology to...*

**Reduce system overhead by minimizing inter-node communications**

- Centralized database locking and caching minimizes inter-node communications, maximizing productive use of computing power

**Reduce cost of systems communication with direct memory access**

- Remote Direct Memory Accesses virtually eliminates processor context switching for IP network communications within the system

**Maintain business continuity by minimizing impact of node failure**

- Data and lock status are immediately accessible to all nodes, ensuring consistent application performance

**Also exploits Power Systems 12X GX adapters to deliver low latency & high performance interconnect**

**PowerHA SystemMirror for AIX V6.1**

**PowerHA SystemMirror Standard Edition targeted at data center high availability solutions**

**PowerHA SystemMirror Enterprise Edition adds support for multi-site high availability and disaster recovery solutions**

- Enterprise Edition extends options for multi-site storage resiliency
- Today: IBM DS8000® & SVC, Metro Mirror & Global Mirror
- *Now: Adding new support for EMC SRDF*

**GLVM configuration wizard**

- Easier to set up a cross site DR configuration

**PowerHA with Dynamic LPAR**

- Automatically rebalances processor resources after failover to partitioned backup system

PowerHA SystemMirror for AIX V6.1 is the next generation of the popular PowerHA for AIX V5.5 and is available in two packages: PowerHA SystemMirror for AIX Standard Edition and PowerHA SystemMirror for AIX Enterprise Edition. The PowerHA SystemMirror Standard Edition offering is optimized for data center operations and includes the Smart Assist feature. The PowerHA SystemMirror Enterprise Edition includes the Standard Edition plus the function previously packaged as the PowerHA Extended Distance (XD) feature. It is optimized for both data center and multiple site HA/DR operations.

There are three priced tier options within each of the editions: small, medium, and large. The PowerHA SystemMirror offering is being restructured to better align ordering with other IBM Power Software offerings,

- PowerHA SystemMirror for AIX is designed, tested, and integrated by IBM to provide the most robust, easy-to-use HA/DR clustering solution for AIX environments.
- Widely implemented around the globe, PowerHA SystemMirror provides monitoring, detection, and automation for both the data center and multiple site deployments.
- PowerHA SystemMirror for AIX is the IBM Power Systems strategic solution for business resiliency and, as in this release, continues to be enhanced for function, robustness, and usability.

PLANNED AVAILABILITY DATE: October 23, 2009, for IBM PowerHA SystemMirror for AIX Standard Edition V6.1, and IBM PowerHA SystemMirror for AIX Enterprise Edition V6.1

## **Enhancements for IBM i**

Today we announced significant enhancements to our current IBM i 6.1 release. In addition, we previewed our next major IBM i release planned for delivery in the first half of 2010. As always, this new release contains new features and capabilities that are based on customer requirements articulated in collaboration with our advisory councils, representing COMMON, COMMON Europe, ISVs and the Large User Group. Highlights of this new IBM i release include:

- Enhanced DB2 with native support for XML, enabling clients to store and search XML documents, and encryption of a column in a database table to further protect sensitive information
- PowerHA support for asynchronous replication, providing a disk clustering-based disaster recovery solution
- Further exploitation of solid state disk (SSD) technology to automatically move the most frequently accessed data to SSDs for higher application performance
- IBM Rational product enhancements to RPG-enable programs simply to work with a broad range of client applications, including web services, mobile devices and XML.
- Additional IBM Systems Director Navigator web-based management tasks, such as performance and system monitors
- Integration of IBM i with IBM BladeCenter and IBM System x via iSCSI technology to support faster, software-based connections between IBM i and x86-based systems at lower cost
- Support for transformation of saved spool files to PDF files.

With our clearly defined roadmaps for POWER processors and the IBM i operating environment, IBM's commitment to our i clients is solid and unchanged. We are making substantial investments in the future of i as an important, strategic element in the IBM product portfolio.

## **AIX 6**

### **Management**

- AIX Enterprise Edition updated with new capacity management features
- New AIX Runtime Expert to provide simplified management of AIX tuning & configuration
- AIX topas/nmon enhanced to monitor clusters of AIX LPARs across multiple servers
- Performance Management for Power Systems agent now included in AIX 6 & AIX 5

### **Security**

- New IBM Compliance Expert Express Edition
  - Helps clients in retail, finance and defense manage compliance with PCI and DoD STIG standards

### **Virtualization**

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- Workload Partitions Manager™ V2.1
  - Now integrated with IBM Systems Director to simplify management infrastructure
  - Relocate WPARs that use on SAN devices with Live Application Mobility

PowerVM and the AIX 6 operating system are enhanced to provide additional flexibility and manageability. AIX 6 Technology Level 4 enhancements include Live Application Mobility with SAN devices in Workload Partitions (WPARs). Live Application Mobility, the capability to relocate a Workload Partition from one AIX system to another with no application downtime, is enhanced to support WPARs that use SAN devices. This new capability provides businesses with additional flexibility to configure WPARs with traditional SAN storage devices while preserving the capability to relocate WPARs to provide additional application availability, workload management, and energy savings. Before this enhancement, Live Application Mobility was only supported with WPARs that used NFS file systems. This capability requires AIX 6 Technology Level 4 and the Workload Partitions Manager V2.1.

PowerVM enhancements include:

- Improved server utilization and shared I/O resources to help reduce total cost of ownership and make better use of IT assets
- Improved business responsiveness and operational speed by dynamically re-allocating resources to applications as needed to better match changing business cycles or handle unexpected surge in demand
- Simplified IT infrastructure management by making workloads independent of hardware resources, thereby enabling clients to make business-driven policies to deliver resources based on time, cost and service-level requirements

PLANNED AVAILABILITY DATE: October 23, 2009

### **IBM WORKLOAD PARTITIONS MANAGER V2.1**

Workload Partitions Manager (WPAR Manager) V2.1 replaces the previous version of WPAR Manager and provides improved usability and new capabilities:

- IBM Systems Director-based: The WPAR Manager is now delivered as a plug-in to IBM Systems Director instead of as a stand-alone application. This new integration improves the usability of the WPAR Manager by integrating WPAR administration with the other management capabilities provided by IBM Systems Director.
- Live Application Mobility for WPARs with SAN devices: This new capability provides businesses with additional flexibility to configure WPARs with traditional SAN storage devices while preserving the capability to relocate WPARs to provide additional application availability, workload management, and energy savings.
- Faster Live Application Mobility for WPARs: Live Application Mobility has been significantly enhanced to provide for faster relocation operations. This enhancement can reduce the amount of time the applications are in transit and are not responding to end-user requests, in some cases to only a few seconds.

PLANNED AVAILABILITY DATE: November 20, 2009

## **IBM Compliance Expert Express Edition V1.1**

### **Simplifies IT compliance with industry security standards**

- Automatically sets many AIX security settings to match common compliance standards
- Includes profiles with recommended system settings for:
  - The Payment Card Industry Data Security Standard Version 2
  - The US Department of Defense Security Technical Implementation Guide for UNIX
- Simple command line interface minimizes training and administrative workload
- Reports show whether the system configuration matches the compliance standard
- Support for AIX 6 and AIX V5.3 on current Technology Levels
- Lowers cost of system administration for compliance standards
- Facilitates standardization with minimal training
- Manages risk with easy-to-use reports as a base for compliance audits

IBM Compliance Expert Express Edition is a new offering that describes the requirements for meeting a set of IT governance best practices. Different compliance standards may focus on requirements needed to operate IT in specific industries. This offering is designed to help clients reduce the cost of meeting regulatory compliance standards by automating the AIX system security configuration.

PLANNED AVAILABILITY DATE: October 23, 2009, for IBM Compliance Expert Express Edition V1.1

## **Enterprise Systems Resiliency on the Power 570 & Power 595**

### **The roadmap to continuous availability just got wider!**

- Concurrent maintenance previously available...
  - ✓ Single processor components
  - ✓ Single memory components
  - ✓ Power supplies and regulators
  - ✓ Disk drives and PCI adapters
  - ✓ RIO & 12X I/O drawers
- Additional components now available...
  - ✓ Multiple processor and memory components
  - ✓ 12X I/O drawer permanent removal
  - ✓ Power 595 Service Processors

## **Linux<sup>®</sup> on Power Announcement Highlights**

- Support for Symantec Veritas Storage Foundation & Storage Cluster Server
  - ideal for Symantec clients migrating from SUN to Linux on Power
- Support for Red Hat RHEL 5.4 and Novell SLES 10 SP3
- PowerVM Lx86 V1.3.2

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- adds support for RHEL 4.8, 5.4 and SLES 10 SP3
- enables broader range of x86 applications, with SSE & SSE2 x86 instructions
- provides general performance improvements
- Preinstall Linux on Power blades through Power 570
  - provides support for SLES 10 SP2
  - adds support for SLES 10 SP3, and SLES 11
- IBM Installation Toolkit for Linux V4.0
  - provides support for SLES 10 SP2, RH 4.8 and 5.3
  - adds support for RHEL 5.4, SLES 10 SP3, SLES 11

### **Power Blades Grow**

- **A new generation of interconnects can help clients lower costs and improve service with unmatched investment protection**
- **Blazingly fast I/O performance with 10Gb Fibre Channel over Ethernet support on all JS blades**
- **Delivering the most robust solution for IBM i with a new version of i Edition for BladeCenter® S featuring RAID**
  - Integrates SAS switching and RAID controller function
- **Continued enhancement of high-performance Blade I/O**
  - NPIV Enablement for 8Gb Fibre Channel
  - QLogic 10GbE FCoCEE expansion card (JS12/JS22/JS23/JS43)
  - BNT 10GbE switch module (BCH)
  - 10GEnet pass thru module
  - Brocade 10 & 20 Port 8Gb SAN Switch Modules(BCS, BCH)
  - Brocade 8Gb SFP+ Optical Transceiver (BCS, BCH)
  - Voltaire 4X IB QDR Switch Module (BCH)
  - QDR Infiniband QSFP Cable (BCH)

PLANNED AVAILABILITY DATE: Oct 30, 2009 except for feature 0518

### **Expanding I/O Options**

- Support for Fibre Channel over Ethernet on POWER6 is ideal for virtualization and consolidation, helping simplify cabling and lower adapter costs
  - Runs both Ethernet and Fibre Channel traffic
- New diskless 19", 10 slot PCIe drawers provide lower cost option for clients
  - Ideal for SAN customers with multiple Fibre Channel adapters
- New, high capacity, small form factor disk drives
  - Use ½ the energy of 3.5" disk drives and can be more densely packaged to save floor space
- New 160 GB & 500 GB USB removable disk drive provides durable alternative to tape drives for high utilization solutions such as retail application logging

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- Solid State Drives enhanced with PCIe drawer configuration flexibility and enhanced throughput

PLANNED AVAILABILITY DATE: October 30, 2009

### **Power Deployment Ready Services**

#### **Optimized services to help clients focus on their business.**

- Minimize risk with assembled and tested systems
- Reduce time to install and manage
- Typically one delivery
- Many services orderable through configuration tool
- More time on your core business

#### **Capabilities:**

- Component Integration
- Rack Integration
- OS Preinstall
- 3rd Party Hardware/SW Install
- Box Consolidation
- Remote Access
- Partitioning
- Customized OS/firmware
- Unit Personalization
- Asset Tagging

### **New IBM Support Portal**

If you have a technical problem or question about an IBM technology, you need to find the right answer... fast! The new IBM Support Portal has been designed to help you do just that. The Support Portal consolidates all of the IBM hardware, software, and services technical support tools and resources into one, global, centralized place. Designed based on client input and feedback, the goal of the Support Portal is to simplify your online support experience, reduce the time it takes you to find the right information, and alert you to information that can help you avoid problems. Learn more (<http://www-01.ibm.com/support/electronicssupport/portal.html>)

# Power Systems Announcement Overview

## Footnotes:

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When referring to storage capacity, total TB equals total GB divided by 1000; accessible capacity may be less.

The IBM home page on the Internet can be found at <http://www.ibm.com>.

The IBM Power Systems home page on the Internet can be found at <http://www.ibm.com/systems/p/>.

The IBM BladeCenter home page on the Internet can be found at <http://www.ibm.com/systems/bladecenter/power-based.html>.

The IBM Linux on POWER home page on the Internet can be found at <http://www.ibm.com/systems/linux/power/>.