



# THE NEW POWER EQUATION

**Power of i**



**Craig Johnson**  
**IBM Power Systems**



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# Power Systems Software



- **IBM Systems Director**
- **IBM Active Energy Manager**
- **IBM Power Security Software**
- **IBM PowerHA**
- **IBM Power Operating Systems**
  - **AIX**
  - **IBM i**
  - **Linux**
- **IBM PowerVM**

# IBM Power Systems



System i

Power Systems



System p

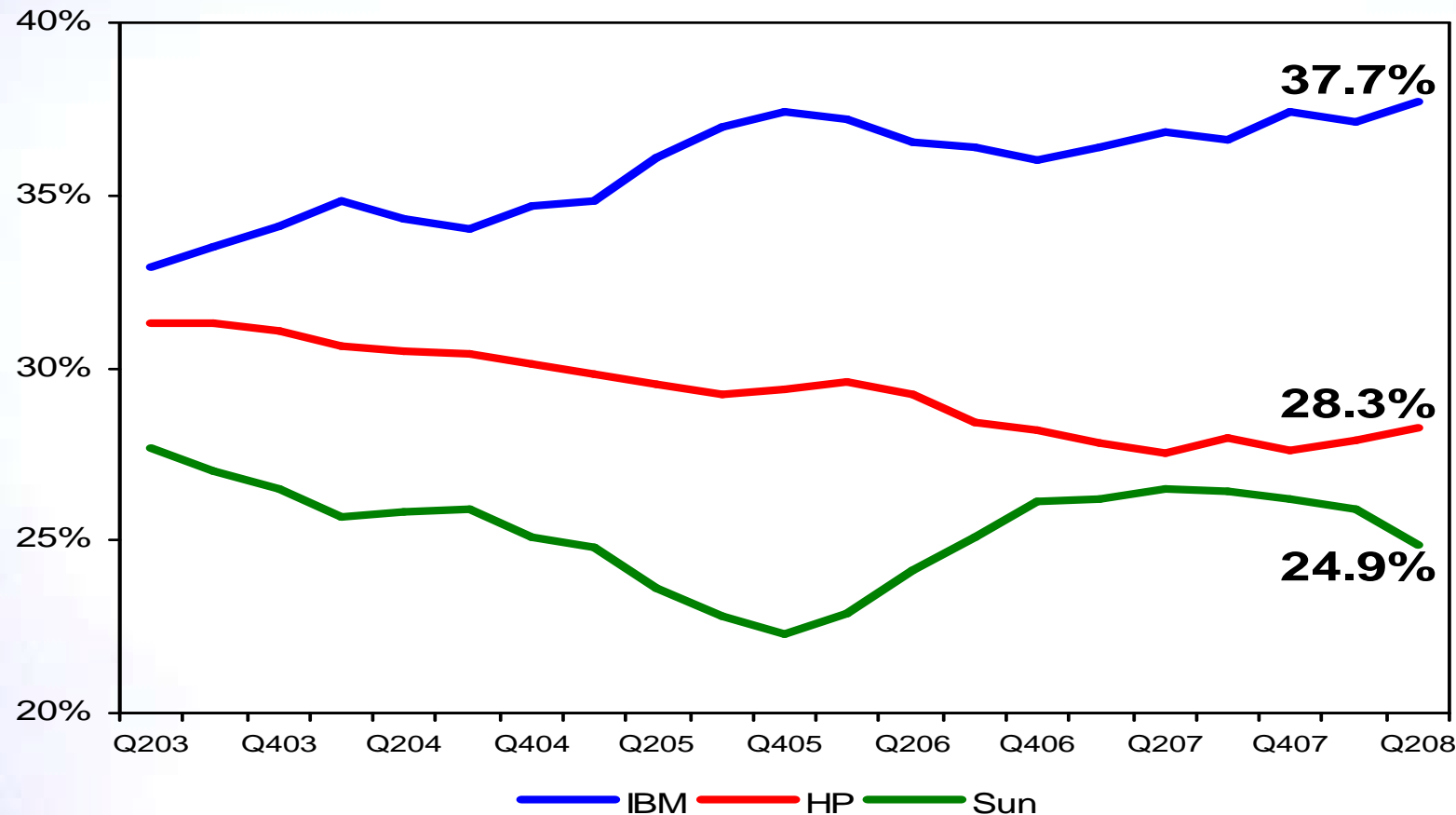


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# AIX, i and Linux all run on the #1 systems in the industry



## R4Q RISC & EPIC Server Revenue Share



Source: IDC Quarterly Server Tracker Q208 release, August 2008

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# Transforming Opportunity in the i Marketplace

*Over 15,000 solutions on the industry's  
leading platform for UNIX®, i and Linux® clients*



- Choice of operating system
- Industrial strength virtualization
- Single platform
- Leadership performance

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# Easy-to-buy, Power Express Servers

*New growth options for i applications with expanded support for Power servers*

- ✓ Extended growth options for i clients on 4-core 520 and 8-core 550
- ✓ Easily add capacity with modular building blocks in the new 16-core Power 560 Express



**Power 560 Express**



**Power 550 Express**



**Power 520 Express**



**BladeCenter S and JS12**



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## Power 520 Express IBM i Edition

Entry Servers	Power 520 1-core	Power 520 2-core	Power 520 4-core
Rack or Tower	19-inch rack Tower	19-inch rack Tower	19-inch rack Tower
Cores	1	2	4
Processor	4.2 GHz POWER6	4.2 GHz POWER6	4.2 GHz POWER6
Max GB memory	16 GB	32 GB	64 GB
Number of DASD in chassis	6	6	6
I/O Expansion	No	Yes	Yes
# of Loops (RIO or 12x)	0	1	2
LPARs	10	20	40
CoD	No	No	No
IBM i supported	i 5.4, i 6.1	i 5.4, i 6.1	i 5.4, i 6.1
IBM i Software Tier	P05	P10	P10
i Editions	Entry and Growth	30, 150, Unlimited Users and Solution	50, 150, Unlimited Users
CPW	4300	4300-8300	4300-15,600

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## Power 550 Express IBM i Edition

Entry Servers	Power 550 2-core	Power 550 4-core	Power 550 6-core	Power 550 8-core
Rack or Tower	19-inch rack Tower	19-inch rack Tower	19-inch rack Tower	19-inch rack Tower
Cores	2	4	6	8
Processor	3.5 or 4.2 GHz POWER6	3.5 or 4.2 GHz POWER6	3.5 or 4.2 GHz POWER6	3.5 or 4.2 GHz POWER6
Max GB memory	64 GB	128 GB	192 GB	256 GB
Number of DASD in chassis	6	6	6	6
I/O Expansion	Yes	Yes	Yes	Yes
# of Loops (RIO or 12x)	1	2	2	2
LPARs	20	40	60	80
CoD	No	No	No	No
IBM i supported	i 5.4, i 6.1	i 5.4, i 6.1	i 5.4, i 6.1	i 5.4, i 6.1
IBM i Software Tier	P20	P20	P20	P20
i Editions	i Edition	i Edition and Solution Editions	i Edition	i Edition
CPW	4.2 GHz = 4800-9200 3.5 GHz = 4000-7750	4.2 GHz = 4800-18000 3.5 GHz = 4000-15000	4.2 GHz = 4800-23850 3.5 GHz = 4000-20300	4.2GHz =4800-32650 3.5GHz =4000-27600

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## Expanded server support for Enterprise clients

- **New Power 560 16-core system (8234-EMA)**

- 3.6 GHz POWER6 processors
- Max CPW: 48,500
- 4, 8, and 16 core Express configurations
- i 6.1 support



IBM Power 560

- **New Power 570 32-core system (9117-MMA)**

- 4.2 GHz POWER6 processors
- Max CPW: 104,800
- 8, 16, 24, and 32-core configurations
- i 5.4 and i 6.1 support



IBM Power 570

- **Enhanced Power 570 16-core system (9117-MMA)**

- 5.0 GHz POWER6 processors
- Max CPW: 77,600
- 4, 8, 12, 16-core configurations
- i 5.4 and i 6.1 support

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Management

Energy

Security

Availability

OS and Integration

Virtualization

Power™  
Systems Software

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## New Economics

*Optimizing IT with industrial strength virtualization*

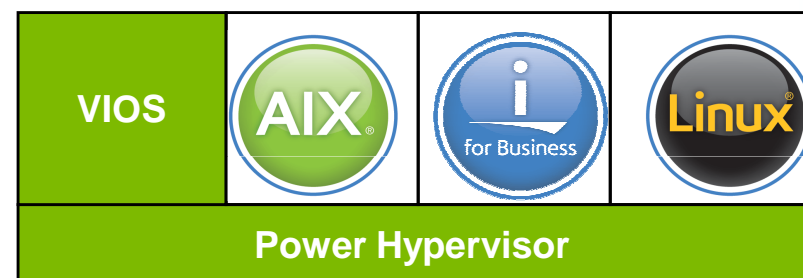
**64% of Power Systems  
shipped with PowerVM  
in 1H08**



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# PowerVM Technologies

- **Logical Partitioning**  
Support for multiple operating environments
- **Dynamic Logical Partitioning**  
Micro-partitioning, resource movement
- **Multiple Shared Processor Pools**  
Cap processor resources for a group of partitions
- **Virtual I/O Server**  
Virtualizes resources for client partitions
- **Integrated Virtualization Manager**  
Simplifies partition management for entry systems
- **Lx86**  
Supports x86 Linux applications
- **Live Partition Mobility**  
Move running AIX and Linux partitions
- **System Planning Tool**  
Simplifies the planning for and installation of Power servers with PowerVM

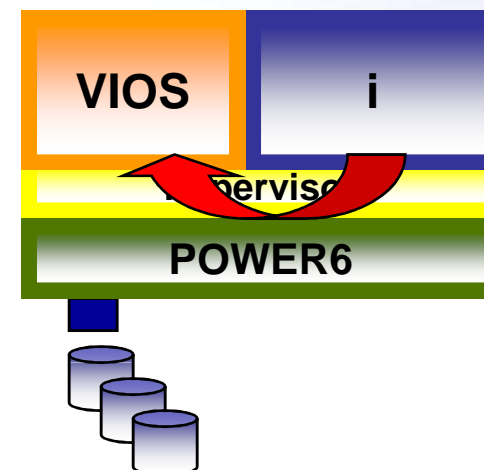


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# Virtualization with PowerVM

## ■ PowerVM VIOS Based Virtualization

- i partition uses I/O resources from a VIOS partition
- VIOS also provides virtualization for AIX and Linux partitions
- Included with PowerVM Editions
- Requires POWER6 processor-based systems and i 6.1
- Supports DS3400, DS4700, DS4800, DS8100 and DS8300



## ■ Integrated Virtualization Manager

- Tool that runs in VIOS partition for creating and managing partitions
- Provides an alternative to HMC for LPAR management
- Requires VIOS to own i I/O resources
- Included with PowerVM Editions



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# PowerVM Editions

- **PowerVM Editions**

- Express
- Standard
- Enterprise

- **One virtualization approach across Power servers**

**PowerVM Editions**

	Express	Standard	Enterprise
<b>Maximum LPARs</b>	1+2 / Server	10 / Core	10 / Core
<b>Management</b>	IVM	IVM, HMC	IVM, HMC
<b>Virtual I/O Server</b>	✓	✓	✓
<b>Lx86</b>	✓	✓	✓
<b>Multiple Shared Processor Pools</b>		✓	✓
<b>Live Partition Mobility</b>			✓

Selected PowerVM technologies are not available on all models



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## SOD: PowerVM Active Memory Sharing

- *IBM intends to enhance PowerVM with Active Memory Sharing, an advanced memory virtualization technology, in 2009. Active Memory Sharing will intelligently flow memory from one partition to another for increased utilization and flexibility of memory usage.*
- **Memory virtualization enhancement for Power Systems**
  - Memory dynamically allocated based on partition's workload demands
  - Contents of memory written to a paging device
  - Improves memory utilization
- **Designed for partitions with variable memory requirements**
  - Low average memory requirements
  - Active/inactive environments
  - Workloads that peak at different times across the partitions
- **Planned to be available with PowerVM Enterprise Edition**
  - AIX 6.1, Linux and i 6.1 partitions that use VIOS and shared processors
  - POWER6 processor-based systems

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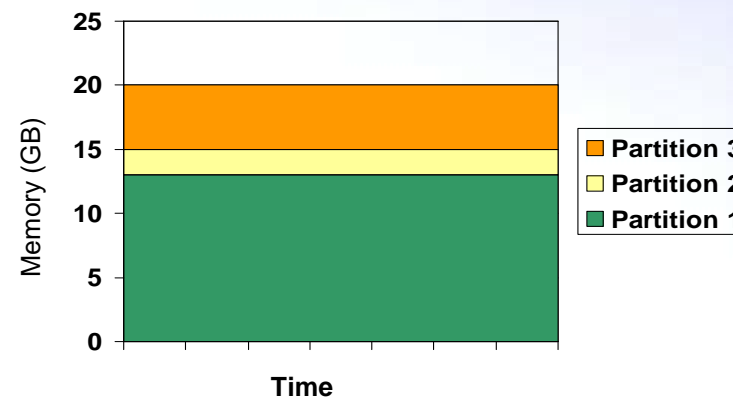
\* All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.



# Active Memory Sharing Enables Higher Memory Utilization

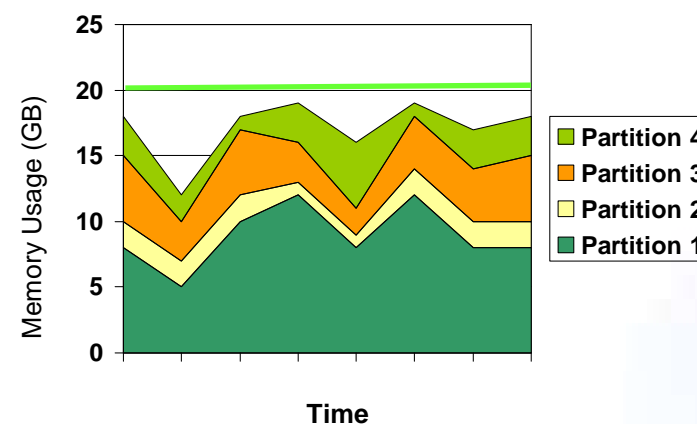
- **Partitions with dedicated memory**

- Memory is allocated to partitions
- As workload demands change, memory remains dedicated
- Memory allocation is not optimized to workload



- **Partitions with shared memory**

- Memory is allocated to shared pool
- Memory is used by partition that needs it, enabling an additional partition to be added within same memory footprint
- Higher memory utilization



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# Active Memory Sharing Examples

- **Around the World**

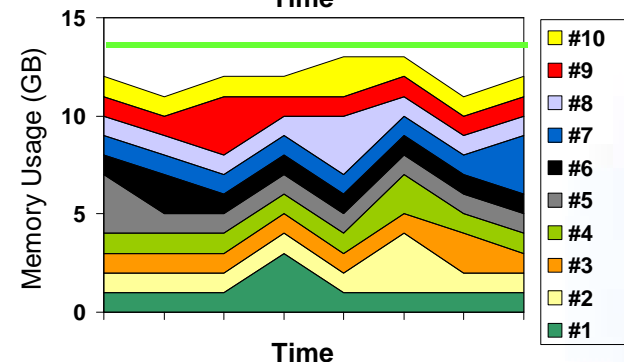
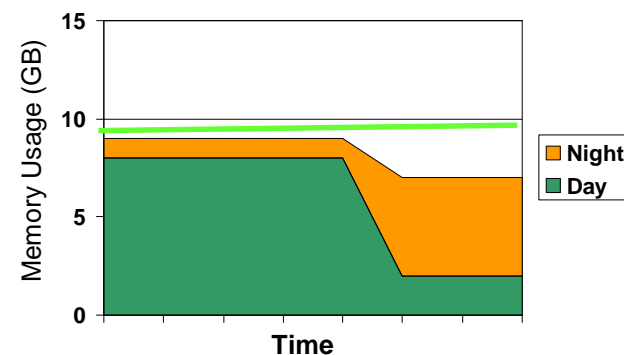
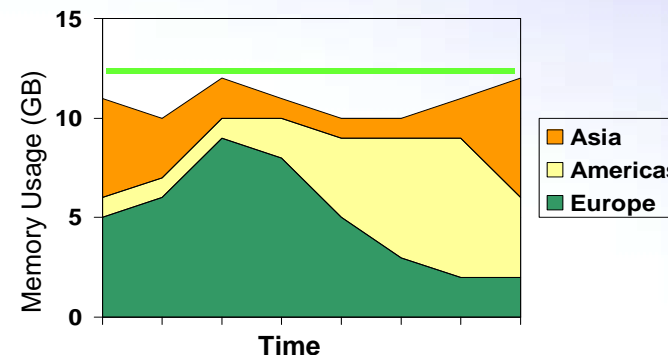
- Partitions support workloads with memory demands that peak at different times

- **Day and Night**

- Partitions support day time web applications and night time batch

- **Infrequent use**

- Large number of partitions with sporadic use



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# Shared Infrastructure

*i Positioned as a Tier 1 Platform on Power Systems*



**Multi-OS support:  
UNIX, i and Linux**



**Over 15,000 applications**



**Share processor, memory  
and I/O across operating  
environments**



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# i Architecture

## Single Level Store



Automates & optimizes storage management

## Object Based Architecture



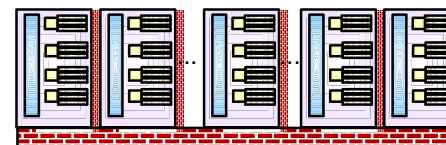
Enables integrity, security, virus-resistance

## Integration



Integrates business components, e.g. database

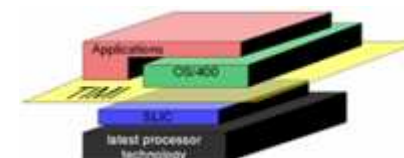
## Work Management



Provides built-in application virtualization

## Technology Independent Machine Interface

Ensures application compatibility across multiple technology generations



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# Decades of Protecting Application Investments



**S/38**  
**1978**



**AS/400**  
**1988**



**64 Bit**  
**1995**



**POWER5**  
**2004**



**POWER6**  
**2007**



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# Ahead of our time.....

```
MAIN                                OS/400 Main Menu                                System:  ASJ2

Select one of the following:

    1. User tasks
    2. Office tasks
    3. General system tasks
    4. Files, libraries, and folders
    5. Programming
    6. Communications
    7. Define or change the system
    8. Problem handling
    9. Display a menu
   10. Information Assistant options
   11. iSeries Access tasks

   90. Sign off

Selection or command
===> _____

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel   F13=Information Assistant
F23=Set initial menu
```

MA a

20/007

# Investing in i

*Efficient, resilient solutions for business*



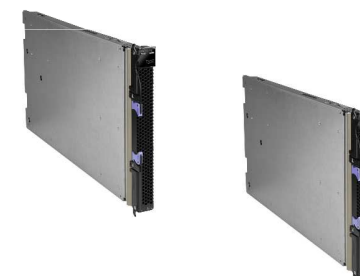
## i 6.1 Now Available

- New support for **BladeCenter**
  - New SAN **DS8000** performance optimization
  - New **PowerHA** disk clustering
  - New **Java Virtual Machine**, shared with AIX & Linux
  - New **PowerVM** virtual storage for i partitions
  - New **Systems Director** Navigator
- and much more....

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# Support for BladeCenter

- **Enables small and mid-sized i clients to consolidate their IT environment**
  - BladeCenter S holds 6 Power and x86 blades
  - BladeCenter H holds 14 Power and x86 blades
- **Delivers the performance required for i applications**
  - IBM BladeCenter JS12 (2-core), JS22 (4-core)
- **Supports consolidation of i and x86 storage**
  - BladeCenter S holds up to 12 x 450 GB disk drives
  - BladeCenter H support DS3400, DS4000 and DS8000 SANs
  - PowerVM™ VIOS partition manages Blade resources
- **New Faster deployment with pre-installation of IBM i on BladeCenter S**



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# BladeCenter Chassis



**IBM BladeCenter S**  
Distributed, small office,  
easy to configure



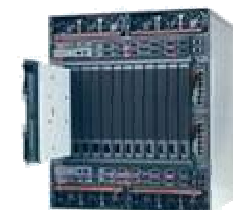
**IBM BladeCenter E**  
Best energy efficiency,  
best density



**IBM BladeCenter H**  
High performance



**IBM BladeCenter T**  
Ruggedized

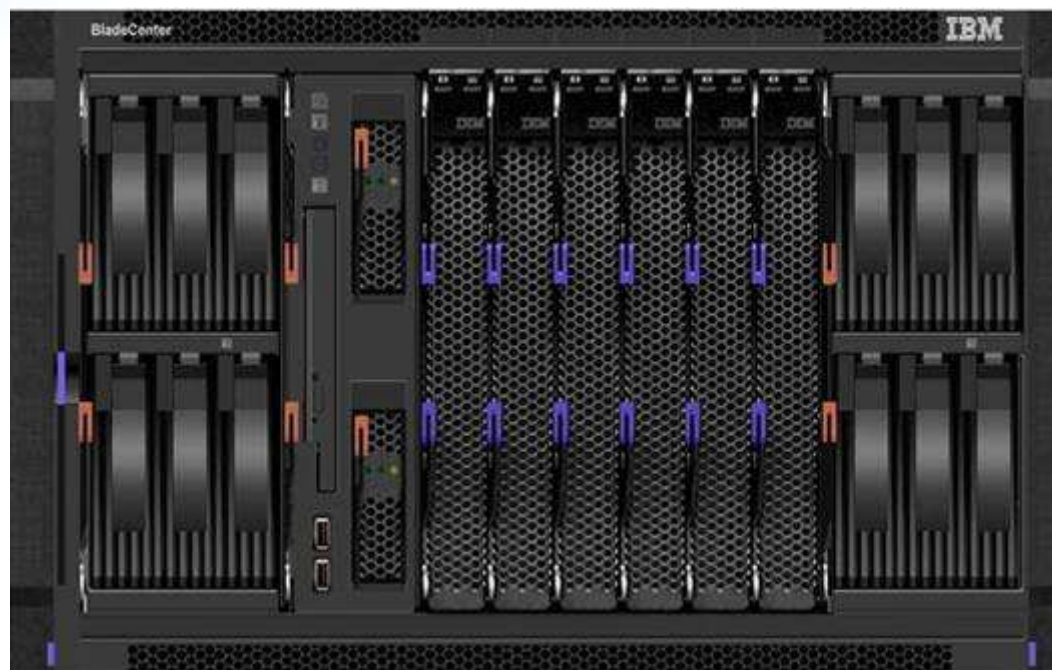


**IBM BladeCenter HT**  
Ruggedized,  
high performance

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# BladeCenter S



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# BladeCenter S



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# BladeCenter H



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# BladeCenter Chassis

Chassis	BCH	BCS
# of Blades	14	6
# of Disk Drives	0	0-12 (SAS)
Disk Capacity (Max)	0	5.4 TB
Power	220	110 or 220
Blades	x86 and POWER	x86 and POWER
Redundant Power and Cooling	Yes	Yes
Management Modules	1-2	1
Blades for i	JS12 and JS22	JS12 and JS22



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# BladeCenter Blades



**HS12**

General-purpose  
enterprise



**HS21 XM**

Extended-memory



**HS21**

General-purpose  
enterprise



**LS21**

High performance



**LS41**

Scalable, enterprise  
performance



**HC10**

Workstation



**QS21**

High performance



**JS12**

High-  
performance,  
virtualization



**JS22**

Scalable  
performance,  
virtualization



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# BladeCenter Blades

Blades	JS12	JS22
Processor Technology	POWER6	POWER6
# of Cores	2	4
GHz	3.8 GHz	4.0 GHz
Memory (Min/Max)	2/64 GB	2/32 GB
Local Disk (Min/Max)	0/2 73/146 GB	0/1 73/146 GB
Base Ethernet Ports (1 GB)	2	2
Expansion Cards	0-2	0-2
Virtualization	VIOS/IVM	VIOS/IVM
# of Partitions (max)	20	40
AIX	Yes	Yes
Linux	Yes	Yes
<b>i Release</b>	<b>6.1</b>	<b>6.1</b>
<b>Processor Tier</b>	<b>P05</b>	<b>P10</b>
<b>CPW</b>	<b>7100*</b>	<b>13,800*</b>

\* Measurements based on an unconstrained environment. Actual performance may be limited by number of disk drives supported

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## i Edition Express for BladeCenter S



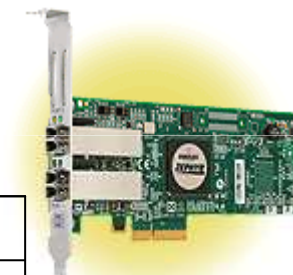
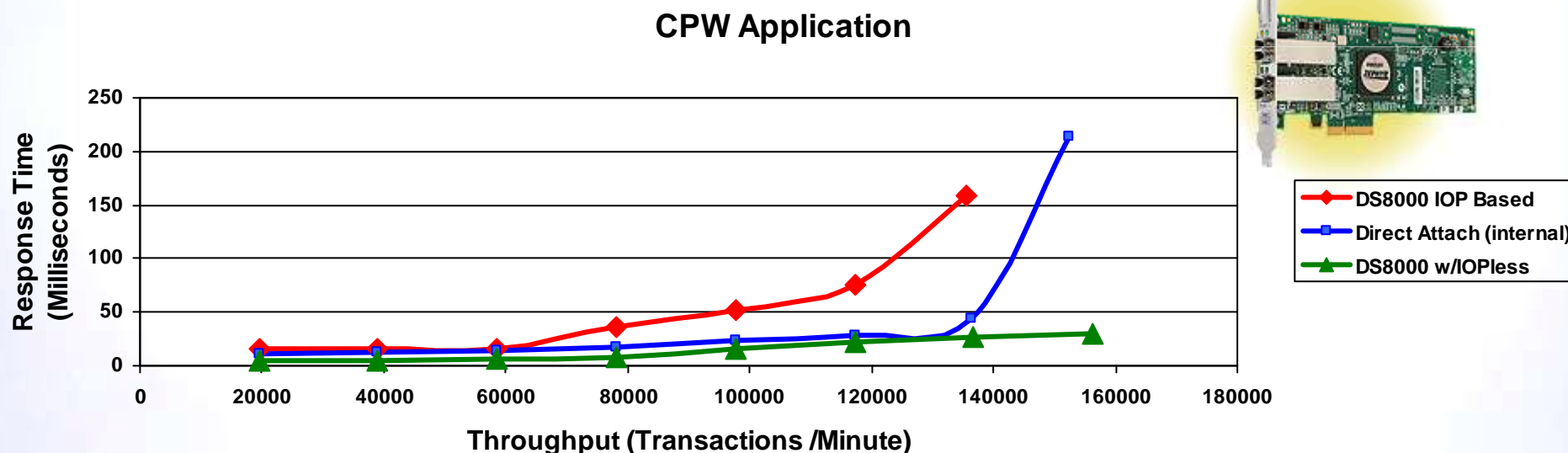
- ✓ BladeCenter S chassis optimized for i
- ✓ JS12 base configuration for i
- ✓ IBM i processor entitlement, 1yr SWMA, 10 users

- **Priced below a 520 1-core system**
- **Lease price lower than what many are paying for hardware maintenance**
- **With P05 and P10 software tiers, SWMA for blades is less than what many are paying today**



# SAN Performance Optimization

- New 4 Gbit Dual Port Fibre Adapters (no IOP required)
- Optimizes disk performance for SAN storage
- i 6.1, POWER6 processor-based systems, and IBM DS8000



Performance based on specific workloads and configurations. Improvements shown are valid only for those workloads. Your results may vary and are dependent on the application and configuration.

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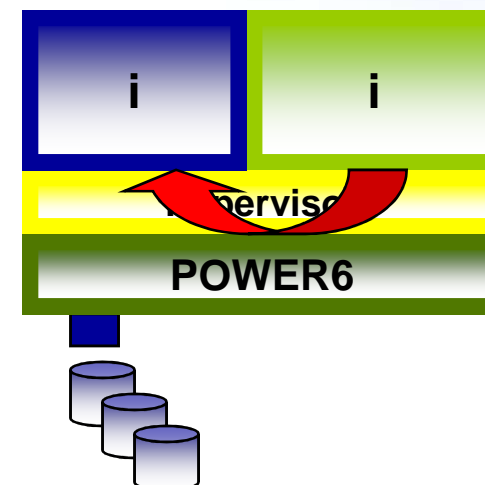
# PowerHA Disk Clustering

- **Can enable near continuous application service**
  - Minimize impact from planned & unplanned outages
- **IBM i and SAN based mirroring**
  - Independent auxiliary storage pools replicated synchronously
    1. Geographic Mirroring – internal disks
    2. Metro Mirror – SAN disks
- **Cluster Management**
  - Enables automatic or manual failover
  - Backup recovery operations via Flash Copy

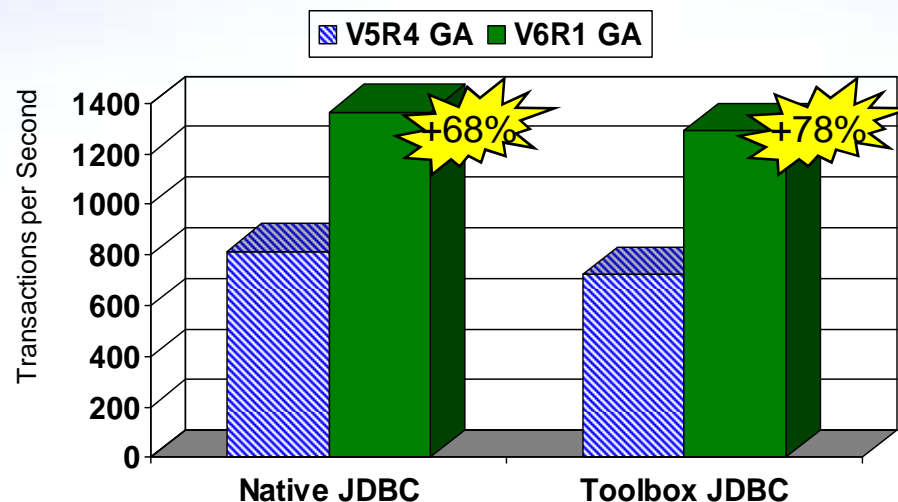


# Virtual Storage for i Partitions

- **IBM i partition uses virtual I/O resources from another i partition**
  - Eliminates requirement to buy adapters and disk drives for each i partition
- **Ideal for creating test and development partitions**
- **Requires POWER6 processor-based systems with i 6.1**



# New JVM Delivers Improved Java Performance



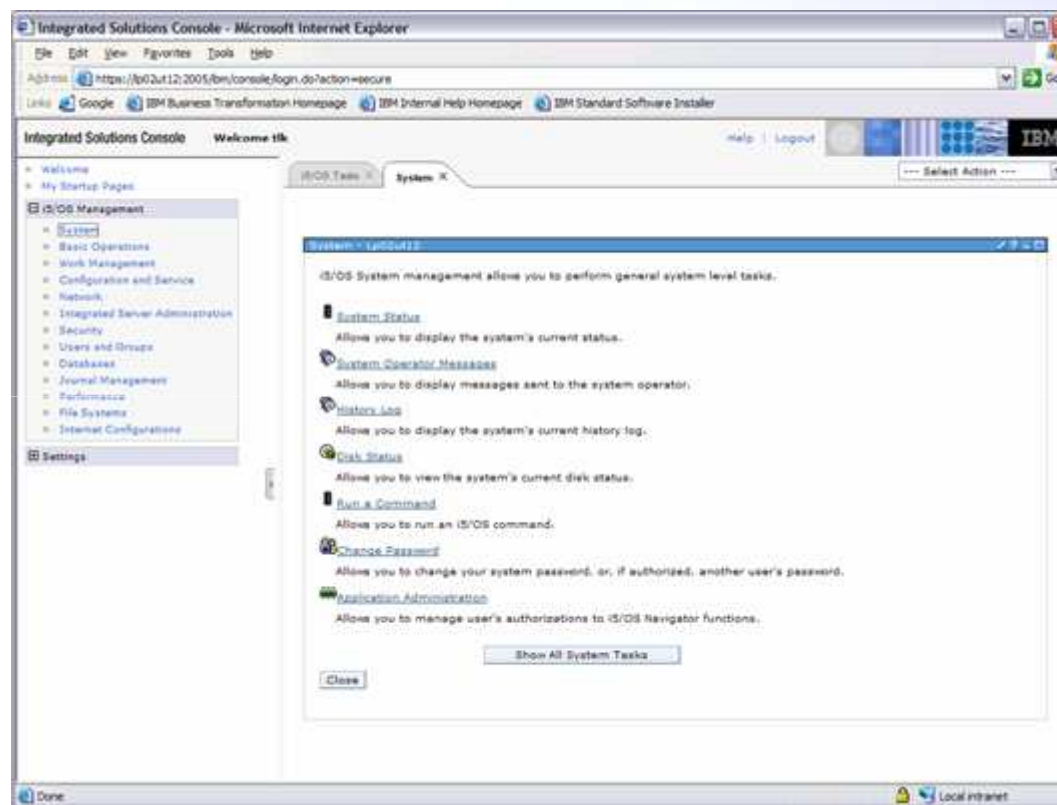
- **IBM 64-bit Java™ Virtual Machine**
  - Shared technology with AIX & Linux improves performance & portability
- **Integrated Web Application Server\***
  - Simplifies the deployment of Java applications
- **Integrated Web services environment\***
  - Easily extend RPG and COBOL programs as Web services

\* Also available with i 5.4

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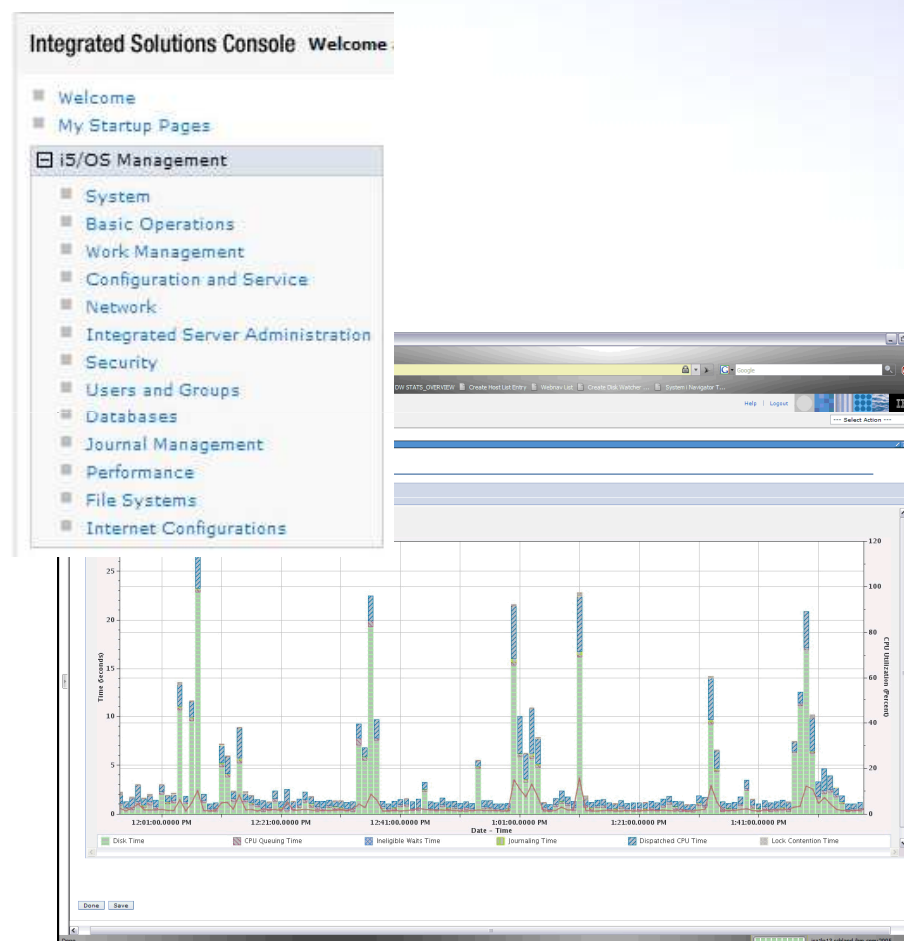
# Systems Director Navigator for i

- **New web based tool for managing i**
  - Supports 300+ tasks
  - Alternative to iSeries Navigator
- **Additional Functions:**
  - Performance Data Investigator
  - PowerHA for i
- **Automatically installed with i 6.1**



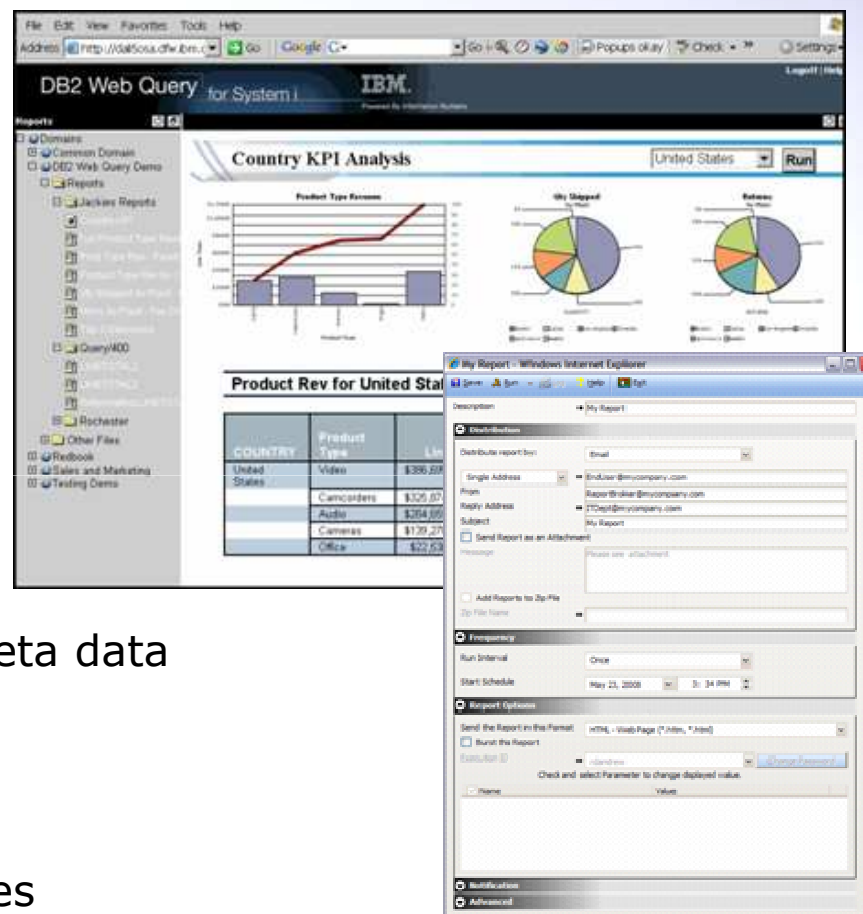
# New Performance Investigator Tool

- **Performance Data Investigator**
  - Enhanced viewing and analysis of i collection services data
  - Visualize data in charts and tables
  - Included with i 6.1
  - Works with Performance Tools for deep performance analysis



# DB2 Web Query for i powered by Information Builders

- **Modernized Query/400 capabilities**
  - PDF, Spreadsheet, XML Output
  - Import Query/400 definitions
- **Ability to extend to Business Intelligence**
  - Dashboards
  - On Line Analytical Processing
  - Analysis “on the go”
  - Simplified report authoring with meta data
- **New DB2 Web Query Products**
  - Report Broker - batch reporting and automated report distribution
  - Software Development Kit – enables reporting functions integrated into applications



# Quickly Develop Web Applications with PHP



- **PHP is a powerful, open, easy-to-use scripting language for web applications**
  - 22+ million sites and 6.4+ million developers
- **Zend, The PHP Company, offers PHP runtime and development products for i**
  - Provides fast and easy access to i applications and DB2
  - Available for no charge, with 3 years of support
  - 11,000+ registrations to date
- **i customers are developing new applications**
  - Quickly connect supply chain
  - Replace 5250 with dynamic web applications
  - Deploy new applications



***Download today at [zend.com](http://zend.com)***

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# Zend Products for i



- **Zend Core for i**

- PHP runtime environment
- Zend Toolkit for IBM i
- MySQL Community Edition
- With 3 years Standard support

No Charge



- **Zend Studio for Eclipse, i Edition**

- Integrated Development Environment on Windows, Linux, or Mac
- With 3 years Standard support

No Charge



- **Zend Platform for i**

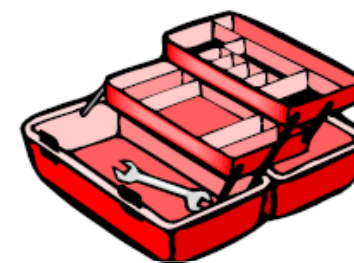
- PHP monitoring and optimization
- Includes 5250 Bridge and Java Bridge

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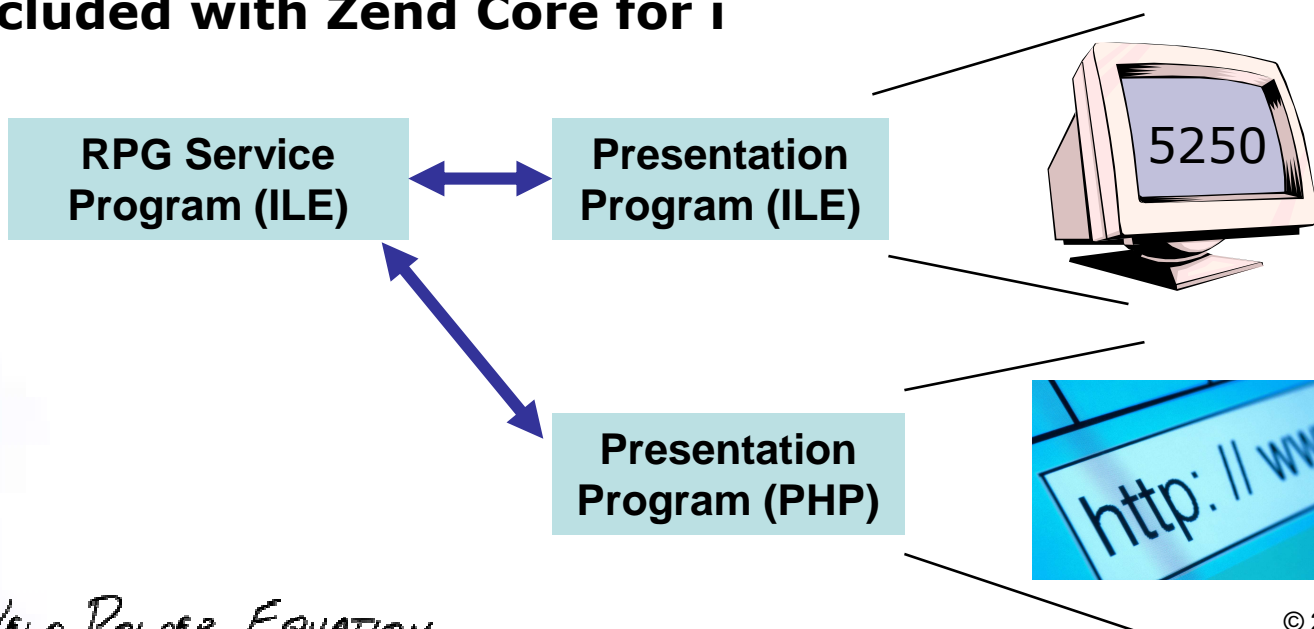
# Zend Toolkit for IBM i

- **Language Extensions for PHP applications to access:**

- DB2 – SQL and Native
- Program Call
- Procedure Call
- Data Area
- Data Queue
- Message Queue
- Commands
- System Values
- Spool Files



- **Included with Zend Core for i**



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# 5250 Bridge

- Facilitates integrating 5250 applications into Web pages through PHP
- Includes PHP functions for accessing 5250 data stream
- Included with Zend Platform



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# Solutions Built on PHP

Content Management



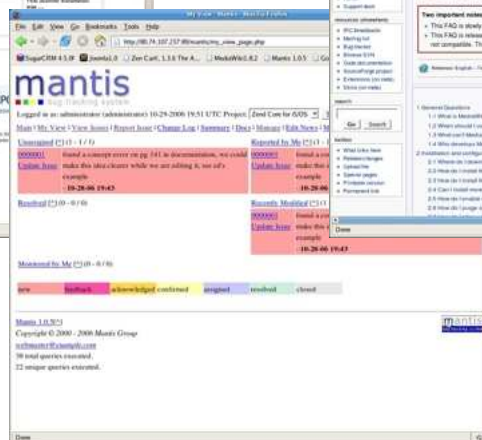
Wiki



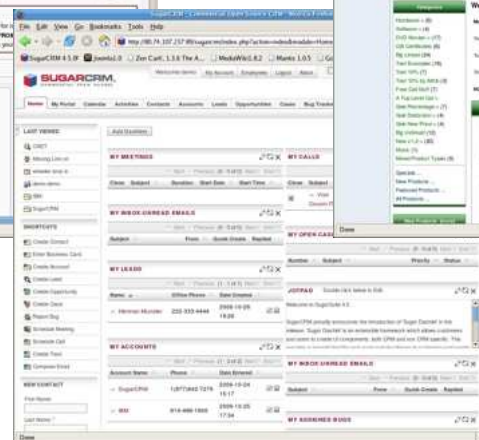
E-Commerce



Bug Tracking



CRM



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# Easily Deploy Applications with PHP & MySQL

- **MySQL is the leading open source database in the industry**
  - Millions of deployments, millions of developers, thousands of applications
- **MySQL is available for i**
  - Community edition available for no charge
  - Enterprise edition includes support
  - 1000s of downloads to date
- **Combination of PHP and MySQL enables 1000s of applications on i**
  - Don't write it, download it
  - hotscripts.com, sourceforge.net

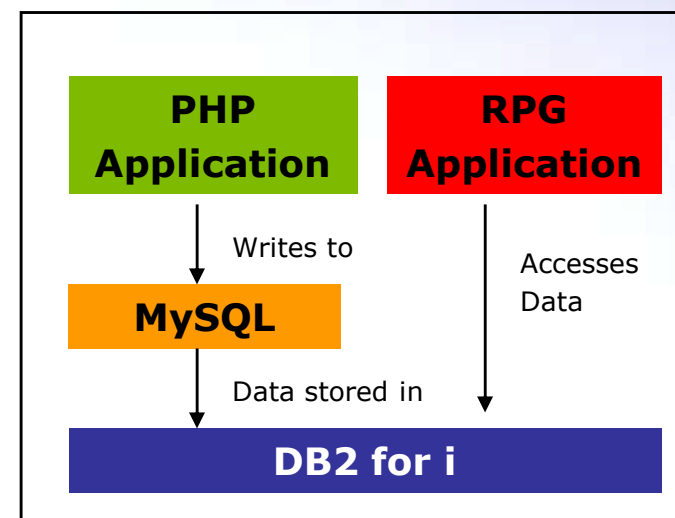


***Download today at [zend.com](http://zend.com) and [mysql.com](http://mysql.com)***

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# DB2 Storage Engine for MySQL - Beta

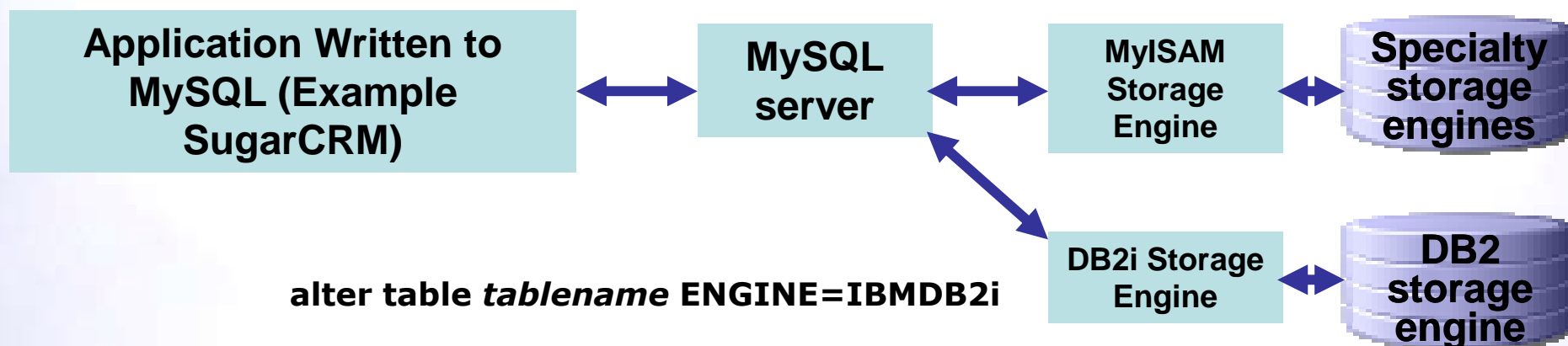
- **Supporting open source applications while simplifying data management**
  - Applications written to MySQL, but data stored in DB2
  - One database to manage, backup and protect
  - Provides access to MySQL data from RPG, DB2 Web Query and more
- **Plan to be supported with MySQL Community and Enterprise Editions version 5.1**
  - Supported on i 5.4 and i 6.1
- **Combination of Apache, PHP and MySQL enables 1000s of applications on i**
  - Customer Relationship Management, E-Commerce, Portals and Wikis



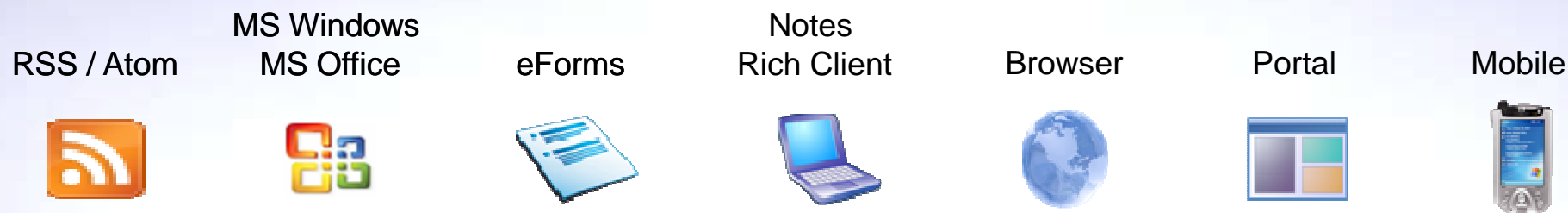
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# Integrating MySQL with DB2

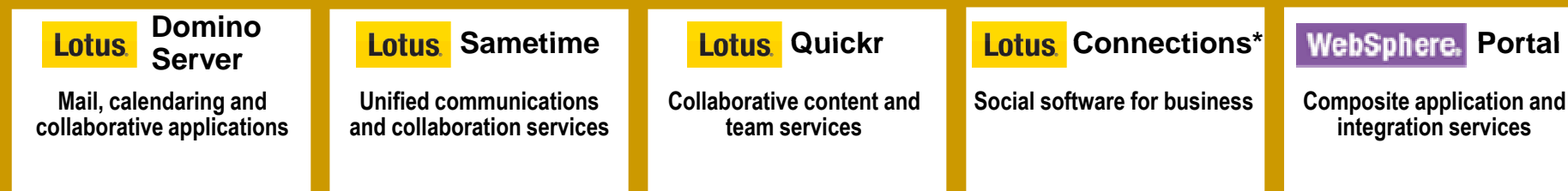
- **DB2 Storage Engine for MySQL supports open source applications while simplifying data management**
  - Applications written to MySQL, but data stored in DB2
  - One database to manage, backup, and protect
- **Integrates access to MySQL data from RPG, DB2 Web Query, ...**



# Lotus Collaboration for i



## Interaction and client services (online or offline)

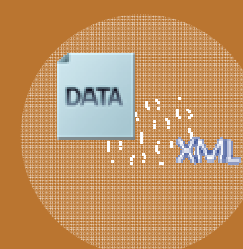


## Composite application framework



Business process

Information



\* Supported on AIX, Linux, or Windows

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# Power of Unified Communications

- Combines IP Telephony with IBM's Lotus Sametime and Power Systems
- Extends the IBM Power System benefits of simplicity, reliability and security to UC
- Leverages business applications from a large partner ecosystem
- Designed for rapid deployment and ease of management in SMB

**Powerful new business solutions for SMBs from two global leaders**

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# i Investment Strategy



- **Exploit IBM Systems investments**

- POWER roadmap (POWER7, Blades, System Storage)
- Common I/O (SAN and virtualized through VIOS)
- Common software infrastructures: WebSphere, Systems Director, POWER Virtualization

- **Extend core technologies**

- Core technologies supporting customer applications and data (DB2; ILE RPG, C, COBOL)
- Relationships with ISVs (major and regional)
- Interoperability standards (TCP/IPv6, SQL, Java)

- **Deliver high impact enhancements**

- Features that generate broad value across the client community
- Prioritize with LUG, COMMON and ISV Advisory Councils
- Include ISV Tools, Technology Partners and IBM Lab Services



\* All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

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# i Support Roadmap



End of Service  
4/30/2009

IBM i Release	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
V5R3										
5.4										
6.1										
Next Release										

\*The projected date for the next release of IBM i is based on current IBM planning assumptions. Note that it is IBM's current practice to support an IBM i release until the next two releases have been made available, plus twelve months. So, for example, i5/OS V5R3 will be supported until April 2009, twelve months after IBM i 6.1 is generally available in March 2008. Exact dates vary according to a variety of factors, including development schedules and IBM's broader software lifecycle support cycles. For example, to simplify customers' software lifecycle management, IBM currently coordinates end of support dates for IBM i and other IBM software products in April or September. This presentation contains information about IBM's plans and directions. Such plans are subject to change without notice.

# IBM i System Support

Servers	5.3	5.4	6.1	Next release*
<b>POWER6 JS12, JS22, 560</b>			✓	✓
<b>POWER6 520, 550, 570, 595</b>		✓	✓	✓
<b>POWER5+ 515, 525</b>		✓	✓	✓
<b>POWER5/5+ 520, 550, 570, 595</b>	✓	✓	✓	✓
<b>800, 810, 825, 870, 890</b>	✓	✓	✓	
<b>270, 820, 830, 840</b>	✓	✓		

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- <http://www-304.ibm.com/jct01004c/systems/support/i/planning/upgrade/futuresftwr.html>

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# Resilient Infrastructure

*Providing a roadmap to continuous availability*



**PowerHA for i disk clustering**

**iCluster logical replication**

**Vision Solutions**



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# Managed Infrastructure

*Providing a new foundation for enterprise platform management*



**Discover servers**

**Monitor and report system health**

**Optimize and update servers**

**Integrate with enterprise service management**

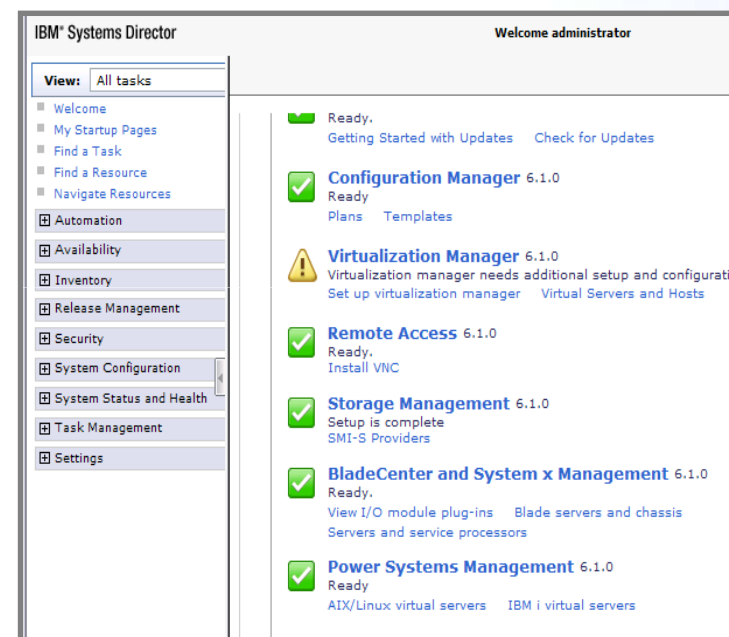


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# Managed by IBM Systems Director



- **Two complementary management tools for i**
  
- **System Director Navigator for i**
  - Announced and available with i 6.1
  - Over 300 tasks for managing single i environment
  - Runs on i, accessed via browser
  
- **System Director 6.1**
  - Multi-system management tool
  - Runs on AIX, Linux, and Windows
  - Manages i 5.4 and i 6.1 environments
    - IBM Director 5.20.2 agent
    - 5722-UME Universal Manageability Environment





# Common Management - Look and Feel!

IBM Systems Director Navigator for i5/OS®

Welcome

My Startup Pages

i5/OS Management

System

Basic Operations

Work Management

Configuration and Service

Network

Integrated Server Administration

Security

Users and Groups

Databases

Journal Management

Performance

File Systems

Internet Configurations

Backup, Recovery and Media Services

Cluster Resource Services

Settings

Welcome ruhlowr

Welcome - Ctcia8z

Welcome to the IBM Systems Director Navigator

The IBM Systems Director Navigator for i5/OS provides a single point of access to all previous System i Navigator tasks on the system.

Expand i5/OS Management in the left-hand navigation pane.

To see the previous version of the 2001 port i5/OS Navigator, click the link below.

[i5/OS Tasks Page](#)

IBM® Systems Director

Views: All tasks

Welcome

My Startup Pages

Find a Task

Find a Resource

Navigate Resources

Automation

Availability

Inventory

Release Management

Security

System Configuration

System Status and Health

Task Management

Settings

Welcome ruhlowr

Power Systems Management

Power Systems Management

The Power Systems Management summary page provides a summary of the Power Systems resources in your environment and gives details on their status. This page also provides navigational links to common management tasks.

Power Systems Resource Status

46 Power Systems resources found:

0 Critical

1 Warning

0 Informational

45 OK

Common views

Health summary

Event log

Problems

Manage Resources

4 Platform Managers

4 Hardware Management Console (0 no access)

0 Integrated Virtualization Manager (0 no access)

4 Power Systems Hosts (Physical Servers)

4 Power Systems servers

0 Power Systems BladeCenter servers

27 Virtual Servers (Logical Partitions)

4 AIX/Linux

22 IBM i

1 Virtual I/O Server

11 Operating Systems

1 AIX

1 Linux

9 IBM i

0 Virtual I/O Server

Common tasks

System discovery

Monitors

Thresholds

Check for updates

Create virtual server

BladeCenter management

System Planning Tool

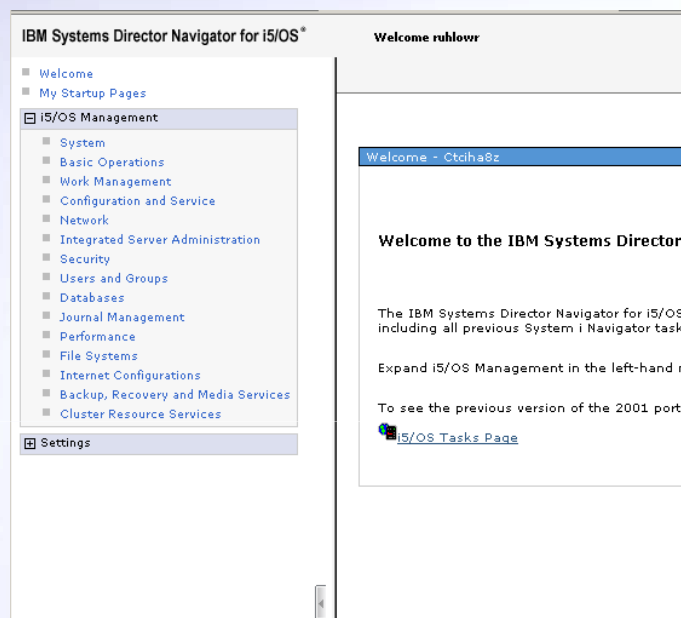
**IBM Systems Director  
Navigator for i**

**IBM Systems Director**

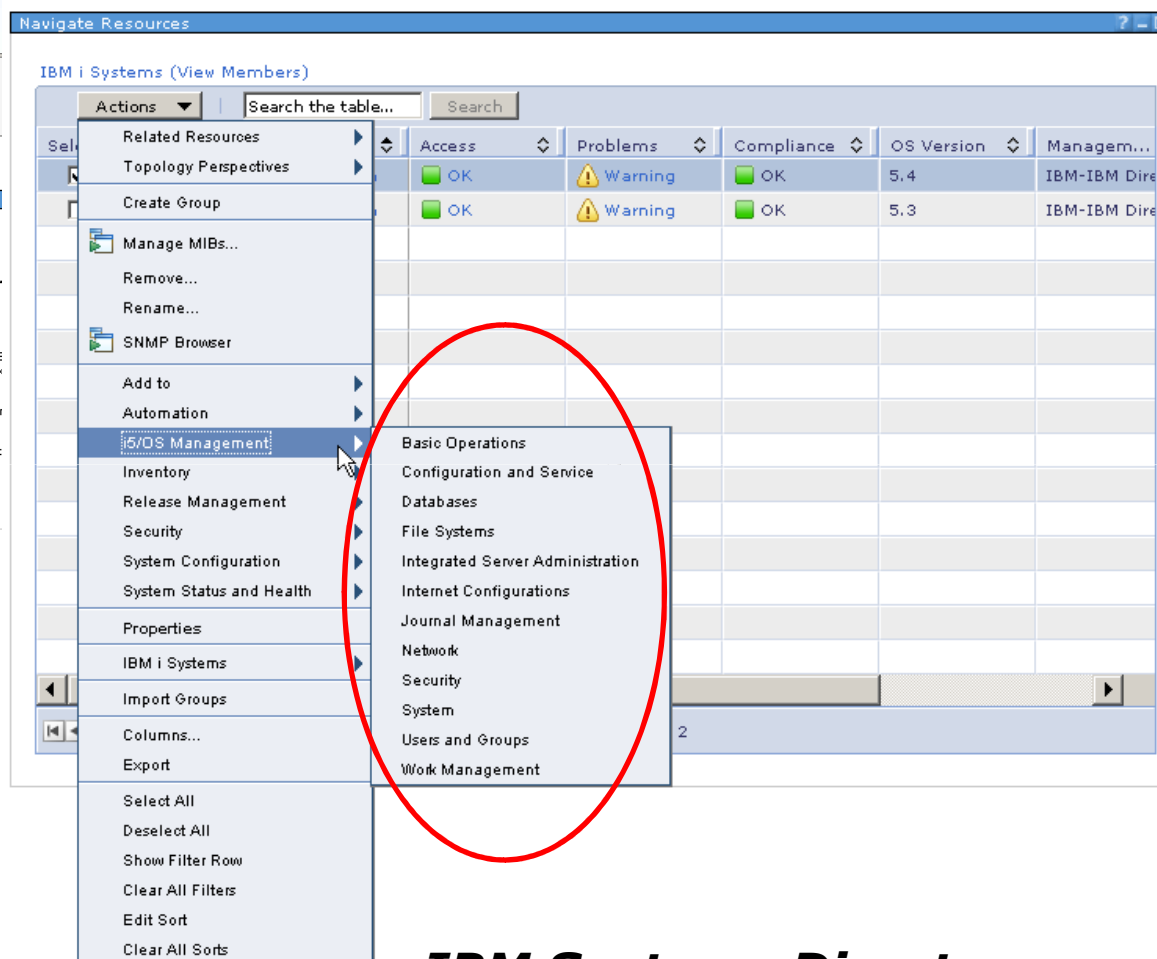
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# Consolidation of Platform Management Tools



**IBM Systems Director  
Navigator for i**

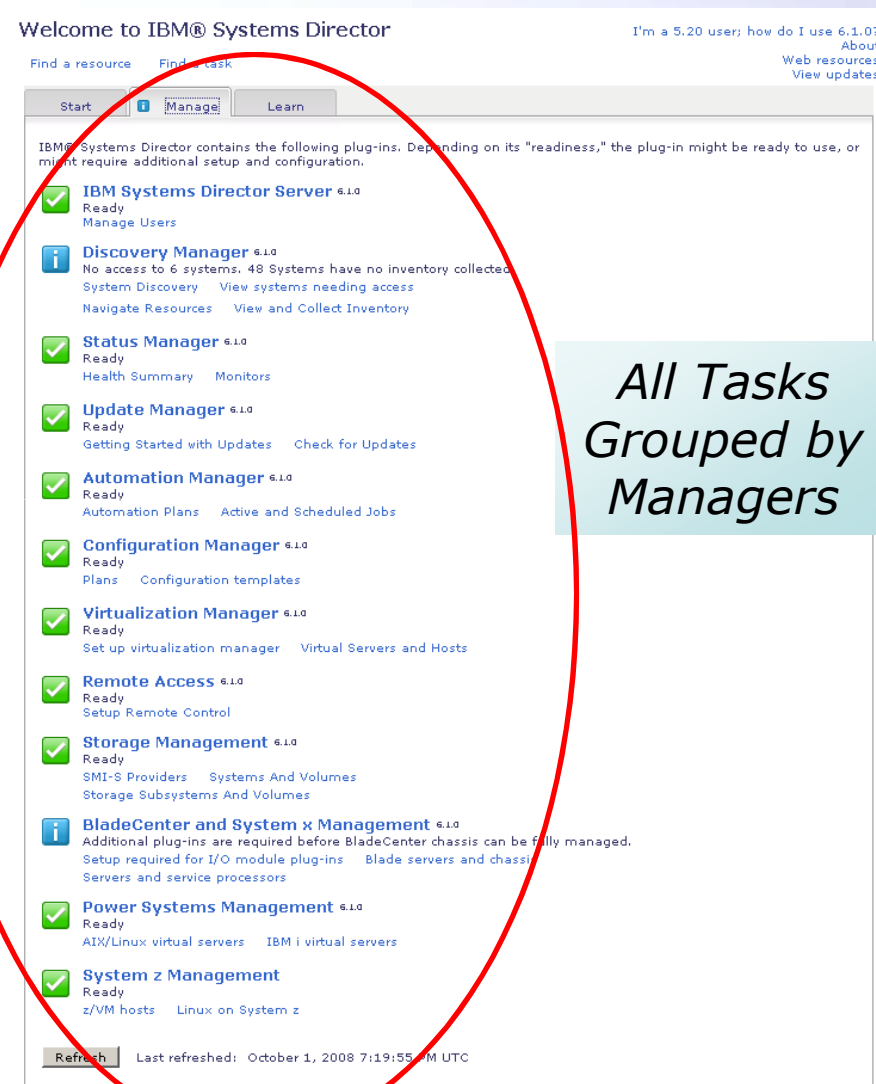


**IBM Systems Director**

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# IBM Systems Director "Managers"

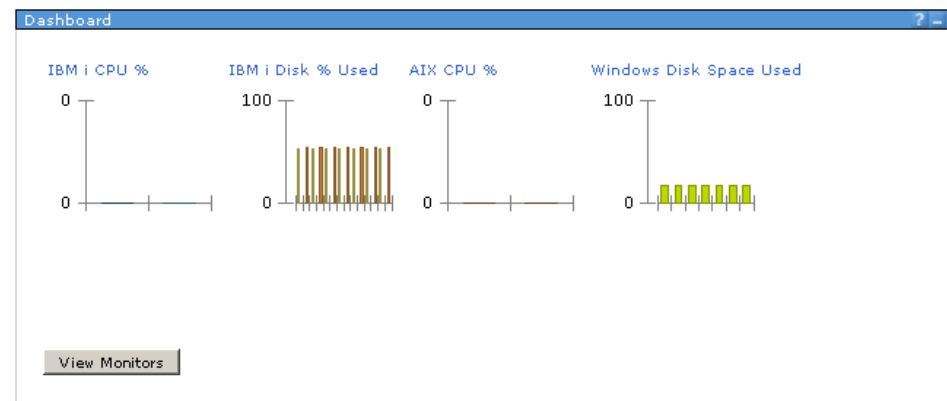
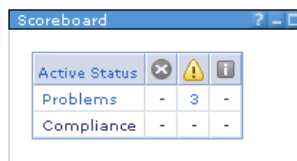
- **IBM Systems Director Server**
- **Discovery**
- **Status**
- **Update**
- **Automation**
- **Configuration**
- **Virtualization**
- **Remote Access**
- **Storage**
- **BladeCenter and System x**
- **Power Systems**
- **System z**



# Focus on health, status, automation

## ■ Health summary

- Favorite systems
- Critical monitors
- Group thumbnails
- Dashboard and Scoreboard



## ■ Monitoring

- Monitor critical resources
- Thresholds
- Events
- Drill Down

## ■ Automation Plans

- Notify
- Run commands
- Trigger tasks

Health Summary window showing two tables:

Favorites - root (View Members)			Systems with Problems (View Members)			
Name	Access	Problems	Name	Access	Problems	Col
ctcdir61.rchland.ibm.com	OK	OK	CTCamm	Offline	Warning	
ctchmc01.rchland.ibm.com	OK	OK	ctciha6b.rchland.ibm.com	OK	Warning	
ctchmc02.rchland.ibm.com	OK	OK	ctciha7b.rchland.ibm.com	OK	Warning	
ctchmc04.rchland.ibm.com	OK	OK				
CTCIHA6	OK	OK				
ctciha6b.rchland.ibm.com	OK	Warning				
ctciha7b.rchland.ibm.com	OK	Warning				
ctciha8	OK	OK				
ctcpha6z.rchland.ibm.com	OK	OK				

Page 1 of 1, Total: 9 (Favorites) / Page 1 of 1, Total: 3 (Systems with Problems)

# Manages Multiple OS Systems

- Start with Group Navigation
- Drill Down to Specific OS Systems

The screenshot displays the IBM Systems Director web interface. The top navigation bar includes 'Health Summary' and 'Navigate Resources' tabs. The main content area shows a breadcrumb trail: 'Groups > Groups by System Type > Operating Systems > Linux® Systems (View Members)'. Below this is a table with columns for 'Select', 'Name', 'Access', 'Problems', 'Compliance', 'OS Version', 'Kernel Ver...', 'Managem...', and 'Description'. The table lists three systems, all with 'OK' status in the 'Access', 'Problems', and 'Compliance' columns.

Select	Name	Access	Problems	Compliance	OS Version	Kernel Ver...	Managem...	Description
<input type="checkbox"/>	ctcdir61.rchland.ibm.com	OK	OK	OK	10.2	2.6.16.60-0.2...	IBM-IBM Direc...	Represents th...
<input type="checkbox"/>	ctchmc03.rchland.ibm.com	OK	OK	OK	7.3.1.0	2.6.5-391-def...	None	Represents th...
<input type="checkbox"/>	ctchmc04.rchland.ibm.com	OK	OK	OK	7.3.3.0	2.6.16.46-18...	None	Represents th...

Page 1 of 1 | Selected: 0 Total: 3 Filtered: 3

# Topology View

**Shows topology of systems, platform managers, members and other associated devices**

The screenshot displays the IBM Systems Director interface. The left pane shows a tree view of resources under 'Groups > Groups by System Type'. The main pane shows a topology diagram for the selected resource, 'ctchmc01.rchland.ibm.com (Basic)'. The diagram illustrates the system architecture, including a central CTCHMC node connected to a Shared Processor Pod (0), multiple CTCHAS nodes (CTCHAS1 through CTCHAS5), and a System Memory Pod. The right pane shows the 'Properties' tab for the selected resource, displaying details such as Name, Access, Status, Type, and Description.

Name	Value
Name	ctchmc01.rchland.ibm.com
Access	OK
Status	OK
Type	Hardware
Description	A class that...

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# Software Update Management

- Check for and Install Updates
- Update Power System and HMC Firmware
- Update AIX, Linux and IBM i

The screenshot shows the IBM Systems Director web interface. At the top, there's a navigation bar with tabs: Health Summary, Updates (selected), Check for U..., and Active and ... . The main content area is titled 'Update Manager' and includes a description: 'Manage the firmware and software updates needed by your systems. Schedule a check for updates to ensure that you always have the latest update information. Set up system compliance policies to ensure that your systems remain current.' Below this, there's a 'System Compliance' section indicating 'monitoring 0 systems'. It shows a circular progress indicator and a list of update statuses: 0 systems with a red X (failed), 0 systems with a yellow warning triangle, 0 systems with a blue 'i' (info), and 0 systems with a green checkmark (success). To the right, there's a 'System tasks' box with links: 'Change compliance policies', 'Show needed updates', and 'Show installed updates'. Below the compliance section is a 'Manage' section with 'Check for updates' details: 'Last check for updates: Oct 6, 2008 6:31:33 PM' and 'Next scheduled check for updates: Not scheduled'. It also has links for 'Show updates' and 'Show update groups'. To the right of the 'Manage' section is a 'Common tasks' box with links: 'Install updates', 'Uninstall updates', 'Import updates', and 'Export updates'. At the bottom, there's a 'Search' section with a text input field and a 'Search' button.

# Power Systems Software



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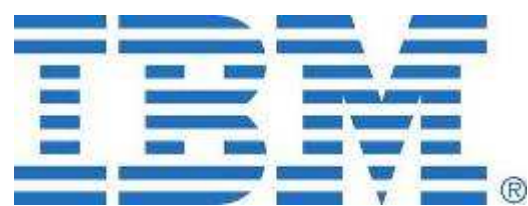
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## IBM Power Systems



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