



IBM® Systems Director for Power Systems

Dawn May
dmmay@us.ibm.com

Power your planet.

© Copyright 2010 IBM Corporation

Power your Planet



Workload-Optimizing Systems



AIX - The Future of UNIX

Total Integration with i

Scalable Linux ready for x86 Consolidation



Virtualization without Limits

- ✓ Drive over 90% utilization
- ✓ Dynamically scale per demand



Dynamic Energy Optimization

- ✓ 70-90% energy cost reduction
- ✓ EnergyScale™ technologies



Resiliency without Downtime

- ✓ Roadmap to continuous availability
- ✓ High availability systems & scaling



Management with Automation

- ✓ VMControl to manage virtualization
- ✓ Automation to reduce task time

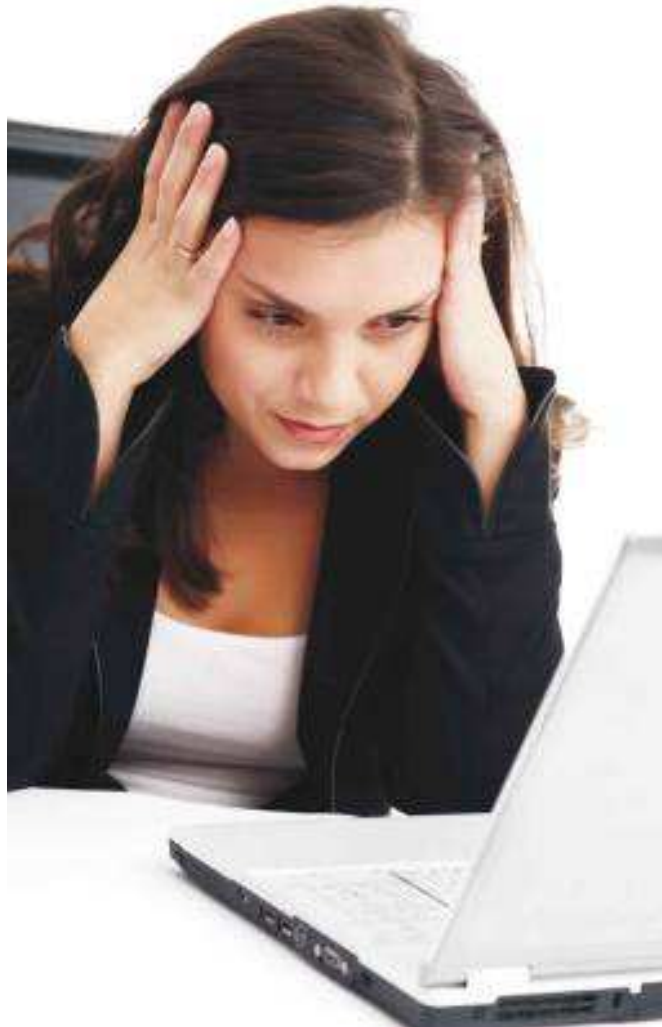
Systems for a Smarter Planet

Agenda

- Systems management environment
- IBM Systems Director 6.2
 - Resources / relationships
 - Maintenance /currency
 - Monitoring / automating
 - Virtualization / optimization
- IBM Systems Director Editions
- IBM Systems Director and IBM i



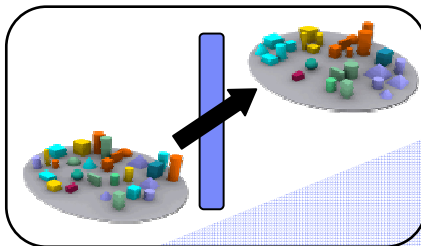
IT Organization Challenges



- Thousands of “points of management”
- Capital and operational expenses
 - Space and power constraints
 - Developing diverse administration skills
- Legacy infrastructures
 - Fragile and difficult to change
 - Many specialized skills and tools required
 - Silos: OS, hardware, technologies, facilities ...
- Little time for planning, optimization and improvements
- Pressures from criticality of IT to the business

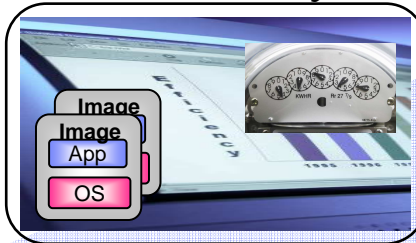
IBM Systems Management Spectrum

Reduce costs



- Visualize physical and virtual resources and relationships
- Monitor system health
- Establish threshold and error alerts
- Update OS, software and firmware

Increase agility and efficiency



- Automate incident handling
- Simplify deployment with virtual images
- Understand and control energy use within existing capacity
- Manage networks and storage systems

Optimize resource utilization



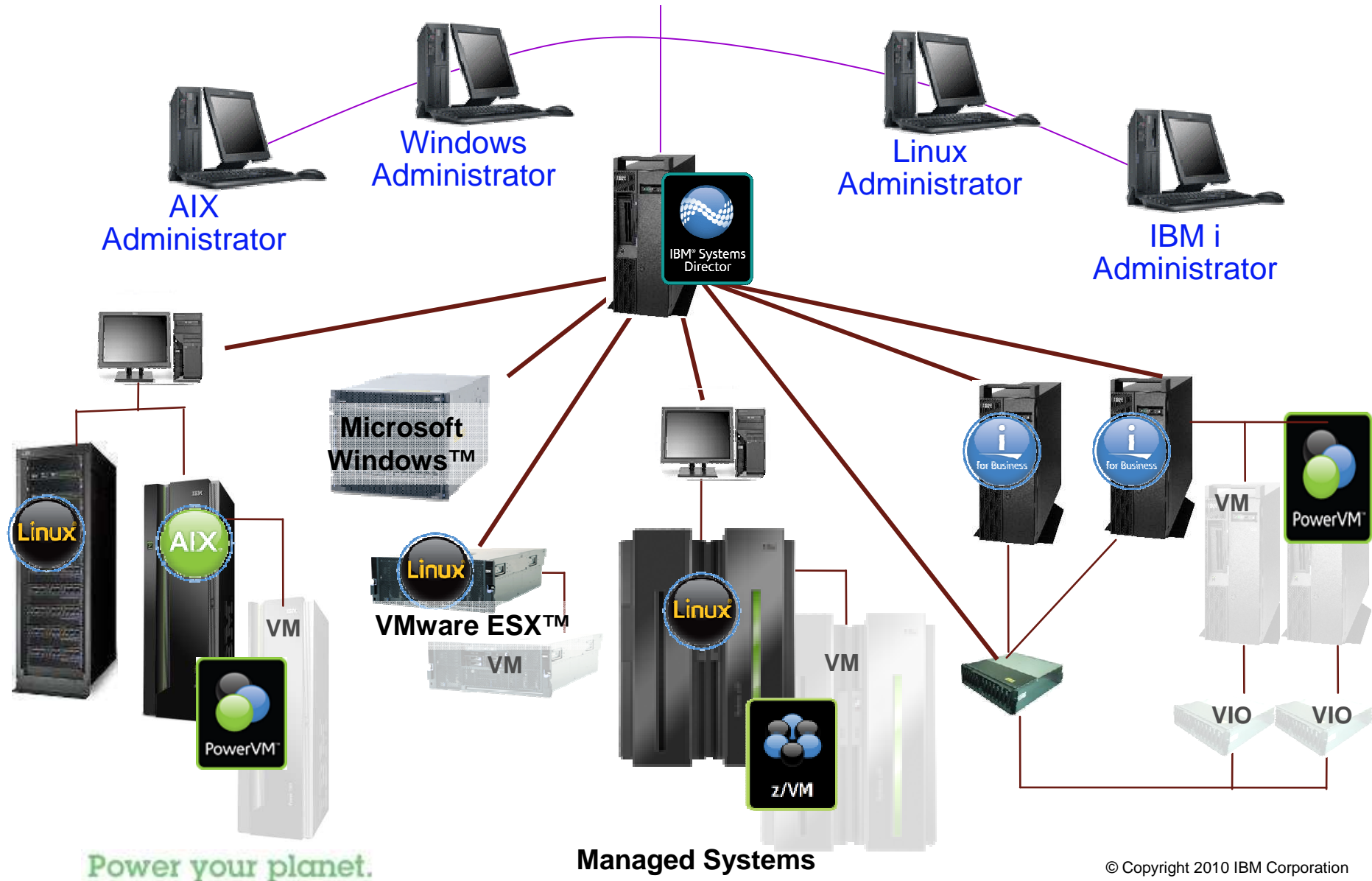
- Automate configuration and placement for new workloads
- Manage end-to-end workload availability
- Understand capacity
- Analyze and report historical performance

Deploy workloads in clouds



- Manage workloads based on service level goals
- Manage business service delivery

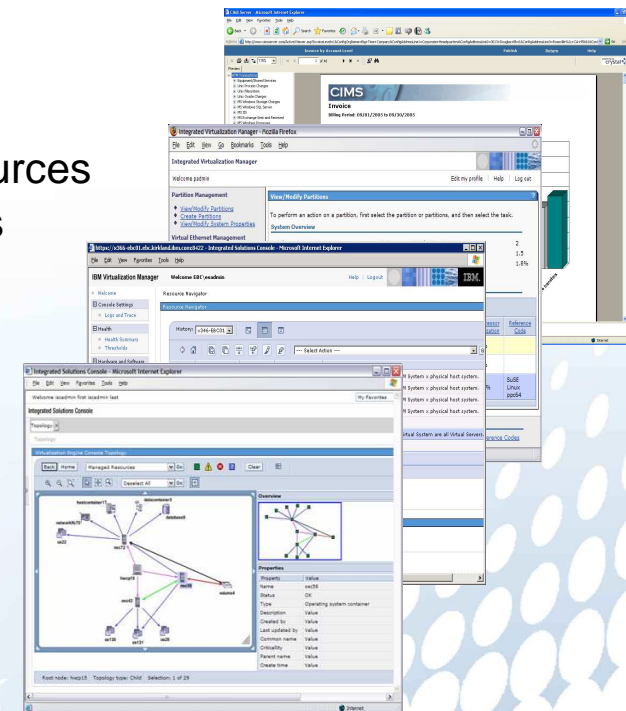
IBM provides a common tool for cross-platform management



IBM Systems Director



- Consolidation of Platform Management Tools
 - Single consistent cross-platform management tool
 - Simplified tasks via Web based interface
 - Manage many systems from one console
- Integrated Physical and Virtual Management
 - Discovery and inventory of physical and virtual resources
 - Configuration and provisioning of platform resources
 - Status, health and monitoring of platform resources
 - Visualization of server resource topologies
 - Move virtual servers between systems without disruption to running workloads
- Platform Update Management
 - Simplified consistent cross-platform tools to acquire, distribute and install firmware and OS updates



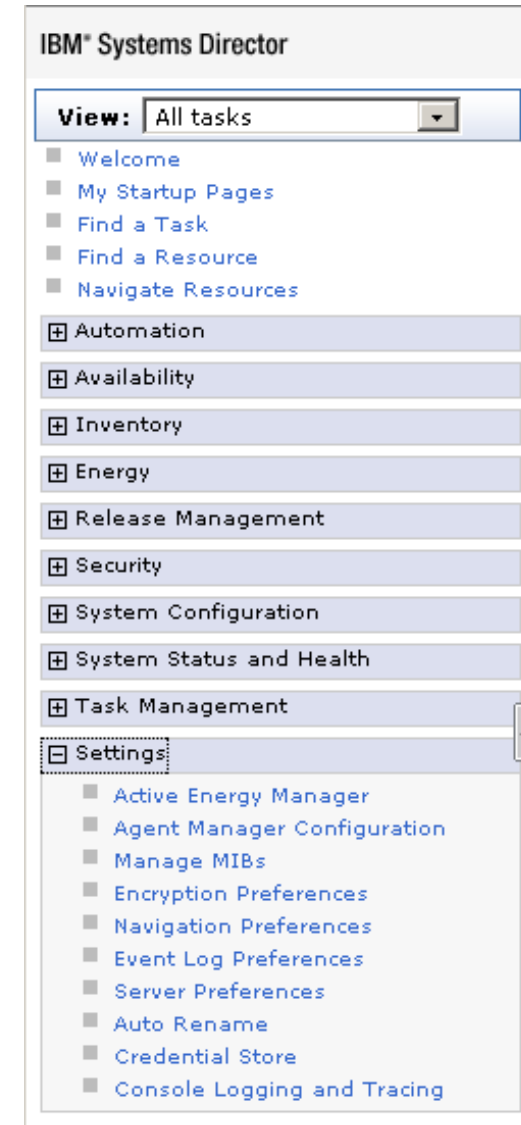
IBM Systems Director Topology



- **Three-tiered architecture**
- **Thousands of managed nodes**
- **Upward Integration modules supporting**
 - Tivoli, Computer Associates, Hewlett Packard, Microsoft

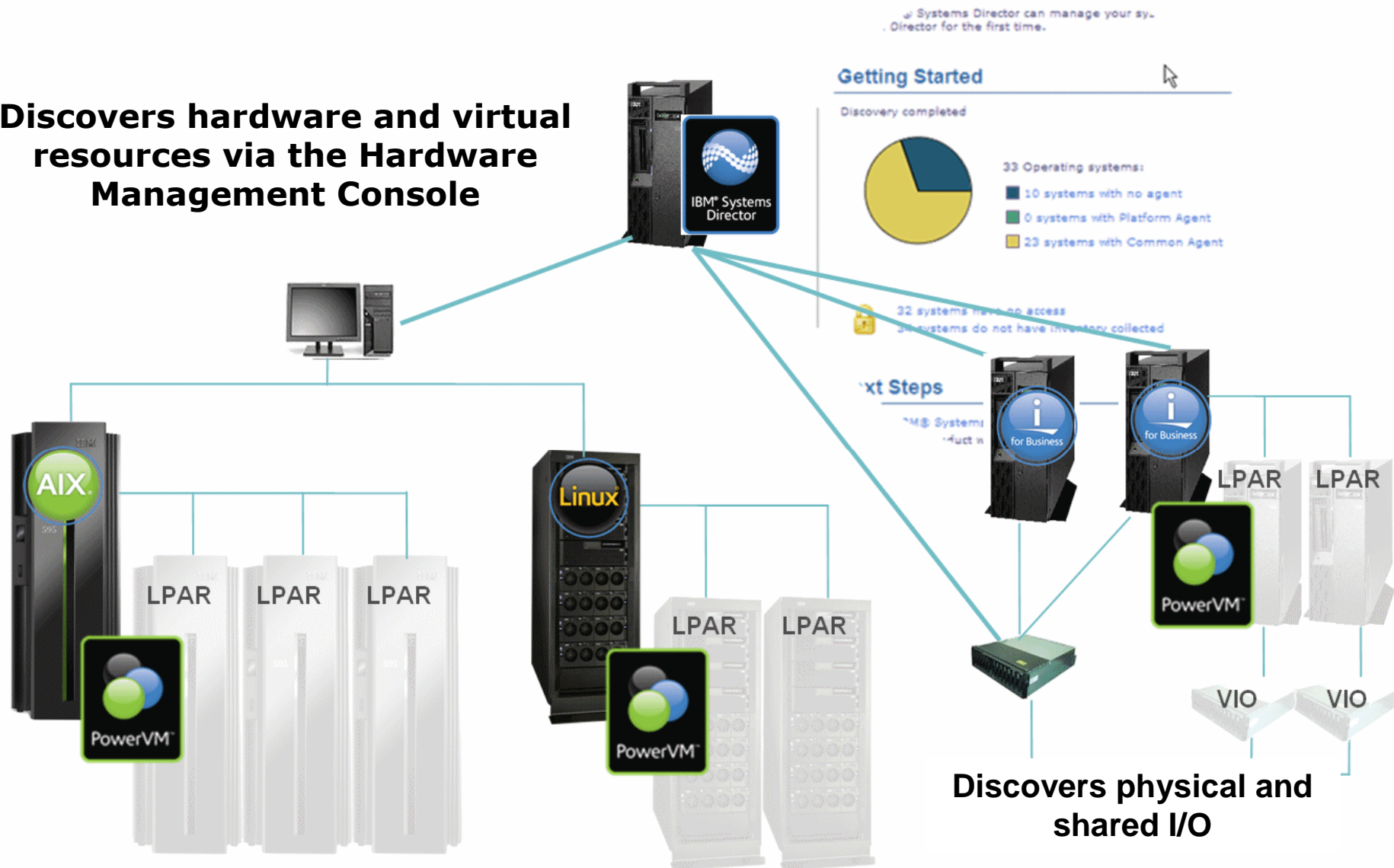
IBM Systems Director Task Sampler

- HMC, server and virtual servers discovery
- Navigation and topology
- Health Summary
- Users and roles
- Events
- Scheduled tasks
- Automation plans
- Processes monitors
- Integration of the HMC and IBM i Navigator
- Software / firmware release management



HMC-rooted Resource and Relationship Discovery

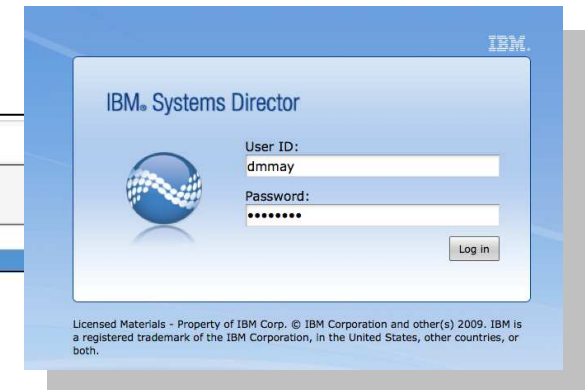
Discovers hardware and virtual resources via the Hardware Management Console



IBM Power Systems IBM Systems Director

The screenshot shows the IBM Systems Director web application interface. At the top, there's a header with "IBM® Systems Director" on the left, "Welcome dmmay" in the center, and navigation links for "Problems" (0), "25" (with a warning icon), and "Compliance" on the right. A left sidebar contains a "View:" dropdown set to "All tasks" and a list of navigation items: 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, and Settings. The main content area has a "Welcome" banner followed by the title "Welcome to IBM® Systems Director". Below this are links for "Find a resource" and "Find a task". A tabbed interface shows "Start", "Manage" (selected), and "Learn". The "Manage" tab displays a list of plug-ins with a "Refresh" button and a timestamp "Last refreshed: September 3, 2010 12:04:30 PM CDT". The plug-ins listed are:

Plug-in	Status	Version	Actions
IBM Systems Director Server	Ready	6.2.0	Manage Users
Discovery Manager	No access to 124 systems. 270 Systems have no inventory collected.	6.2.0	System Discovery, Navigate Resources, View systems needing access, View and Collect Inventory
Status Manager	Ready	6.2.0	Health Summary, Monitors
Update Manager	Ready	6.2.0	



- Web application
- Download server installation package

Welcome

IBM® Systems Director

View: 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

Problems 0 10 Compliance 0 0

Help Logout

Select Action

Welcome to IBM® Systems Director

I'm a 5.20 user; how do I use 6.x?

About Web resources Update IBM® Systems Director

Find a resource Find a task

Start Manage Learn

IBM® Systems Director contains the following plug-ins. Depending on its "readiness," the plug-in might be ready to use, or might require additional setup and configuration.

Refresh Last refreshed: June 2, 2010 11:53:03 AM CDT

- IBM Systems Director Server** 6.2.0
Ready
Manage Users
- Discovery Manager** 6.2.0
No access to 78 systems. 85 Systems have no inventory collected.
System Discovery View systems needing access
Navigate Resources View and Collect Inventory
- Status Manager** 6.2.0
Ready
Health Summary Monitors
- Update Manager** 6.2.0
Ready
Update IBM® Systems Director Check for Updates

Power Systems Management View

IBM® Systems Director

View: All tasks

- Welcome
- My Startup Pages
- Find a Task
- Find a Resource
- Navigate Resources

- Automation
- Availability
- Inventory
- Energy
- Release Management
- Security
- System Configuration
- System Status and Health
- Task Management
- Settings
 - Active Energy Manager
 - Agent Manager Configuration
 - Manage MIBs
 - Encryption Preferences
 - Navigation Preferences
 - Event Log Preferences
 - Server Preferences
 - Auto Rename
 - Credential Store
 - Console Logging and Tracing

Power Systems Management 6.1.2.1

Ready

AIX/Linux virtual servers IBM i virtual servers

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

24 Power Systems resources found:

- 0 Critical
- 2 Warning
- 2 Informational
- 20 OK

Common views

- Performance Summary
- Health summary
- Event log
- Problems

Manage Resources

3 Platform Managers

- 3 Hardware Management Console (0 no access)
- 0 Integrated Virtualization Manager (0 no access)

3 Power Systems Hosts (Physical Servers)

- 3 Power Systems servers
- 0 Power Systems BladeCenter servers

14 Virtual Servers (Logical Partitions)

- 4 AIX/Linux
- 9 IBM i
- 1 Virtual I/O Server

4 Operating Systems

- 0 AIX
- 1 Linux
- 3 IBM i
- 0 Virtual I/O Server

Common tasks

- System discovery
- Monitors
- Thresholds
- Check for updates
- Create virtual server
- BladeCenter management
- System Planning Tool
- Active Energy Manager

HMC Navigation View

IBM Systems Director - Mozilla Firefox: IBM Edition

IBM® Systems Director Welcome root Problems 1 2 Compliance 0 0 Help Logout IBM.

Power System... x Navigate Re... x --- Select Action ---

Navigate Resources

HMC and Managed Power Systems Servers (View Members)

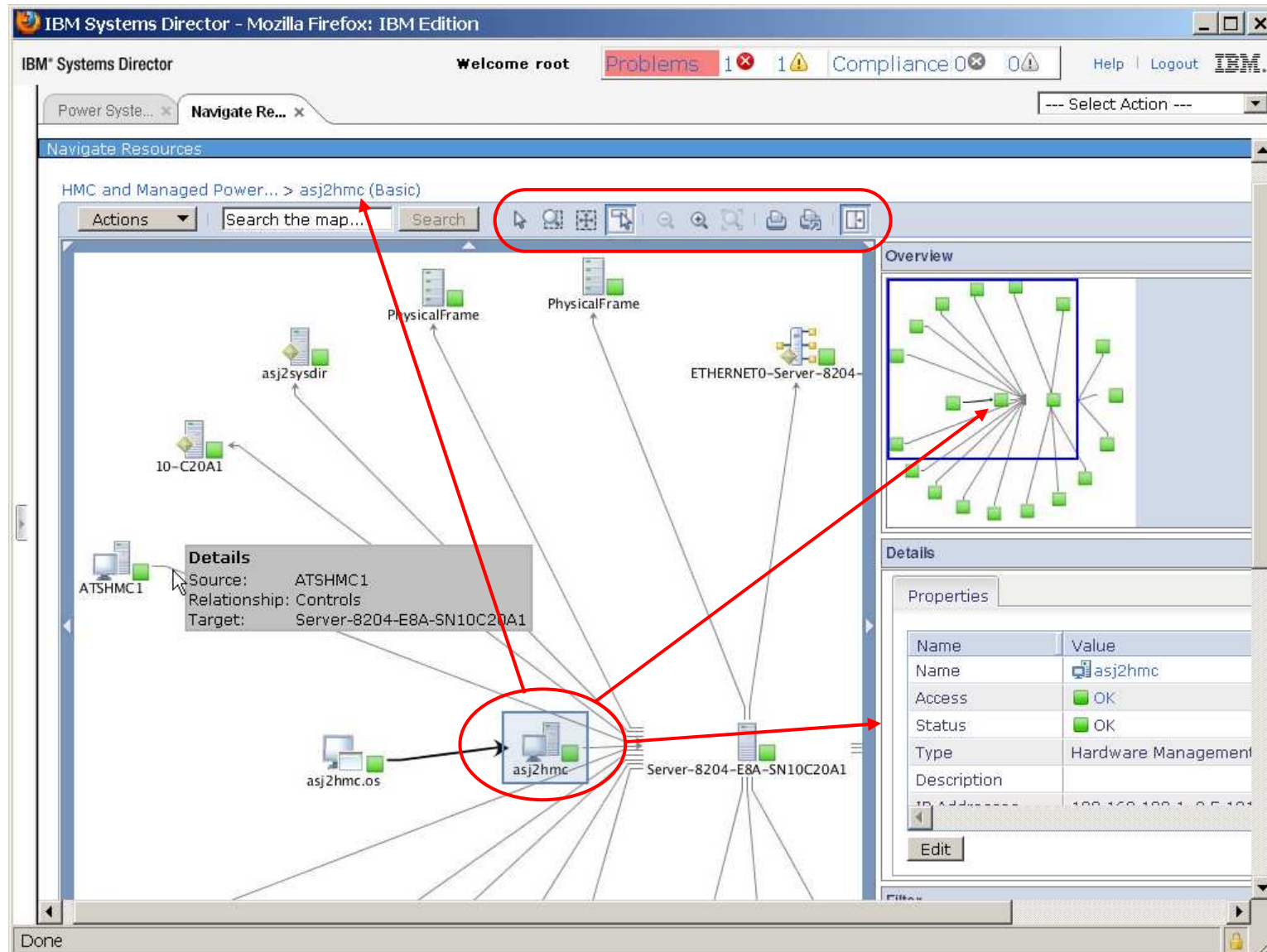
Actions Search the table... Search

Sel...	Name	State	Access	Probl...	Compl...	CPU Utiliz...	Proc...	Entitl...	Memo...
<input type="checkbox"/>	asj2hmc	Started	OK	OK	OK				
<input type="checkbox"/>	Server-8204-E8A...	Started	OK	OK	OK	23%	4		65,536
<input type="checkbox"/>	10-C20A1	Started	OK	OK	OK	2%	4	2	36,864
<input type="checkbox"/>	AIX	Stopped	OK	OK	OK	—	1	0	2,048
<input type="checkbox"/>	ASJ2h	Stopped	OK	OK	OK	—	2	0	4,096
<input type="checkbox"/>	asj2sysdir	Started	OK	OK	OK	42...	2	0.2	5,120
<input type="checkbox"/>	atsaixp1	Started	OK	OK	OK	4%	2	0.2	1,024
<input type="checkbox"/>	atsaixp2	Started	OK	OK	OK	423%	2	0.2	1,024
<input type="checkbox"/>	atsip1	Started	OK	OK	OK	6%	2	0.2	4,096
<input type="checkbox"/>	atsip3	Started	OK	OK	OK	6%	2	0.2	4,096
<input type="checkbox"/>	atsslesp1	Stopped	OK	OK	OK	—	2	0	1,024
<input type="checkbox"/>	Linux	Stopped	OK	OK	OK	—	1	0	2,048
<input type="checkbox"/>	ATSHMC1	Started	OK	OK	OK				
<input type="checkbox"/>	ATS_780	Started	OK	OK	OK	—	32		262,144
<input type="checkbox"/>	HATI	Stopped	OK	OK	OK	—	2	0	2,048
<input type="checkbox"/>	loge	Stopped	OK	OK	OK	—	3	0	6,144
<input type="checkbox"/>	PAN	Started	OK	OK	OK	—	2	0.5	2,048
<input type="checkbox"/>	PANDORA	Started	OK	OK	OK	—	2	0.5	2,048
<input type="checkbox"/>	YMIR	Started	OK	OK	OK	—	2	0.5	2,048
<input type="checkbox"/>	ATSi7_750	Started	OK	OK	OK		16		131,072

Page 1 of 2 1 Selected: 0 Total: 35 Filtered: 35

Done

Topology Views



Health Summary

IBM Systems Director - Mozilla Firefox: IBM Edition

Welcome root Problems 1 2 Compliance 0 0 Help Logout IBM.

View: All tasks

- Welcome
- My Startup Pages
- Find a Task
- Find a Resource
- Navigate Resources
- Automation
- Availability
- Inventory
- Energy
- Release Management
- Security
- System Configuration
- System Status and Health
 - Performance Summary
 - Health Summary**
 - Monitors
 - Thresholds
 - Problems
 - Active Status
 - Manage Processes
 - Process Monitors
 - Event Log
 - SNMP Browser
- Task Management
- Settings

Scoreboard

Active Status	Compliance	Problems
1 2 2	- - -	1 2 2

Dashboard

CPU Utilization 100 0
Disk Space 100
Processes & Jobs 700

asj2director, 10:07:17 AM, 31.985

View Monitors

Health Summary

Actions

Favorites - root (View Members)

Name	Type	Problem
Demo OS (8)	Static: Syst...	Critic
ratsi00	Operating S...	OK
ratsi12	Operating S...	OK
EBC570I1	Operating S...	OK
ratsips7	Operating S...	OK
asj2	Operating S...	Critic
atsip1	Operating S...	OK
asj2director	Operating S...	Warn
ratsi031	Operating S...	OK

Systems with Problems (View Members)

Name	Access	Problem
asj2	OK	Critic
asj2director	OK	Warn
IBM:7872-AC1-06CM638	OK	Info
SN#YK168082H2LJ	OK	Info
VIOS_TEST	OK	Warn

Find: Next Previous Highlight all Match case

Done

17



Event Log

IBM Systems Director - Mozilla Firefox: IBM Edition

IBM® Systems Director Welcome root Problems: 1 2 Compliance: 0 0 Help Logout IBM.

Power System... Navigate Re... Health Summary x Event Log(1) x --- Select Action ---

Event Log

Select an event filter to display a specific set of events. Select preferences to customize how many events to display.

Event filter:
Warning Events

Events

Delete Create Filter... Actions Search the table... Search

Sel...	Event Text	Source	Severity	C...	Date and Time
<input type="checkbox"/>	Monitor 'Individual threshold for CPU Utilization on system...	asj2director	Warning	Alert	Aug 18, 2010 10:07:30 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 18, 2010 8:58:34 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 18, 2010 8:58:33 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 18, 2010 8:46:36 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 18, 2010 8:46:36 AM
<input type="checkbox"/>	Monitor 'Individual threshold for CPU Utilization on system...	asj2director	Warning	Alert	Aug 18, 2010 7:50:00 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 18, 2010 3:09:30 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 18, 2010 3:09:26 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 18, 2010 2:45:27 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 18, 2010 2:45:22 AM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 17, 2010 11:16:30 PM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 17, 2010 11:16:29 PM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 17, 2010 11:07:08 PM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 17, 2010 11:07:08 PM
<input type="checkbox"/>	ATKSRV621I CIM Instication registered for the target syst...	0	Warning	Alert	Aug 17, 2010 6:00:06 PM

Page 1 of 2 1 Selected: 0 Total: 30 Filtered: 30

Last Updated: Aug 18, 2010 10:33:29 AM CDT
Viewing maximum of 500 events from last 24 Hours.
Event Log Preferences

Find: Next Previous Highlight all Match case

Refresh

Scheduled Tasks and Jobs

- View previously executed task results
- Create tasks from scratch or based on existing tasks
- Re-execute tasks
- Suspend/resume running tasks
- Command Automation for running commands on nodes/groups

Active and Scheduled Jobs

Active and Scheduled Jobs

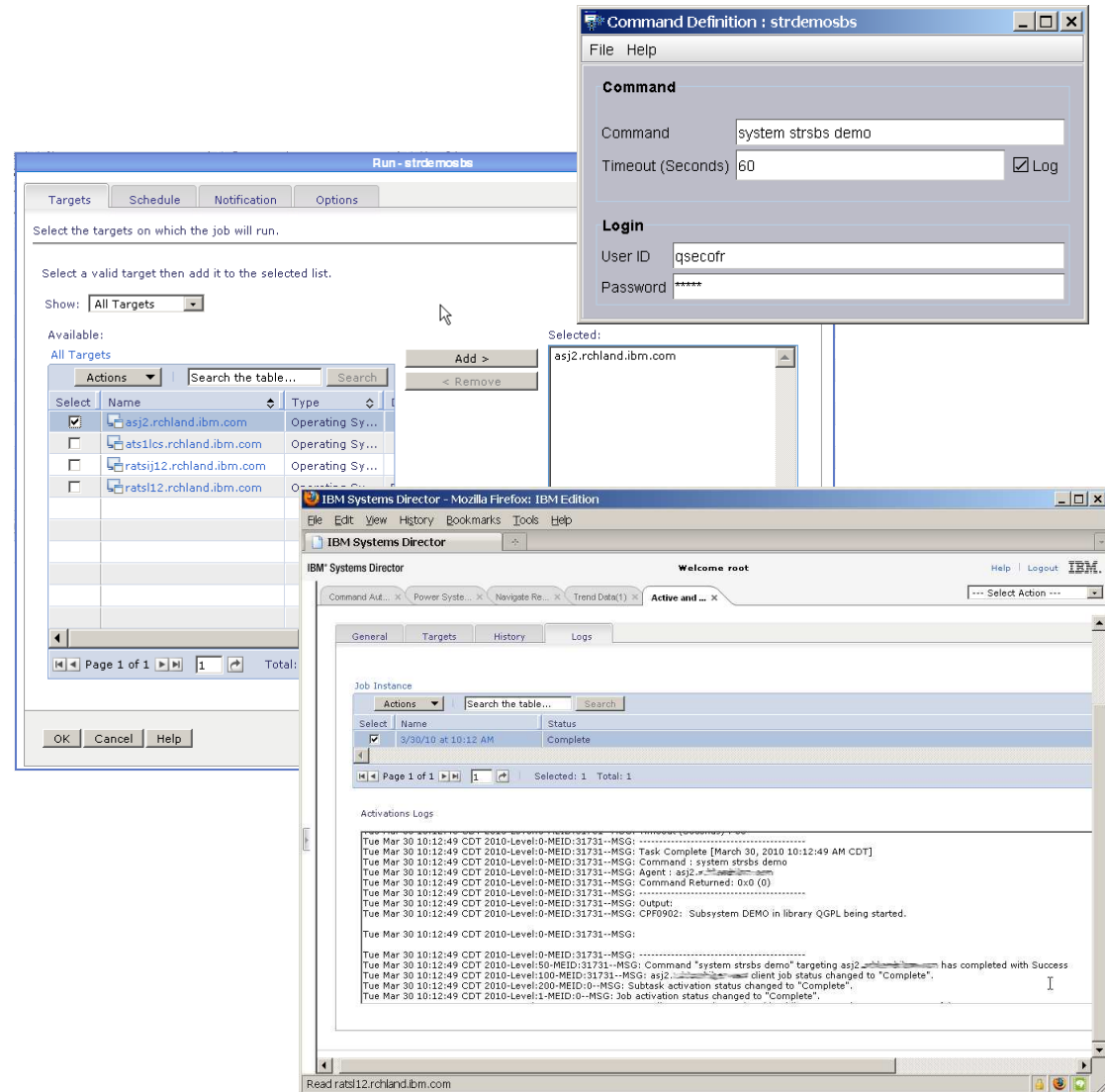
Create Like... Edit... Delete Actions Search the table...

Sel...	Name	Status	Progress	Last Run...
<input checked="" type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Test SSH - August 11, 20...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	System Discovery - ratsi0...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	System Discovery - 9.5.1...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	System Discovery - 9.5.1...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Power On - August 4, 20...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete
<input type="checkbox"/>	Collect Inventory - Augus...	Complete	<div><div></div></div> 100%	Complete

Page 1 of 4 1 Selected: 1 Total: 59 Filtered: 59

Command Automation

- Command Definition
 - QSHELL Command
 - User Profile / PW
 - Name in System Director
- Run a definition
 - Remote to QSHELL via SSH
 - Now / scheduled
 - System / group
 - Use in automation plan
- Results
 - High level success / fail
 - Details in log



Process / Job Monitors

IBM Systems Director - Mozilla Firefox: IBM Edition

IBM* Systems Director Welcome root Problems: 1 2 Compliance: 0 0 Help Logout IBM.

Power System... x Navigate Re... x Health Summary x Manage Proc... x --- Select Action ---

Manage Processes

Select a system on which to view processes. Viewing processes for target: asj2

Select a target:

Select a view:

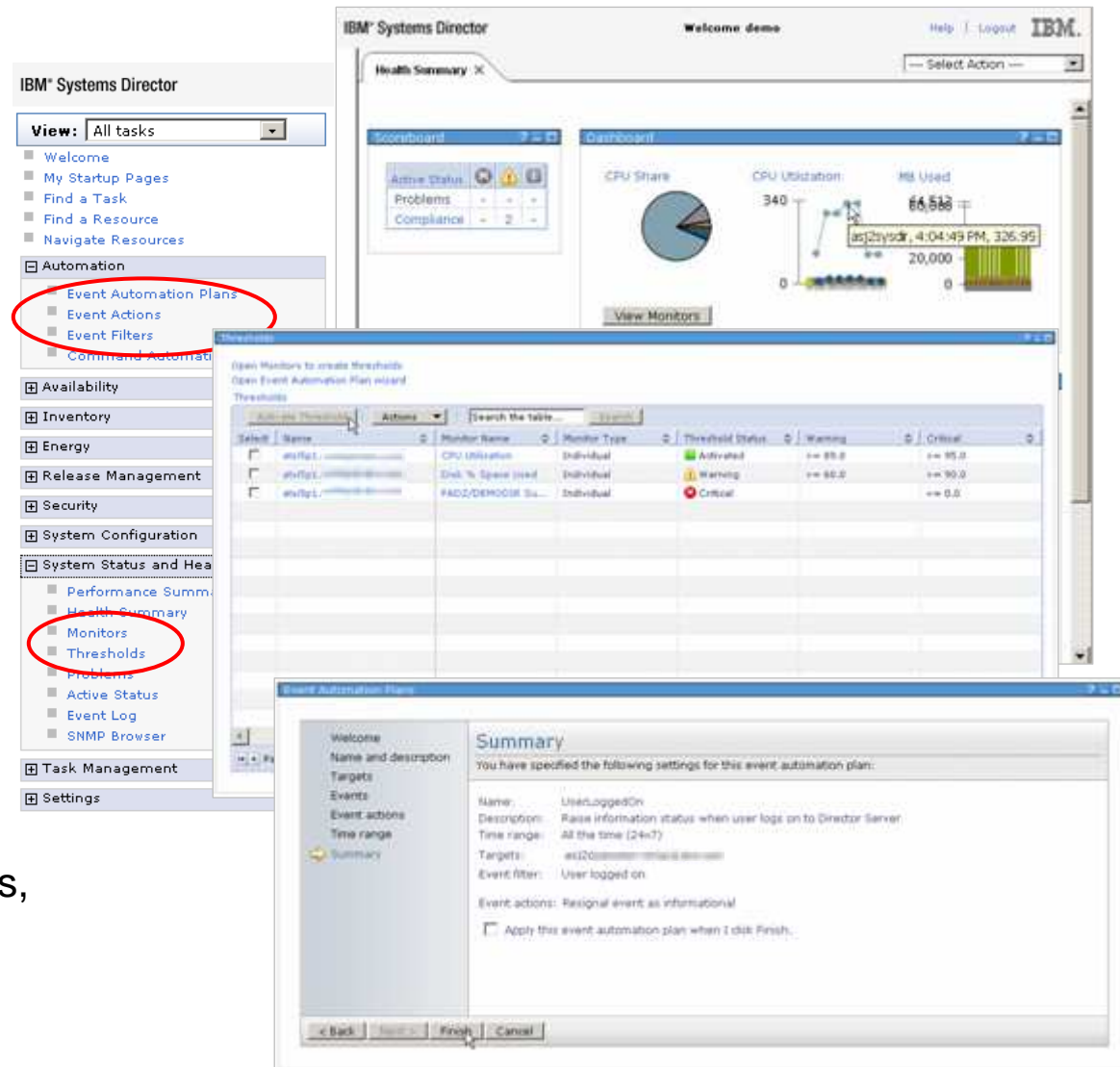
Manage Processes (asj2)

Sel...	Name	Job ID	Job Type	User	Thread ...	Priority	% CPU	Monitor
	QCPMGTAGT	988907	Batch	QCPMGDIR	48	35	0.6%	False
	QSLPSVR	942129	Batch	QSYS	3	10	0.1%	False
	IWA60	941674	Batch	QEJBSVR	47	20	0.1%	True
	QJVAEXEC	942118	Batch	QTCP	27	50	0.1%	False
	QPASVRS	941543	Batch	QSYS	1	30	0.0%	False
	QWCPJOBS	941445	System	QSYS	1	0	0.0%	False
	QPASVRS	941531	Batch	QSYS	1	30	0.0%	False
	QTTFT00017	041402	Batch	QTFTP	1	25	0.0%	False
	QSQSRVR	942130	Batch	QUSER	1	10	0.0%	False
	QZRCRVS	032971	Batch	QUSER	1	20	0.0%	False
	QSPL	941488	Subsystem Monitor	QSYS	2	0	0.0%	False
	QPASUTIL	941506	Batch	QSYS	1	50	0.0%	False
	QDOMINO	040172	Batch	QNOTES	1	20	0.0%	False
	QPWFSESRVSO	009395	Batch	QUSER	1	20	0.0%	False
	QZRCRVS	997688	Batch	QUSER	1	20	0.0%	False
	QSPRC00001	941447	System	QSYS	1	55	0.0%	False

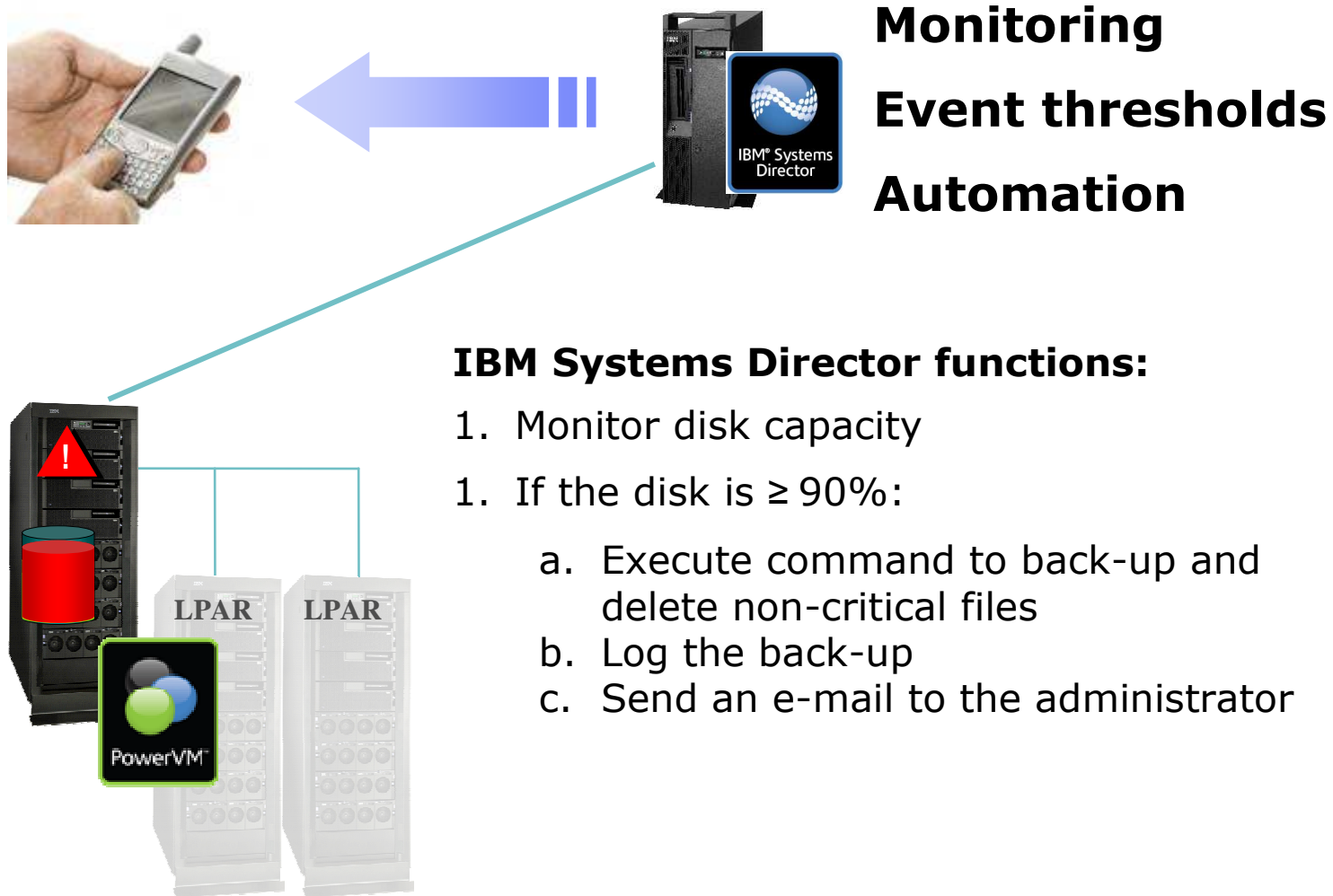
Descending

Monitors, Thresholds, EAP

- Monitors
 - CIM Common
 - Virtualization
 - Process
- Thresholds
 - Warning, Critical, Low
 - Duration
- Event Automation Plans
 - Individual or group targets
 - Events
 - Event Actions
 - Run commands, logs, traps, email, etc
 - Time Range



Automate Notification and Actions Based on Thresholds



Automation Plan Events - Common

IBM Systems Director - Mozilla Firefox: IBM Edition

IBM Systems Director Welcome root Problems 1 2 Compliance 0 0 Help Logout IBM.

Power System... x Navigate Re... x Health Summary x Event Autom... x Event Autom... x --- Select Action ---

Create Event Automation Plan Wizard

✓ Welcome
✓ Name and Description
✓ Targets
➔ Events
Event Actions
Time Range
Summary

Events

Specify one or more events from a list of commonly used events. The selected events will trigger this event automation plan. Or, select Advanced Event Filters in the Events list to use an advanced event filter.

Events:
Common

Common event filters are predefined filters that monitor for events of common interest in your systems-management environment. For example, the Fans event type filter is triggered by any fan events. To learn more, click each event type name in the list to display a description and any additional settings for that event type.

Select event types from the following list:

General

- ☒ Event severity
- ☐ Updates
- ☐ Common agent
- ☐ User login security

Thresholds

- ☐ CPU Utilization
- ☐ Memory Usage
- ☒ Disk % Space Used

Hardware

- ☐ Processors (CPU)
- ☐ Disks
- ☐ Fans
- ☐ Memory

Disk % Space Used - Monitor values that are too high:

- ☒ Critical >= 95 %
- ☒ Warning >= 85 %

Done

Customizable Event Actions

- Program and tasks
 - Start a program on a system
 - Start a program on the management server
 - Start a program on the system that generated the event
 - Start a task on a specified system
 - Start a task on a system that generated the event
 - Timed alarm that starts a program
- Events
 - Set an event system variable
 - Modify an event and send it
 - Timed alarm that generates an event
- Logging
 - Log to a log file on the server
- Mail and newsgroups
 - Send an e-mail (Internet SMTP)
 - Send an e-mail to a mobile phone
 - Post to a newsgroup (NNTP)
- SNMP and TEC
 - Send an SNMP inform request to an IP host
 - Send an SNMP trap to an IP host
 - Send an SNMP trap reliably to a NetView host
 - Send a Tivoli Enterprise Console event
- Group membership
 - Static group: add or remove the event-generating system
 - Static group: add or remove group members

Customizable Event Actions

IBM Systems Director - Mozilla Firefox: IBM Edition

IBM Systems Director Welcome root Problems 1 2 Compliance 0 0 Help | Logout IBM.

Power System... Navigate Re... Health Summary Event Autom... Event Autom... Select Action ---

Create Event Automation Plan Wizard

Event Actions

Specify one or more actions that will occur when this event occurs

Event Actions

Create... Create Like... Edit... Delete...

Sel...	Name	Type
<input type="checkbox"/>	Add to the event log	Add to the event log
<input type="checkbox"/>	ChgPADZidPW	Start a task on a spe
<input type="checkbox"/>	Demo mail	Send an e-mail (Inte
<input checked="" type="checkbox"/>	Text to Bob	Send an e-mail to a

Page 1 of 1 1 Selected: 1 Total: 4

< Back Next > Finish Cancel

Edit Action

Mobile e-mail ? Learn more...

*Action name:
Text to Bob

Description:
Send text message to Bob's Cell

*Send-to e-mail address:
5074214930@vtext.com

*Reply-to e-mail address:
padz@us.ibm.com

*E-mail (SMTP) server (for example, smtp.mycompany.com):
relay.us.ibm.com

*E-mail (SMTP) port:
25

Subject of message:
&date &system

Body of message:
&text

Select an event variable and text field to insert the variable in the target text field. You can also specify the appropriate language and time zone.
? Learn more about using event variables

Event variable:
Date the event occurred (&date)

Target text field:
Subject of message:

Insert

Language:
English

Time zone:
America/Chicago - Central Standard Time - CST

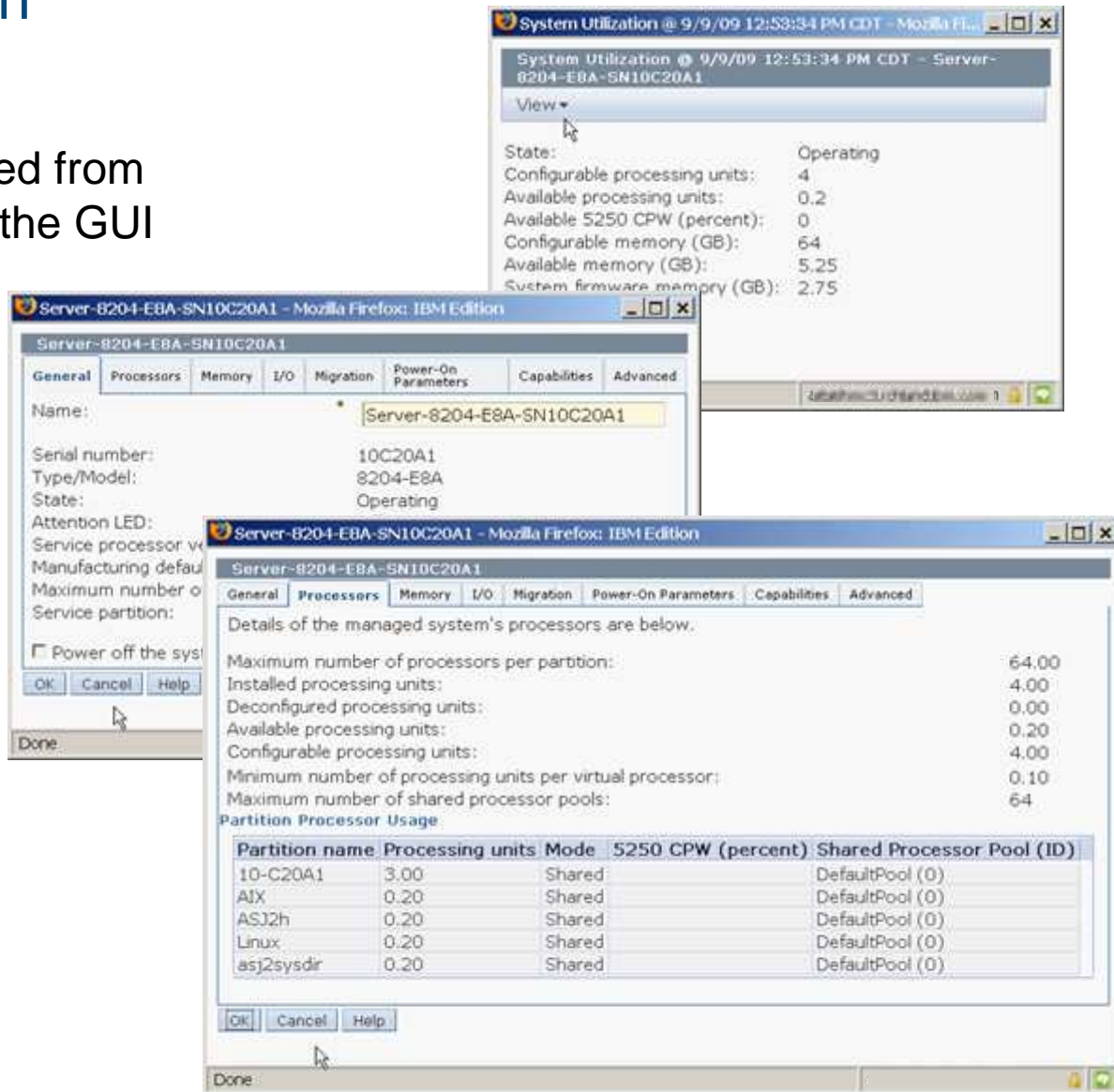
Test OK Cancel Help

HMC Tasks Integration

- HMC tasks can be accessed from a right-click on an HMC in the GUI

- Operations
- Configuration
- Users
- Connectivity
- Serviceability
- Updates

- With saved credentials, window is opened with no prompting.



Update Manager

- Check for latest Fix Central updates
 - IBM i CUMs and Groups
 - Firmware
 - HMC
 - Systems Director
 - Others
- Define fix compliance policies
 - Display status by systems or groups
- Download fixes
- Install fixes
- Immediate or scheduled actions

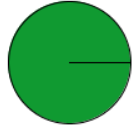
Update Manager

[Settings](#)
[Getting started](#)

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.

Update Compliance (monitoring 3 systems)

Update status for 3 monitored systems:



✗ 0 systems

⚠ 0 systems

ℹ 0 systems

✓ 3 systems

System tasks

[Change compliance policies](#)
[Show installed updates](#)

Updates

[Check for updates](#)
Last check for updates: Apr 7, 2010 2:28:45 PM
Next scheduled check for updates: Not scheduled

Show needed updates
Show the updates that are needed by a specific system

Show update groups
Group updates for categorization and use in compliance

Show all known updates
Show all updates acquired since the last check for updates

Common tasks

[Update IBM® Systems Director](#)
[Import updates](#)
[Export updates](#)

Search

Search local updates:

Types of Managed Systems

- Agentless
 - Best for environments that require very small footprints and are used for specific tasks, such as one-time inventory collection, firmware and driver updates and remote deployment
- Platform Agent
 - Provides agentless functions and....
 - Common Information Model (CIM) events and monitoring
 - Inventory
 - Group and cumulative PTF support
- Common Agent
 - Provides agentless functions and platform agent functions and ...
 - Additional monitoring features
 - Monitoring message queues
 - File transfer

Agentless Systems

- Protocols
 - Secure Shell (SSH)
 - Distributed Component Object Model (DCOM)
 - Simple Network Management Protocol (SNMP)
- Typical tasks
 - Discover systems
 - Collect limited operating-system inventory data
 - Remotely deploy and install Common Agent and Platform Agent
 - Perform limited remote access
 - Perform limited restart capabilities

Platform Agents

- Director defined protocol
 - Available for all IBM® Power, System x and IBM BladeCenter®, and System z, IBM System Storage™ systems, and some non-IBM® systems.
 - For IBM i, Platform Agent is part of the Universal Manageability Enablement (UME)
- Typical tasks
 - Discover systems
 - Collect limited platform inventory data
 - Monitor health and status
 - Manage alerts
 - Remotely deploy and install Common Agent
 - Perform limited remote access
 - Perform limited restart capabilities

Common Agent

- Director defined protocol
 - Available for IBM server platforms
 - AIX® systems require the Common Agent to be installed
- Typical tasks
 - Discover systems
 - Collect comprehensive platform and operating system inventory data
 - Monitor health and status
 - Manage alerts
 - Perform remote access, including transferring files
 - Perform power management function
 - Additional event support
 - Monitor processes and resources, and set critical thresholds send notifications when triggered
 - Manage operating system resources and processes
 - Manage updates

Types of Agents for IBM i

- Agentless: SSH (5733-SC1 Option 1)
 - Discover operating system instance
 - Collect limited operating system inventory data – included software inventory
 - PTF support for Groups and Cums
 - Issue remote commands
 - Access to IBM Systems Director Navigator functions
- Platform Agent: CIMOM (5722-UME, 5770-UME)
 - Common Information Model (CIM) events and monitoring
 - Additional inventory
- Common agent: Legacy (5722-DA1) / CAS for IBM i
 - Full monitoring
 - Genevent API

http://publib.boulder.ibm.com/infocenter/director/v6r1x/index.jsp?topic=/director.tbs_6.1/fqm0_tbs_ibm_i_endpoints.html

IBM Systems Director Versions and IBM i Agent Support Summary

Systems Director	IBM i Release	Platform Agent Support	Common Agent Support
6.1.2	5.4	5722-UME V1R2	Legacy Agent (5722-DA1)
	6.1	5722-UME V1R2	Legacy Agent (5722-DA1) CAS for IBM i
	7.1	5770-UME V1R3	
6.2	5.4	5722-UME V1R2	Legacy Agent (5722-DA1)
	6.1	5722-UME V1R2 5770-UME V1R3	Legacy Agent (5722-DA1) CAS for IBM i
	7.1	5770-UME V1R3	CAS for IBM i

Note: The 5722-DR1 product could be used in place of 5722-DA1 to provide the legacy agent function since the DR1 product ships the server and the agent.

Getting Started ... Discover your System

Welcome


Welcome to IBM® Systems Director


[Find a resource](#)[Find a task](#)

[Start](#)[Manage](#)[Learn](#)

IBM® Systems Director contains the following plug-ins. Depending on its "ready" configuration.

[Refresh](#) Last refresh

**IBM Systems Server**
1 User does not have Manage Users

**Discovery Manager**
No access to 12 systems
[System Discovery](#)
[Navigate Resources](#)

System Discovery

System discovery is useful when you want to discover a resource for a single IP address or many resources of the same type that occur in a densely populated single range of IP addresses.
Note: You must use system discovery to discover IBM® System x™ servers with an IPMI baseboard management controller (BMC).

Select the discovery method:

☐ Single system (IP address)
☐ Multiple systems (Range of IP addresses)
☒ Single system (Hostname)

Hostname:

Select resource type:

Operating System

[Discover](#)

Discovered Systems:

Actions								
Name	Type	Access	Problems	Compliance	IP Addresses	OS Type	OS Version	

IBM Systems Director 6.2 – Improved Discovery Options

Select a discovery option:

Single IPv4 address

- Single IPv4 address
- Single IPv6 address
- Single host name
- Range of IPv4 addresses
- Range of IPv6 addresses
- Select a discovery profile to run

Advanced Tasks

- Create new profile
- Manage discovery profiles
- Discovery jobs

Manage Discovery Profiles





Discovery profiles are useful when you want to discover more specific categories of resource types or specify access to discovered resources and schedule a discovery to run on a recurring basis.

The included default profiles make it easier to discover some specific types of resources. These read-only profiles are included in the IBM Systems Director server. The profiles are designed so that you can copy them (by using "Create like") and have the new profile.

Discovery
Profiles:

<input type="button" value="Run"/> <input type="button" value="Create"/> <input type="button" value="Create like"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Actions"/> <input type="text" value="Search the table..."/>			
Select	Profile Name	Profile Type	
<input type="checkbox"/>	Default agentless discovery	Operating System	
<input type="checkbox"/>	Default Common Agent discovery	Operating System	
<input type="checkbox"/>	Default getting started discovery	Operating System	
<input type="checkbox"/>	Default HMC managing IBM Power Systems di...	Server	
<input type="checkbox"/>	Default IBM BladeCenter discovery	BladeCenter Chassis	
<input type="checkbox"/>	Default IBM Power Systems Servers with servl...	Server	
<input type="checkbox"/>	Default IBM System x Servers with service pr...	Server	
<input type="checkbox"/>	Default Platform Agent and agentless discovery	Operating System	

Get Access

	x1221p1.rchland.ibm.com	Operating Syst...	 No access	 OK	 OK	9.5.61.106	Unknown	7.1
---	-------------------------	-------------------	---	--	--	------------	---------	-----

Request Access

Enter userid and password to authenticate the Systems Director to the target system. Then select Request Access to grant all authorized Systems Director users access to the target system(s).



*User ID:

*Password:

Request Access

Close

Selected targets:

Name	Access
 x1221p1.rchland.ibm.com	 No access

Page 1 of 1

1

Total: 1

Selected targets:

Name	Access
 x1221p1.rchland.ibm.com	 OK

Page 1 of 1

1

Total: 1

Navigate Resource to Locate Discovered Systems

The screenshot illustrates the process of navigating to discovered systems in IBM Systems Director. It shows the main interface with the 'Navigate Resources' option highlighted in the left-hand menu. A separate window titled 'Navigate Resources' displays a list of system groups, with 'All Operating Systems (94)' selected. A second, smaller 'Navigate Resources' dialog box shows the search results for the selected group, displaying a table with system details.

IBM® Systems Director

View: 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

Navigate Resources

Groups (View Members)

Create Group Actions

Select	Name
<input type="checkbox"/>	All Network Systems (0)
<input checked="" type="checkbox"/>	All Operating Systems (94)
<input type="checkbox"/>	All Storage Systems (0)
<input type="checkbox"/>	All Systems (150)
<input type="checkbox"/>	CDTOWER (1)
<input type="checkbox"/>	Groups by Access (3)
<input type="checkbox"/>	Groups by Agent (3)
<input type="checkbox"/>	Groups by Sta
<input type="checkbox"/>	Groups by Sys
<input type="checkbox"/>	Other Groups
<input type="checkbox"/>	Personal Group
<input type="checkbox"/>	Update Group
<input type="checkbox"/>	Virtualization

Navigate Resources

Groups > All Operating Systems (View Members)

Actions x1221 Search

Select	Name	Access
<input type="checkbox"/>	x1221p1.rchland.ibm.com	OK

Manage Processes - Requires CAS Agent “WRKACTJOB” via Director



Manage Processes

Select a system on which to view processes. Viewing processes for target: ratsl031.rchland.ibm.com

Select a target:

Select a view:

 (ratsl031.rchland.ibm.com)

Run command Actions Search the table... Search

Select	Name	Job ID	Job Type	User	Thread Co...	Priority	% CPU	Monitor
<input type="radio"/>	ADMIN	384252	Batch	QTMHHTTP	1	25	0.0%	False
<input type="radio"/>	ADMIN	382225	Batch	QTMHHTTP	1	25	0.0%	False
<input type="radio"/>	ADMIN	382215	Batch	QTMHHTTP	1	25	0.0%	False
<input type="radio"/>	ADMIN	382233	Batch	QTMHHTTP	12	25	0.0%	False
<input type="radio"/>	ADMIN1	382621	Batch	QLWISVR	35	25	0.0%	False
<input type="radio"/>	ADMIN2	382631	Batch	QLWISVR	53	25	0.0%	False
<input type="radio"/>	ADMIN3	382620	Batch	QLWISVR	34	25	0.0%	False
<input type="radio"/>	ADMIN4	382622	Batch	QWEBADMIN	68	25	0.0%	False
<input type="radio"/>	CAS	383265	Batch	QCPMGDIR	96	25	0.9%	False
<input type="radio"/>	CAS	383190	Batch	QTMHHTTP	1	25	0.0%	False
<input type="radio"/>	CAS	383191	Batch	QTMHHTTP	1	25	0.0%	False
<input type="radio"/>	CAS	383193	Batch	QTMHHTTP	47	25	0.0%	False
<input type="radio"/>	CRTPFRTA	387104	Batch	QSYS	1	50	0.0%	False
<input type="radio"/>	Q1ABRMNET	382185	Subsystem Mo...	QSYS	2	0	0.0%	False
<input type="radio"/>	Q1ACPDST	382189	Batch	QBRMS	1	30	0.0%	False

Page 1 of 16 1 Selected: 0 Total: 240 Filtered: 240

Inventory Systems Director

- Collects on schedule
- Collects via task
- Hardware information
- Software information
- Fix information
- Static data on management server
- Customized columns
- Saved reports
- Simple export/print

To view the inventory of any resource, select a profile and select any resource. To collect the most current inventory values, click Collect Inventory.

Inventory Profiles
All Inventory Last collected: November 24, 2008 9:36 AM [Collect Inventory](#)

Collected Items

- Device
 - Ethernet Port
 - Logical Disk
 - Memory
 - Physical Volume
 - Processor
 - Serial Attached SCSI Port
- Network
- Physical
 - Card
 - Chassis
 - Physical Memory
 - Slot
- Software
 - Installed Feature
 - Installed Software
- System
 - Operating System
 - Server
- System Related
 - File System
 - Service

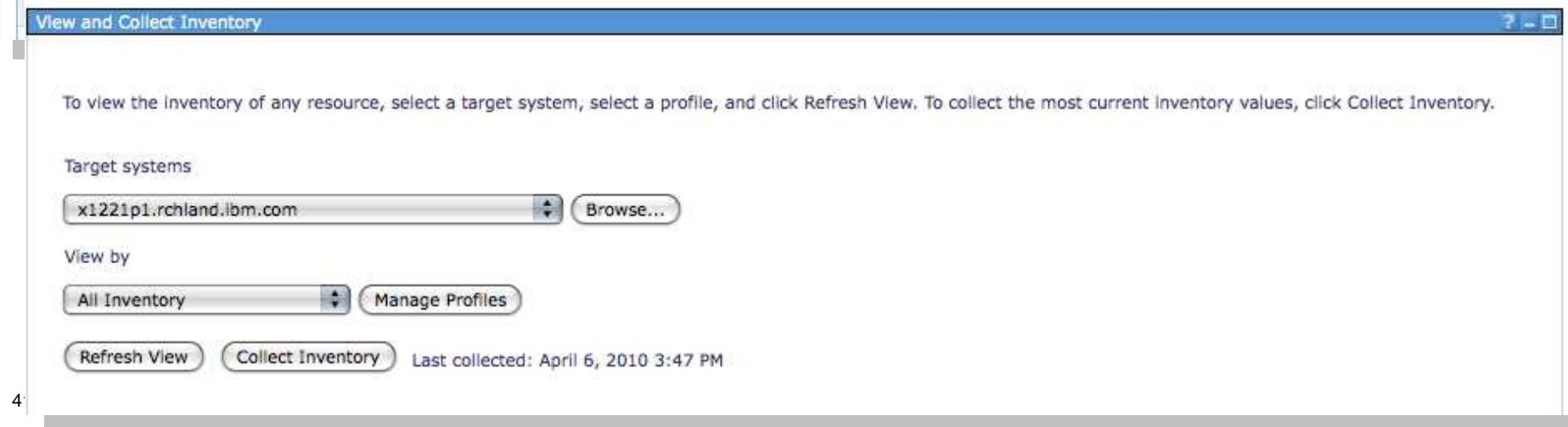
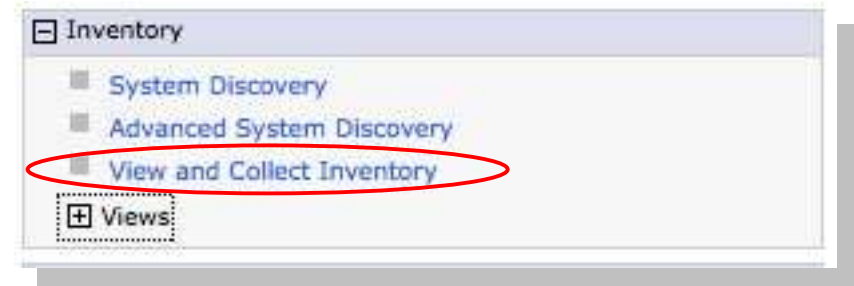
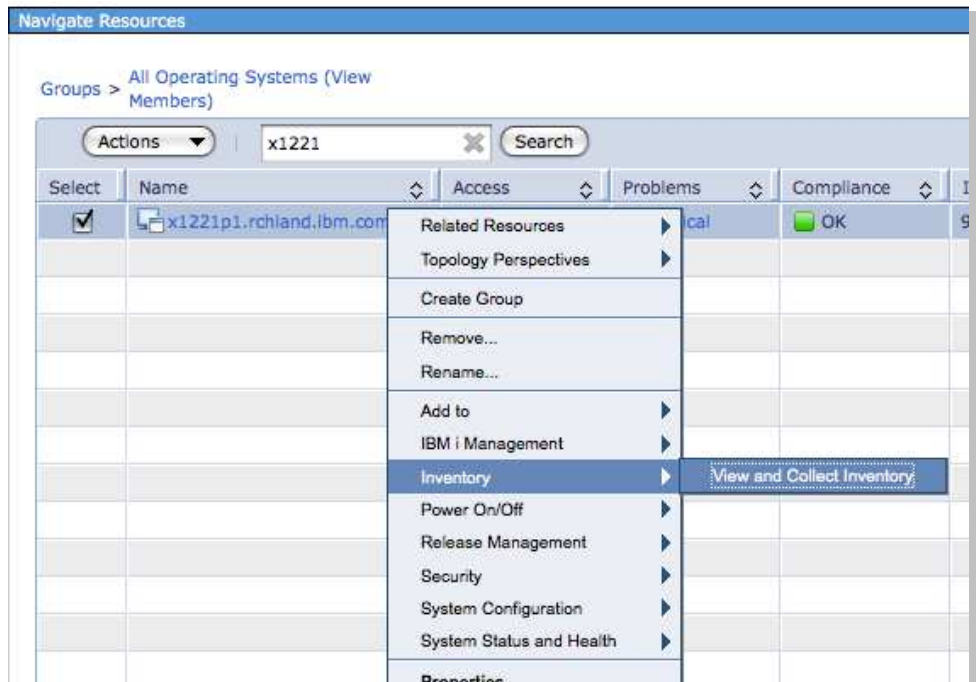
Inventory details: Processor

Select	Name	System nam	State
<input type="checkbox"/>	proc0	otto01.austin.ibr	
<input type="checkbox"/>	proc2	otto01.austin.ibr	
<input type="checkbox"/>	proc4	otto01.austin.ibr	
<input type="checkbox"/>	proc6	otto01.austin.ibr	

Page 1 of 1 1 Selected: 0 Total: 4 Filtered: 4

Collect Inventory

Or...



Software Inventory – Installed Fixes

Collected Items

- Device
- Network
- Physical
 - Card
 - FRU Number
 - Physical Connector
 - Physical Frame
 - Physical Memory
- Software
 - Installed Fix**
 - Installed Fix Group
 - Installed Software
- System
 - Operating System
 - Server
- System Related
 - Service
 - System Asset Settings

Inventory details: DN... > Inventory details: Installed Fix

Actions | Search the table... Search

Select	Name	System name	Installation St...	Software Name	Software Vers...
	Filter		Filter	Filter	Filter
<input type="checkbox"/>	AP10026	x1221p1.rchla...	Permanently In...	5770SS1.0000	V7R1M0
<input type="checkbox"/>	L239544	x1221p1.rchla...	Available	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L239560	x1221p1.rchla...	Available	5770SS1.0000	V7R1M0
<input type="checkbox"/>	L289641	x1221p1.rchla...	Superseded	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L289661	x1221p1.rchla...	Superseded	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L289684	x1221p1.rchla...	Available	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L329721	x1221p1.rchla...	Superseded	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L329750	x1221p1.rchla...	Superseded	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L329770	x1221p1.rchla...	Superseded	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L329787	x1221p1.rchla...	Superseded	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L329810	x1221p1.rchla...	Available	5770SS1.0000	V7R1M0
<input type="checkbox"/>	L329817	x1221p1.rchla...	Available	5770SS1.0000	V7R1M0
<input type="checkbox"/>	L329820	x1221p1.rchla...	Available	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L379838	x1221p1.rchla...	Superseded	5770SS1.0003	V7R1M0
<input type="checkbox"/>	L379847	x1221p1.rchla...	Available	5770SS1.0003	V7R1M0

Page 1 of 67 | 1 | Selected: 0 Total: 1,638 Filtered: 1,638 Available: 1000

IBM Director Agent v6.2.0 → CAS agent


IBM Director Core Services v1.3.0 → Platform agent


General Status

Navigate Resources

Groups > All Operating Systems > ratsl031.rchland.ibm.com (Properties)

Name:  ratsl031.rchland.ibm.com Actions

Access:  OK

Status:  OK

General Active Status Applied Activities Configuration Event Log Inventory

Type: Operating System

Description:

IP Addresses: 10.10.10.131, 10.200.200.3

IP Hosts: d.ibm.com

Agent Time Zone Offset (Minutes): GMT-05:00

Manufacturer: IBM

Machine Type: 8233

Computer Name: d.ibm.com

Model: E8B

Serial Number: 100417P

Operating System Type: IBM i

Operating System Version: V7R1M0

Management Software: IBM-IBM Director Agent-v6.2.0, IBM-IBM Director Core Services-v1.3.0

Architecture Type: ppc64

Communication State: Communication OK

Protocols: CAS, CIM, SSH

Query Vital Properties Interval: Every 6 hours

Verify Connection Interval: Every 15 minutes

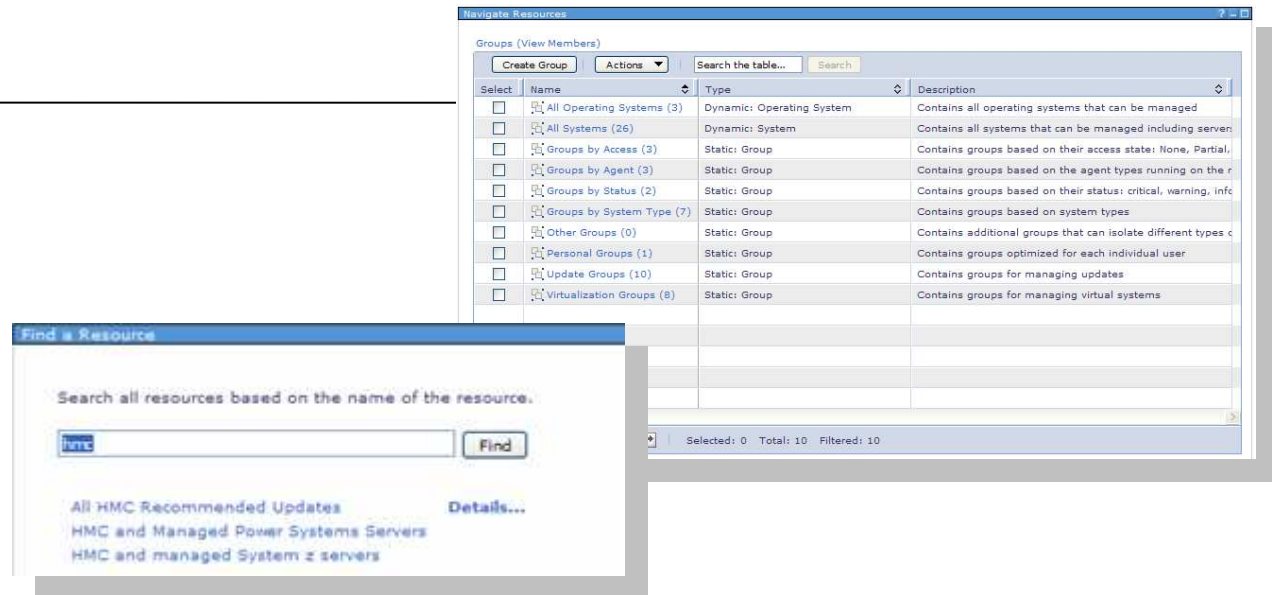
VMID: 131

Edit

Additional Properties
Virtualization Properties
Location

Group Management Systems Director

- Where
 - Navigate Resources
 - Search
- Types
 - Static
 - Dynamic
- Default
 - All Systems
 - Dynamic by
 - OS
 - Status
 - Type
 - Relationships



Select	Name	State	Access	Problems	Compliance	IP Address	CPU Utilization	Processors
<input checked="" type="checkbox"/>	vsmesx1-host		OK	OK	OK	9.5.23.51	1%	2
<input type="checkbox"/>	2003Server_Base	Stopped	OK	OK	OK		0%	2
<input type="checkbox"/>	2003Server_gwr59a	Suspended	OK	OK	OK		0%	2
<input type="checkbox"/>	bws_fc8	Suspended	OK	OK	OK		0%	1
<input type="checkbox"/>	hatteras	Stopped	OK	OK	OK		0%	1
<input type="checkbox"/>	Ken	Stopped	OK	OK	OK		0%	1
<input type="checkbox"/>	MIKE	Stopped	OK	OK	OK		0%	1
<input type="checkbox"/>	rh5install	Stopped	OK	OK	OK		0%	1
<input type="checkbox"/>	testgreg	Stopped	OK	OK	OK		0%	1
<input type="checkbox"/>	vm1	Stopped	OK	OK	OK		0%	1
<input type="checkbox"/>	vsmesx2-host		OK	OK	OK	9.5.23.53	2%	2
<input type="checkbox"/>	Dan	Stopped	OK	OK	OK		0%	1
<input type="checkbox"/>	gary	Suspended	OK	OK	OK		0%	1
<input type="checkbox"/>	Greg	Stopped	OK	OK	OK		0%	2
<input type="checkbox"/>	gwrttest	Stopped	OK	OK	OK		0%	2
<input type="checkbox"/>	vm2	Suspended	OK	OK	OK		0%	1
<input type="checkbox"/>	wlmcewen	Started	OK	OK	OK		1%	2
<input type="checkbox"/>	vsmesx3-host		OK	Information	OK	9.5.23.11	5%	2
<input type="checkbox"/>	2003Server_Base_3	Stopped	OK	OK	OK		1%	2
<input type="checkbox"/>	2003Server_gwr79a	Suspended	OK	OK	OK		0%	2
<input type="checkbox"/>	2003Server_gwr80a	Suspended	OK	OK	OK		0%	2

IBM Systems Director Editions for Power, V6.2

- IBM Systems Director Express Edition
 - IBM Systems Director V6.2
 - IBM Systems Director VMControl Express Edition for Power Systems, V2.3
 - IBM Systems Director Service and Support Manager V6.2
 - IBM Systems Director Transition Manager for HP Systems Insight Manager V6.2
- IBM Systems Director Standard Edition
 - All of Express Edition plus..
 - IBM Systems Director Standard Edition Installation Launchpad V6.2
 - IBM Systems Director Active Energy Manager™ V4.3
 - IBM Systems Director VMControl Standard Edition for Power Systems, V2.3
 - IBM Systems Director Network Control V1.2
- IBM Systems Director Enterprise Edition
 - All of Standard Edition plus...
 - IBM Systems Director Enterprise Edition Installation Launchpad V6.2
 - IBM Systems Director VMControl Enterprise Edition for Power Systems, V2.3
 - IBM Tivoli Monitoring (ITM) V6.2.2 FP2
 - IBM Tivoli Monitoring (ITM) - OS Agents
 - IBM Tivoli Monitoring (ITM) - System p Agents
 - IBM Tivoli Monitoring for Energy Management 6.2.1
 - IBM Tivoli Application Dependency Discovery Manager (TADDM) 7.2
 - IBM Tivoli Performance Analyzer 6.2.2
 - IBM Tivoli Common Reporting for Asset and Performance Management 1.3
 - DB2 Enterprise Server Edition 9.7 FP1

Edition Focus and Capabilities

Capabilities	Express	Standard	Enterprise
	<i>Reduce Costs</i>	<i>Increase Agility and Efficiency</i>	<i>Optimize Resource Utilization</i>
Visualize physical/virtual system relationships	✓	✓	✓
Monitor system health	✓	✓	✓
Provide threshold and error alerts	✓	✓	✓
Update Operating Systems and firmware	✓	✓	✓
Simplify deployment with virtual images		✓	✓
Control energy use within existing capacity		✓	✓
Monitor system health with servers and storage		✓	✓
Optimize placement for new workloads			✓
Manage workload availability end-to-end			✓
Understand capacity			✓
Analyze and report historical performance			✓

Director Plug-ins (“ala carte”)

- IBM Systems Director Active Energy Manager 4.3
 - Monitor functions: no charge
 - Manage functions: per managed processor charge
- IBM Systems Director Service and Support Manager 6. 2
 - No charge (does not support Power Systems)
- IBM Systems Director Migration Tool Version 6.2
 - No charge
- IBM Systems Director VMControl 2.3
 - Express Edition: no charge
 - Standard, Enterprise Editions: per managed processor charge (no value for IBM i)
- IBM Workload Partitions Manager 2.2
 - Per managed processor charge (no value for IBM i)
- IBM Systems Director Network Manager 1.2
 - Per server and per switch charge

<http://www-03.ibm.com/systems/software/director/products.html>

Agenda

- Systems management environment
- IBM Systems Director
 - Resources / relationships
 - Maintenance /currency
 - Monitoring / automating
 - Virtualization / optimization
- IBM® Systems Director Editions
- IBM Systems Director and IBM i



IBM Systems Director and IBM i

- IBM System Director Navigator
- Creating Resource and Message Queue Monitors
- IBM i Resource Monitors
- Agents on IBM i

IBM i Strategy and Roadmap

- *“Our commitment to our IBM i clients, ISVs and business partners is solid and unchanged. With our clearly defined processor and software roadmap, we are making substantial investments in the future of IBM i as an important, strategic element in the IBM systems portfolio.”*



General Manager, IBM Power Systems

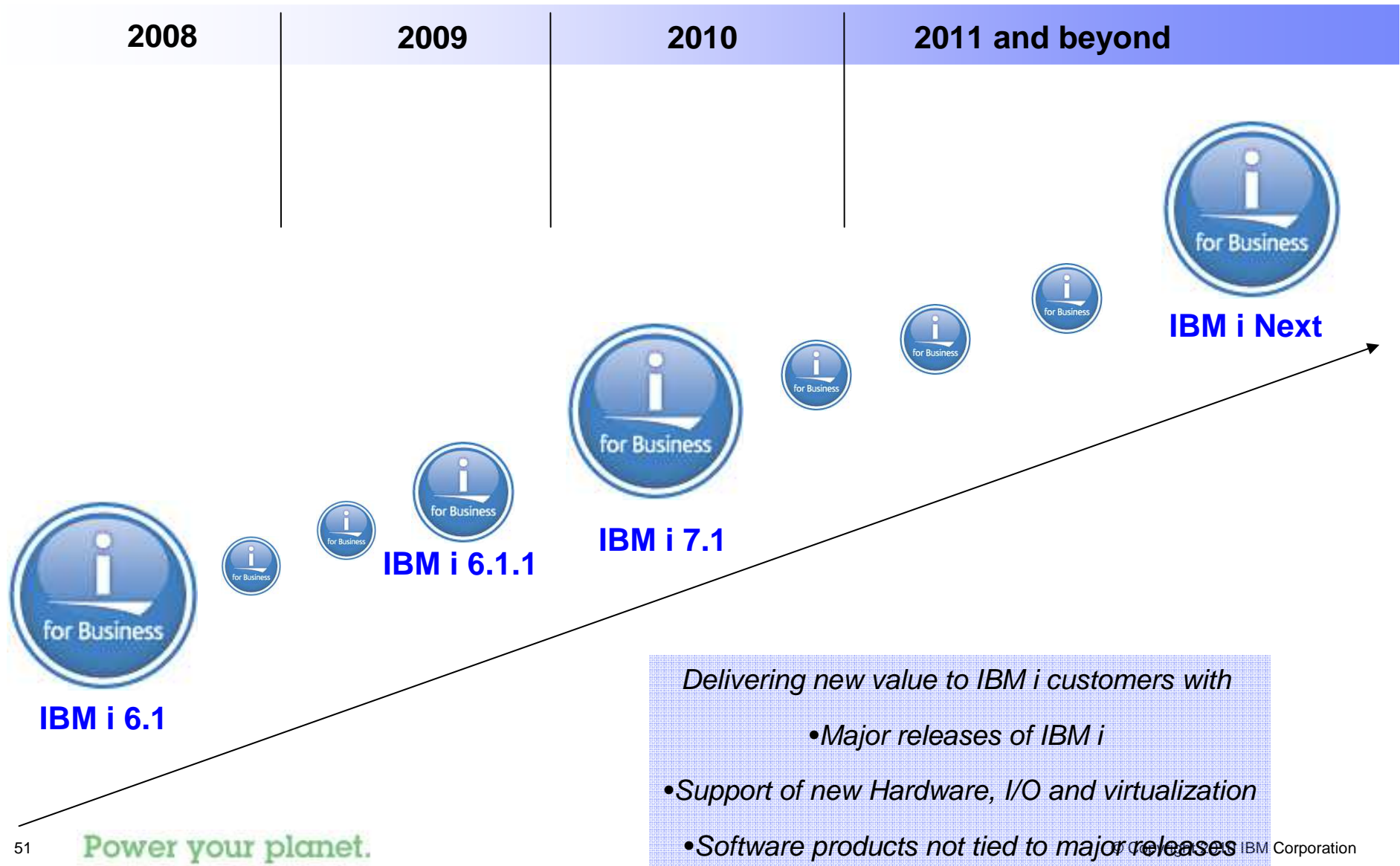
- **New IBM white paper**

Includes information about the IBM i market, Power Systems and IBM i roadmaps, plus the latest information on POWER7 and IBM i 7.1

<http://www.ibm.com/systems/power/software/i/rossmauri/index.html>

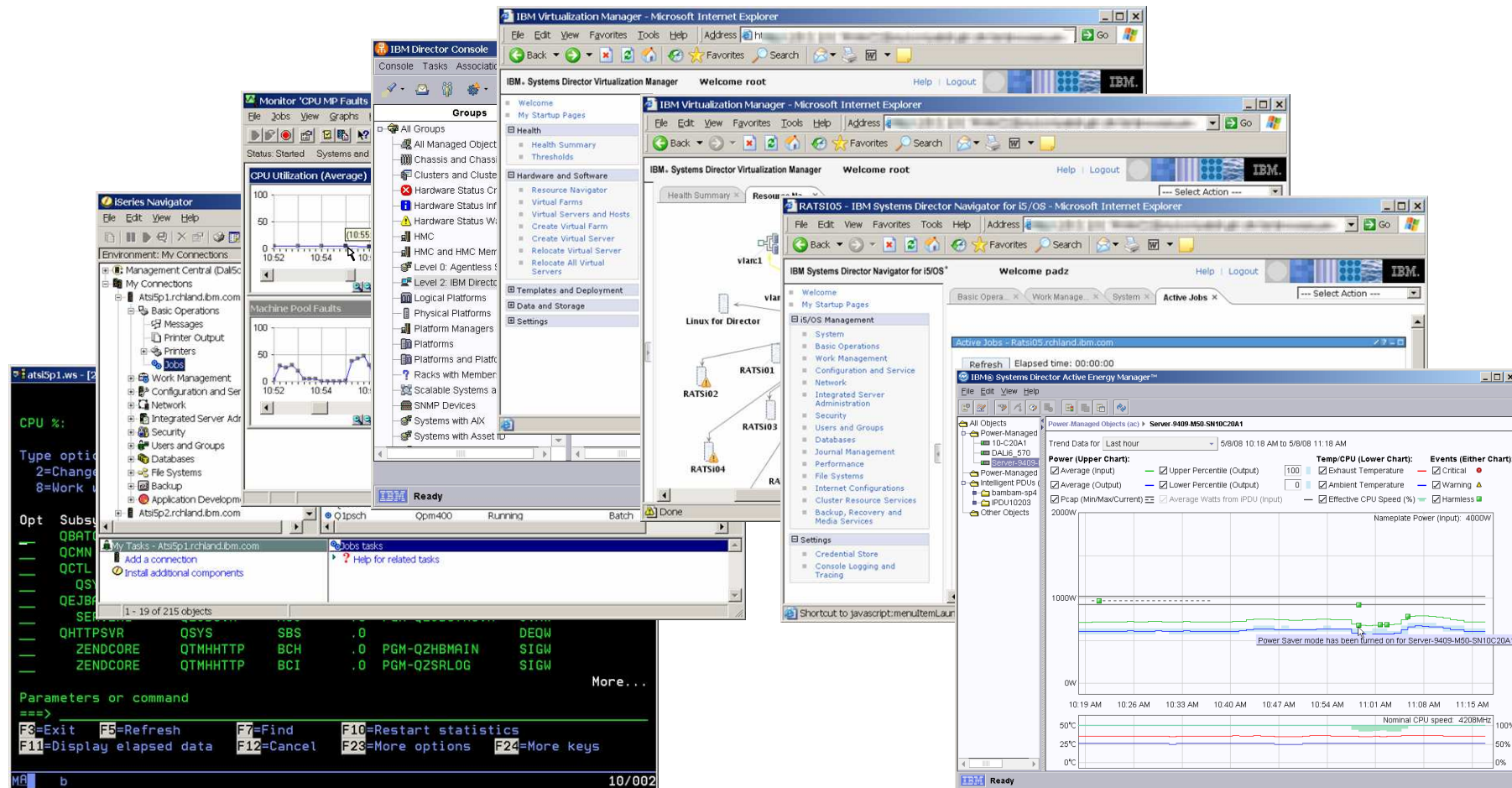


IBM i Roadmap



Systems Management Evolution for “i”

From green screen to Green IT



IBM Systems Management Solutions

- 5250 “Green Screen”
- System i Navigator
 - Management Central
 - DB Health Center
- IBM Systems Director Navigator for i
 - Performance Data Investigator
 - Plug-ins for BRMS, Power HA
- IBM Systems Director
 - IBM Systems Director Active Energy Manag
 - IBM Systems Director with IBM i
 - Groups



System i Navigator

File Edit View Help

Environment: COMMON

Isz1p13:

Name	Description
Basic Operations	Manage messages, printer output, printers, and jobs.
Work Management	Manage active jobs, server jobs, job queues, subsystems, and me...
Configuration and Service	Display system inventory, work with fixes, and collect performance ...
Network	Manage TCP/IP and Internet support.
Integrated Server Administra...	Administer integrated Windows, Linux and AIX servers
Security	Configure and manage security.
Users and Groups	Manage i5/OS users and user groups.
Databases	DB2 for i.
File Systems	Work with file systems.
Backup	Schedule backups of server data.
Application Development	Work with application development tools.
AFP Manager	Manage AFP resources, PSF configurations, and font tables.

- Maybe better known as
 - iSeries Navigator
 - Operations Navigator
- Windows client application
- Part of the iAccess for Windows product

My Tasks - Isz1p13

Add a connection

Connection tasks

- Configure Application Administration
- View disk status
- Run a command
- Install plug-ins
- Upgrade or service plug-ins
- Change your System i password
- View system status
- Help for related tasks

1 - 12 of 12 objects

Successful connection made to central system 'Isz1p11'.

IBM Systems Director Navigator for i

http://systemname:2001

IBM® Systems Director Navigator for i

Welcome, enter your information.

User ID:

Password:

The screenshot shows the main interface of the IBM Systems Director Navigator for i. On the left is a navigation pane with a 'View:' dropdown set to 'All tasks'. Below it are expandable sections: 'Welcome', 'My Startup Pages', and 'IBM i Management'. The 'IBM i Management' section is expanded, showing a list of tasks including 'Set Target System', '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', 'High Availability Solutions Manager', and 'Cluster Resource Services'. At the bottom of the navigation pane is a 'Settings' section. The main content area has a header with 'Welcome dmmay', 'Help', 'Logout', and an IBM logo. Below the header is a 'Welcome' window with the title 'Welcome to the IBM Systems Director Navigator for i'. The window contains a welcome message, a link to 'About Console', and a link to 'IBM i Tasks Page'.

- Web application
- Included with IBM i 6.1 or later

IBM Systems Director Navigator for i

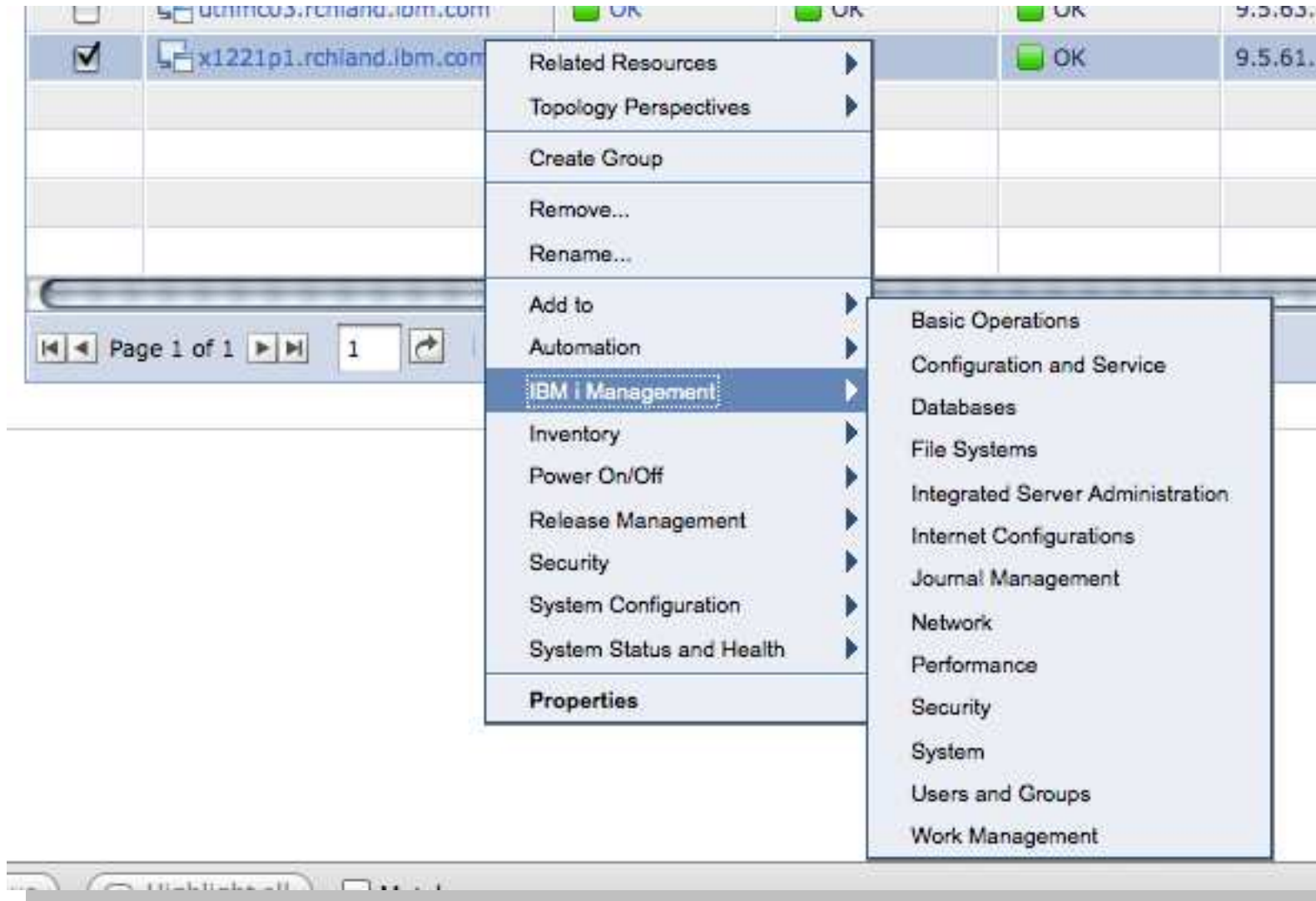
- Web-based console included with IBM i beginning with 6.1
 - http://<system_name>:2001/
- Based on Integrated Solutions Console (ISC) framework
 - Used by IBM Systems Director 6.1
 - IBM future systems management interface
- Manages just the server where it is installed
 - In 7.1 can manage a target system as well
- Supports the 300+ currently Web-enabled functions of System i Navigator
 - Extension of Web interface in 5.4
- Integrates with IBM Systems Director 6.x

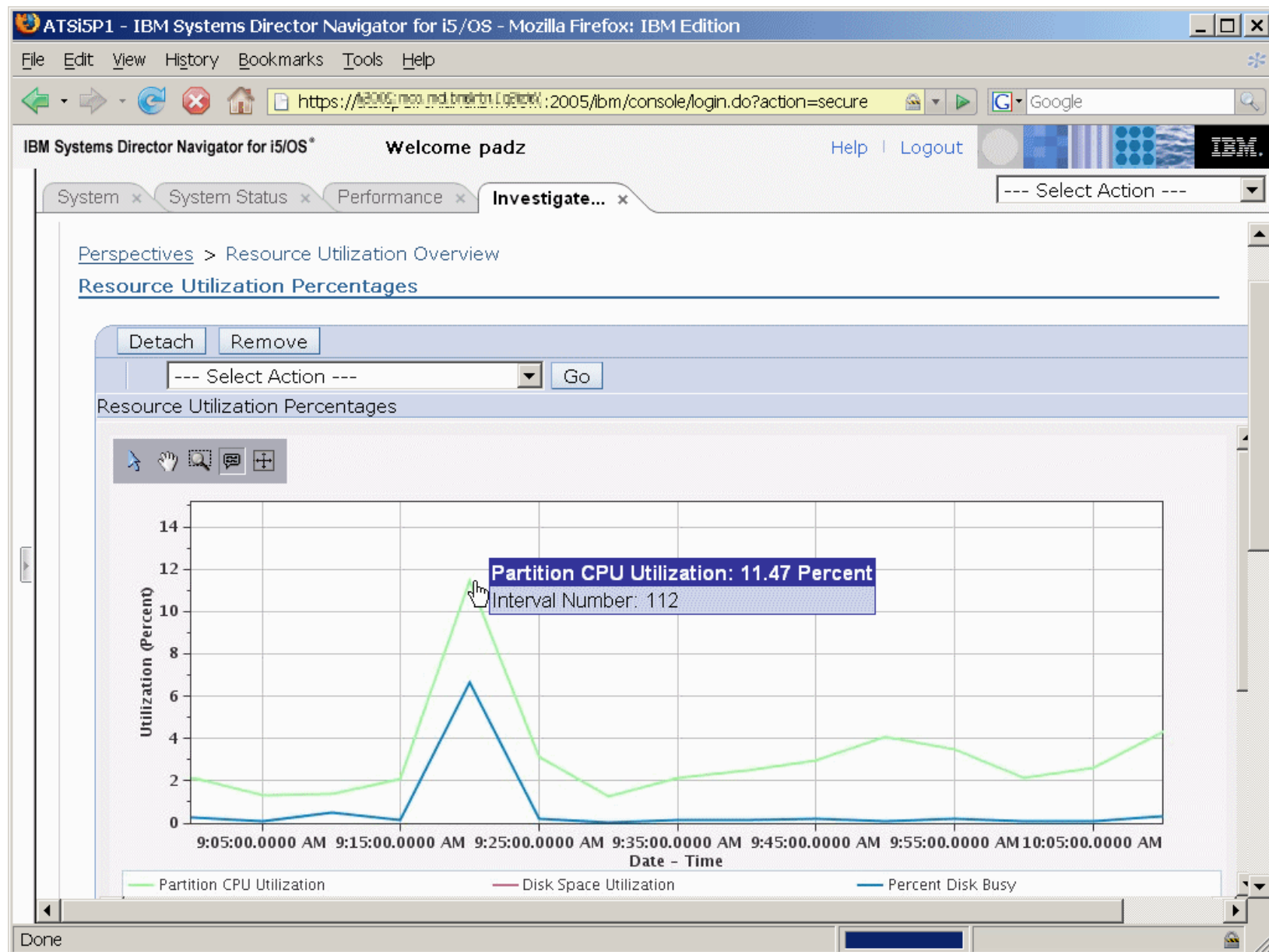
http://ibmsystemsmag.blogs.com/i_can/2010/03/i-can-direct-the-use-of-navigator-or-is-that-navigate-the-use-of-director.html

What Is Not Included?

- Management Central functions
 - Use IBM Systems Director for web-based monitoring and multi-system tasks
- Database functions that involve graphics and charts
 - SQL Scripts
 - Visual Explain
 - Database Navigator
 - SQL Assist

Integration of Director Navigator and Director





IBM Systems Director and IBM i

- IBM System Director Navigator
- IBM i Resource Monitors
- Creating Resource and Message Queue Monitors
- Agents on IBM i

Types of Agents for IBM i

- Agentless: SSH (5733-SC1 Option 1)
 - Discover operating system instance
 - Collect limited operating system inventory data – included software inventory
 - PTF support for Groups and Cums
 - Issue remote commands
 - Access to IBM Systems Director Navigator functions
- Platform Agent: CIMOM (5722-UME)
 - Common Information Model (CIM) events and monitoring
 - Additional inventory
- Common agent: Legacy (5722-DA1) / CAS for IBM i
 - Full monitoring
 - Genevent API

For Your Information

- “i Can” by Dawn May
 - http://ibmsystemsmag.blogs.com/i_can/
 - To share the “hidden gems” within IBM i.
- “You and i” by Steve Will
 - http://ibmsystemsmag.blogs.com/you_and_i/
 - Directly communicate with the i community
 - Strategy, architecture, announcements, and news.

- **Recent topics:**

“i Can ... Reclaim Spooled Files”

“i Can ... Automate Monitoring with Watches ”

“i Can ... Share the Secrets of 7.1”

- **Related topics:**

“Layers of i”

“The ‘New’ Value of Single Level Store”

“You and i 7.1”

- IBM i Information Center for 7.1
 - <http://publib.boulder.ibm.com/infocenter/iseriess/v7r1m0/index.jsp>



DawnMayiCan

On Twitter



Steve_Will_IBMi

On Twitter

#ibmi

On Twitter

New! IBM i Wiki

- <https://www.ibm.com/developerworks/wikis/display/WikiPtype/IBM+i>



IBM i wiki

[wiki terms of use](#)

A collaborative environment for the sharing of technical information related to IBM i.

Anyone can view the content of this wiki, however if you would like to contribute you will need to Log in. If you can not find answers to your questions, check out the [IBM i technical forums](#).

Main Content

Getting Started

- [Introduction to IBM i](#)
- [Executive Overview](#)
- [Why i?](#)

Integrated Functions

- [DB2 for i](#)
- [HTTP Server for i](#)
- [IBM i Access](#)
- [IBM i Net Server](#)
- [Work Management](#)
- [Security](#)

Products on IBM i

- [Lotus](#)
- [WebSphere Application Server](#)
- [DB2 Web Query for i](#)
- [Advanced Job Scheduler for i](#)
- [PowerHA SystemMirror for i](#)

Managing IBM i

- [Systems Management](#)
- [Backup Recovery and Media Services](#)
- [Navigator for i](#)
- [Systems Director](#)
- [System Director Navigator for i](#)
- [Performance Management](#)
- [Performance Data Investigator](#)
- [PowerVM](#)

Developing Software for IBM i

- [Rational](#)
- [Open Access RPG](#)
- [Zend and PHP](#)

News & Highlights

POWER7

- [7.1 Enhancements](#)
- [7.1 Webcasts](#)

Resources

Redbooks

- [Complete list of IBM i \(AS/400, iSeries, System i\) Redbooks](#)

IBM i Information Center

- [IBM i Version 5 Release 4](#)
- [IBM i Version 6 Release 1](#)
- [IBM i Version 7 Release 1](#)

Techdocs

- [Techdocs](#) - Technical Sales Library

Support

- [Fix Central](#)
- [Online Support](#)
- [Entitled Software Support and License Keys](#)
- [IBM i support and services / Partnerworld Offerings](#)
- [Upgrade planning](#)

Publications

- [IBM Systems Magazine](#)
- [System iNetwork](#)
- [MCPress Online](#)

Events

- [COMMON Europe, 2010 Annual Meeting and Exposition](#)
Stratford on Avon, UK
June 12 -15, 2010
- [COMMON, 2010 Fall Conference and Exposition](#)
Crowne Plaza Riverwalk, San Antonio, TX
October 4 -6, 2010
- [IBM Power Systems Technical University](#)
Las Vegas, NV
October 18 -22, 2010
- [More Conferences and events](#)

Communities and Social Networking

- [Academic Initiative](#)
- [#IBMi on Twitter](#)
- [IBM i User Groups](#)
- [Midrange.com](#)
- [Power Systems YouTube Channel](#)
- [Rational Developer for i \(RPG Cafe\)](#)
- [Why i? presentation on YouTube](#)
- [Young i Professionals](#)

Blogs

- [Dawn May: i Can](#)
- [Steve Will: You and i](#)
- [iDevelop](#)
- [Angus the IT Chap](#)
- [imho.midrange.com](#)

User Group Meetings

- [IBM i](#)
- A list of [eServer User Groups](#)

Other IBM i Wiki's

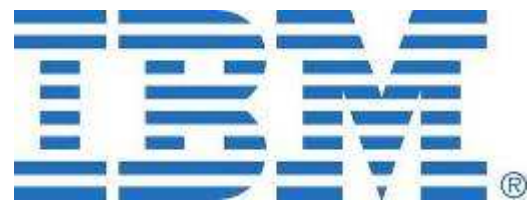
- [midrange wiki](#)

IBM Systems Director Web References

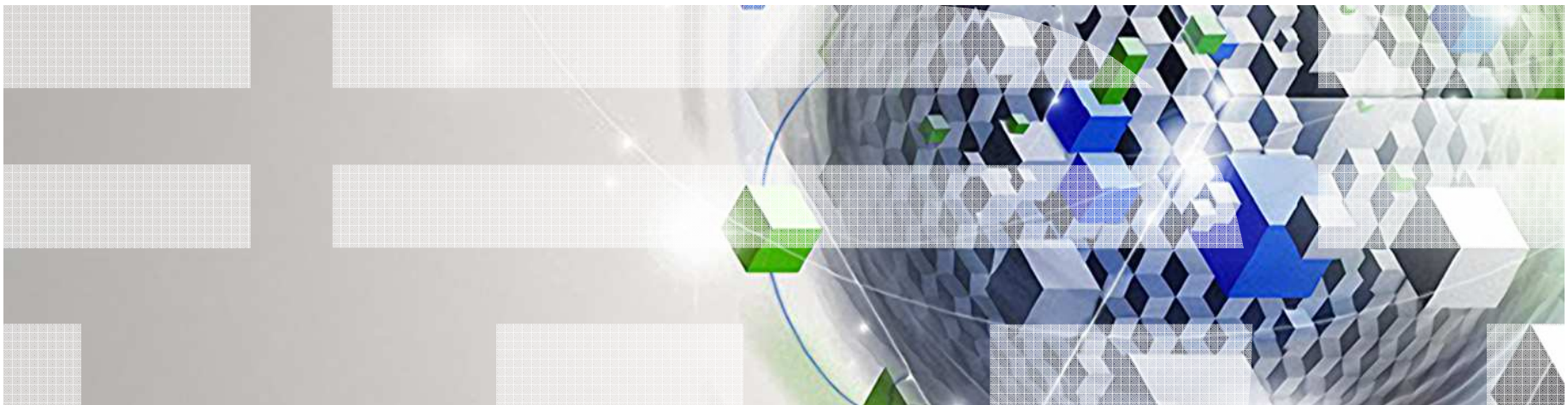
- Main Systems Director Web Page
<http://www.ibm.com/systems/management/director/>
- Information Center
http://publib.boulder.ibm.com/infocenter/systems/topic/director_6.1/fqm0_main.html
- eLearning: Getting started with IBM Systems Director
 - http://publib.boulder.ibm.com/infocenter/director/v6r1x/index.jsp?topic=/director_6.1/fqm0_c_elearning_getting_started.html
- Implementing IBM Systems Director 6.1 Redbook
 - <http://www.redbooks.ibm.com/abstracts/sg247694.html?Open>
- IBM Systems Director Forum
<http://www.ibm.com/developerworks/forums/forum.jspa?forumID=759>
- Systems Director Redwiki
<http://www-01.ibm.com/redbooks/community/display/director/IBM+Systems+Director+6.1>
- Follow IBM Systems Director on Facebook:
<http://www.facebook.com/pages/IBM-Systems-Director>
- Primary Systems Director Wiki
<http://www.ibm.com/developerworks/wikis/display/WikiPtype/IBM+Systems+Director>
- IBM Systems Management Web Site
<http://www.ibm.com/systems/management/>
- IBM i Systems Management Web Site

References on IBM i Systems Management Tools

- IBM Systems Director Navigator for i
 - <http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/sg247789.html?Open>
- End to End Performance Management on IBM I
 - <http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/sg247808.html?Open>
- IBM eServer iSeries Performance Management Tools
 - <http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/redp4026.html?Open>
- A Systems Management Guide to Performance Management for System i and System p servers
 - <http://www.redbooks.ibm.com/abstracts/sg247122.html?Open>
- Best Practices for Managing IBM i Jobs and Output (and a few other special tips)
 - <http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/redp4454.html?Open>
- i5/OS Diagnostic Tools for System Administrators: An A to Z Reference for Problem Determination
 - <http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/sg248253.html?Open>
- IBM eServer iSeries Systems Management Handbook
 - <http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/redp4070.html?Open>

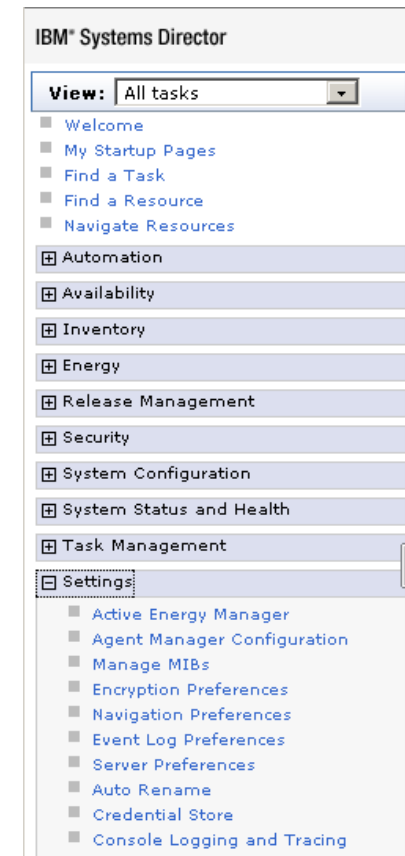


Backup Material



Power Systems Details for IBM Systems Director

- Prerequisites and environment
- Functions Supported by Operating System
- Supported tasks for third-party x86-based systems
- Protocols and tasks by agent type
- Supported operating system versions



Power Systems Pre-requisites

- HMC Version 7.3.3 SP2, MH00146 or later
 - Latest Service Packs recommended
 - Firmware requirements based on MTM and HMC Version, not Systems Director
- IVM Version 1.5.2.1+ or 2.1+
 - Latest Service Packs recommended
- VIOS
 - Version 1.5.2.1 for Agentless
 - Version 2.1.0.10 supports the Common Agent
 - Requires IBM Systems Director 6.1.0.2 on server
 - Manual install of Common Agent
 - See Redwiki for details
 - Version 2.1.1 includes the Common Agent

Server Resource Requirements

- Small:
 - Less than 500 Common-Agent managed systems.
 - DB is Apache Derby
- Medium:
 - Between 500 and 1000 Common-Agent managed systems
 - DB is IBM DB2
- Large:
 - Between 1000 and 5000 Common-Agent managed systems
 - DB is IBM DB2
- Sizing is general and minimum, presumes DB server runs on Director Server

Recommended hardware			
Configuration	Processor	Memory	Disk
Small	1 CPU	2.5 GB	4 GB
Medium	2 CPUs	4 GB	6 GB
Large	4 CPUs	10 GB	8 GB

http://publib.boulder.ibm.com/infocenter/director/v6r1x/topic/director.plan_6.1/fqm0_r_hardware_requirements_for_running_ibm_systems_director_server.html

Functions Supported by Operating System

Task	AIX	IBM i	Linux	Microsoft Virtual Server	VMware	Windows®
Event Log	Svr, Cmn Agt	Pfm Agt, Cmn Agt	Svr, Pfm Agt, Cmn Agt	Pfm Agt, Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Svr, Pfm Agt, Cmn Agt
File Transfer	Svr, Cmn Agt	Cmn Agt	Svr, Cmn Agt	Cmn Agt	Cmn Agt	Svr, Cmn Agt
Inventory (hardware)	Svr, Cmn Agt	Pfm Agt, Cmn Agt	Svr, Agtls, Pfm Agt, Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Svr, Agtls, Pfm Agt, Cmn Agt
Inventory (software)	Svr, Agtls, Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Svr, Agtls, Pfm Agt, Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Svr, Agtls, Pfm Agt, Cmn Agt
Problems (formerly Hardware Scan)	Cmn Agt	Cmn Agt	Pfm Agt, Cmn Agt	Pfm Agt, Cmn Agt	Pfm Agt, Cmn Agt	Pfm Agt, Cmn Agt
Process Management	Svr, Cmn Agt	Cmn Agt	Svr, Cmn Agt	Cmn Agt	Cmn Agt	Svr, Cmn Agt
Remote Control	Svr, Agtls, Cmn Agt		Svr, Agtls, Pfm Agt, Cmn Agt	Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Svr, Agtls, Pfm Agt, Cmn Agt
Remote Command Line	Svr, Agtls, Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Svr, Agtls, Pfm Agt, Cmn Agt	Cmn Agt	Agtls, Pfm Agt, Cmn Agt	Svr, Cmn Agt
Resource Monitors	Svr, Cmn Agt	Pfm Agt, Cmn Agt	Svr, Pfm Agt, Cmn Agt	Console only	Console only	Svr, Pfm Agt, Cmn Agt
Storage Configuration Manager	Svr		Svr, Pfm Agt, Cmn Agt	Pfm Agt, Cmn Agt	Pfm Agt, Cmn Agt	Svr, Pfm Agt, Cmn Agt
Update Manager	Svr, Cmn Agt	Pfm Agt, Cmn Agt	Svr, Agtls, Pfm Agt, Cmn Agt	Pfm Agt, Cmn Agt	Pfm Agt, Cmn Agt	Svr, Agtls, Pfm Agt, Cmn Agt

See http://publib.boulder.ibm.com/infocenter/systems/topic/director.plan_6.1/fqm0_r_os_support_by_ibm_director_task.html for details

Supported tasks for third-party x86-based systems

Task or Feature	Agentless	Common Agent
Discovery (basic)	Yes	Yes
Discovery (advanced)	Yes	Yes
Request access	Yes	Yes
Collect and view inventory	Yes (1)	Yes (1)
View system properties	Yes	Yes
Dynamic groups	Yes	Yes
View problems and events	Yes (2)	Yes (2)
Event Automation Plans	No	Yes (2)
Event filters	Yes	Yes
Generate events indicating online and offline state	No	No
Health summary	No	Yes (3)
Common monitors (a subset of monitors)	No	Yes
Thresholds	No	Yes
Common Agent installation (manual)	Yes	Not applicable
Common Agent installation (remote)	No	Not applicable
RPM installation (remote) for Linux® on x86 systems only	No	Not applicable

1. Some hardware-based inventory might be missing.
2. Only events provided by way of the operating system, thresholds, and SNMP.
3. Only information provided by way of the operating system and thresholds.

http://publib.boulder.ibm.com/infocenter/director/v6r1x/topic/transmgr_610/fsc0_r_supported_tasks_and_features_on_non-IBM_x86_systems.html

Operating System Support

Operating System	Director Serve	Common Agent	Platform Agent
AIX V5.3 (with TL06 Service Pack 4, or later) ¹	X	X	
AIX V6.1 (with TL01 Service Pack 1, or later) ¹	X	X	
IBM i 5.4 (formerly i5/OS V5.4) ^{1, 2, 4}		X ⁴	X ²
IBM i 6.1 (formerly i5/OS® V6.1) ^{1, 2, 4}		X ⁴	X ²
Red Hat Enterprise Linux AS 4.6 and 4.7 for POWER ³	X	X	X
Red Hat Enterprise Linux AS 5.1 and 5.2 for POWER ³	X	X	X
SUSE Linux Enterprise Server 9 for POWER (supports Service Packs 3 and 4)	X	X	X
SUSE Linux Enterprise Server 10 for POWER (supports Service Packs 1 and 2)	X	X	X

See notes on the next page

Operating System Support notes

- Platform Agent V6.1 and IBM Director Core Services V5.20.3 are the same agent.
- Unless stated otherwise, IBM Systems Director provides Agentless support for all operating systems listed.
- IBM Systems Director Server can be installed on non-IBM hardware as long as the system meets the hardware requirements for running that component.
- Notes:
 1. Agentless support includes only Discovery, Remote Session, and a limited subset of the Software Distribution task. For IBM i, Agentless support requires 5733-SC1, Option 1 installed and TCP server *SSHD started.
 2. Platform-agent managed system support is not provided by the Platform Agent but by the 5722-UME product.
 3. IBM Systems Director agents support the IBM BladeCenter QS21 and QS22 blade servers with Red Hat Enterprise Linux AS 5.2 only.
 4. For IBM i 5.4 and IBM i 6.1, this richer set of features and subagent tasks provided by the Common Agent is supported with the Director 5.20 Level 2 Agent for IBM i (5722DA1) as well as a Common Agent for IBM i 6.1

Creating a Common Agent Monitor (1 of 6)

IBM Systems Director - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

IBM Systems Director Welcome demo Help Logout IBM

Health Summary Monitors(1) x

--- Select Action ---

Monitors

Select a system or group to monitor, then select a view to show. Create your own view to group monitors of your choice.

asj2... Browse...

Monitor Views

Show Monitors... Create Actions Search the table... Search

Select	Name	Read Only	Description
<input type="checkbox"/>	Active Energy Monitors	True	Power and environmental values
<input type="checkbox"/>	All Monitors	False	All monitors available for viewing
<input type="checkbox"/>	Column Management Monitors	False	Monitors available as a column in the resourc...
<input type="checkbox"/>	Common CIM Monitors	True	Common monitors available for viewing thro...
<input type="checkbox"/>	Common Monitors	True	Common monitors available for viewing on m...
<input type="checkbox"/>	SNMP Monitors	True	Monitors for network systems and devices
<input type="checkbox"/>	Virtualization Manager Monitors	True	Virtualization manager monitors across all vir...
<input type="checkbox"/>	vvv	False	

Done

Creating a Common Agent Monitor (2 of 6)

IBM Systems Director - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

IBM Systems Director Welcome demo Help Logout IBM.

Health Summary Monitors(1) --- Select Action ---

Create View

This page helps you create a view of monitors that you can apply to a system or group of systems.

*Name: SBS Status

Description: Monitor Subsystem status

Select a valid target then add it to the selected list.

Show: Selected Resources

Available:

Selected Resources

Select	Name	Monitor Desc...
<input checked="" type="checkbox"/>	asj2sbs'wqj'pucjy	Members
<input type="checkbox"/>		
<input type="checkbox"/>		

Actions | Search the table... Search

Add >

< Remove

Selected:

Find: Next Previous Highlight all Match case

Done

Creating a Common Agent Monitor (3 of 6)

IBM Systems Director - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

IBM Systems Director Welcome demo Help Logout IBM

Health Summary Monitors(1) x

Monitor Subsystem status

Select a valid target then add it to the selected list.

Show: Selected Resources

Available:

Selected Resources > asj2.chland.ibm.com > Director Agent > i5/OS System Monitors

Actions Search the table... Search

Select	Name	Monitor Desc...
<input type="checkbox"/>	I/O Processors	
<input type="checkbox"/>	Job Queues	
<input type="checkbox"/>	Job Statistics	
<input type="checkbox"/>	NetServer Statistics	
<input type="checkbox"/>	Physical Disks	
<input type="checkbox"/>	Storage Pools	
<input type="checkbox"/>	Subsystems	
<input type="checkbox"/>	System Statistics	
<input type="checkbox"/>	User Statistics	

Add > < Remove

Selected:

Find: Next Previous Highlight all Match case

Creating a Common Agent Monitor (4 of 6)

IBM Systems Director - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

IBM® Systems Director Welcome demo Help Logout IBM.

Health Summary Monitors(1) x

--- Select Action ---

This page provides an editor for the monitors that are associated with a view.

*Name:
SBS Status

Description:
Monitor Subsystem status

Select a valid target then add it to the selected list.

Show: Selected Resources

Available:

Selected Resources > asj2.ibm.com > Director Agent > i5/OS System Monitors > Subsystems

Add > < Remove

Selected:

Select	Name	Monitor Descri...
<input checked="" type="checkbox"/>	PADZ/DIRDEMO	
<input type="checkbox"/>	QASE51/QASE51	
<input type="checkbox"/>	QBRM/Q1ABRMNET	
<input type="checkbox"/>	QGPL/QDSNX	
<input type="checkbox"/>	QGPL/QFNC	
<input type="checkbox"/>	QGPL/QFPHIS	

Done

Creating a Common Agent Monitor (5 of 6)

IBM Systems Director - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

IBM Systems Director Welcome demo Help Logout IBM

Health Summary Monitors(1) x

--- Select Action ---

This page provides an editor for the monitors that are associated with a view.

*Name: SBS Status

Description: Monitor Subsystem status

Select a valid target then add it to the selected list.

Show: Selected Resources

Available:

Selected Resources > ... > i5/OS System Monitors > Subsystems > PADZ/DIRDEMO

Select	Name	Monitor Desc...
<input type="checkbox"/>	Subsystem % of Job Limit	
<input type="checkbox"/>	Subsystem Active Jobs	
<input checked="" type="checkbox"/>	Subsystem Status	

Actions Search the table... Search

Add > < Remove Add

Selected: Director Agent,i5/OS System Monitors,Subsy

Done

Creating a Common Agent Monitor (6 of 6)

IBM Systems Director - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

IBM Systems Director Welcome demo Help Logout IBM.

Health Summary Monitors(1) x

--- Select Action ---

Monitors

Select a system or group to monitor, then select a view to show. Create your own view to group monitors of your choice.

asj2... Browse...

Monitor Views

Show Monitors... Create Actions Search the table... Search

Select	Name	Read Only	Description
<input type="checkbox"/>	Active Energy Monitors	True	Power and environmental values
<input type="checkbox"/>	All Monitors	True	All monitors available for viewing
<input type="checkbox"/>	Column Management Monitors	False	Monitors available as a column in the resourc...
<input type="checkbox"/>	Common CIM Monitors	True	Common monitors available for viewing thro...
<input type="checkbox"/>	Common Monitors	True	Common monitors available for viewing on m...
<input checked="" type="checkbox"/>	SBS Status	False	Monitor Subsystem status
<input type="checkbox"/>	SNMP Monitors	True	Monitors for network systems and devices
<input type="checkbox"/>	Virtualization Manager Monitors	True	Virtualization manager monitors across all vir...

Done

Event Filters for QSYSOPR message (1 of 4)

IBM Systems Director - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

IBM Systems Director Welcome demo Help Logout IBM.

View: All tasks

- Welcome
- My Startup Pages
- Find a Task
- Find a Resource
- Navigate Resources
- Automation
 - Event Automation Plans
 - Event Actions
 - Event Filters
 - Common Automation
- Availability
- Inventory
- Energy
- Release Management
- Security
- System Configuration
- System Status and Health
- Task Management
- Settings

Event Filters

Use event filters to specify one or more events that can trigger an event automation plan or filter the event log.
[Open Event Automation Plan wizard](#)

Event Filters

Create... Create Like... Edit... Delete Actions Search the table... Search

Select	Name	Description
<input type="checkbox"/>	Active Energy Critical Events	Processes only those events generated by Active Energy Manage
<input type="checkbox"/>	Active Energy Events	Processes only those events generated by Active Energy Manage
<input type="checkbox"/>	All Events	Processes any events that occur on any system, except for Wind
<input type="checkbox"/>	Common Agent offline	Processes only those events that are generated by the Common
<input type="checkbox"/>	Critical Events	Processes only those events that have a Critical severity
<input type="checkbox"/>	Disk use	Processes only those events that are generated when the curren
<input type="checkbox"/>	Environmental sensor events	Processes only those events that are associated with the conditi
<input type="checkbox"/>	Fatal Events	Processes only those events that have a Fatal severity
<input type="checkbox"/>	Hardware Predictive Failure Ale...	Processes only those events that are generated when a Predictiv
<input type="checkbox"/>	Informational Events	Processes only those events that have a Informational severity
<input type="checkbox"/>	Memory use	Processes only those events that are generated when the surver

Event Filters for QSYSOPR message (2 of 4)

IBM Systems Director - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

IBM Systems Director Welcome demo Help Logout IBM.

View: All tasks

- Welcome
- My Startup Pages
- Find a Task
- Find a Resource
- Navigate Resources

Automation

- Event Automation Plans
- Event Actions
- Event Filters
- Command Automation

Availability

Inventory

Energy

Release Management

Security

System Configuration

System Status and Health

Task Management

Settings

Event Filters x

--- Select Action ---

Create Filter

Select the type of filter that you want to create.

Actions | Search the table... Search

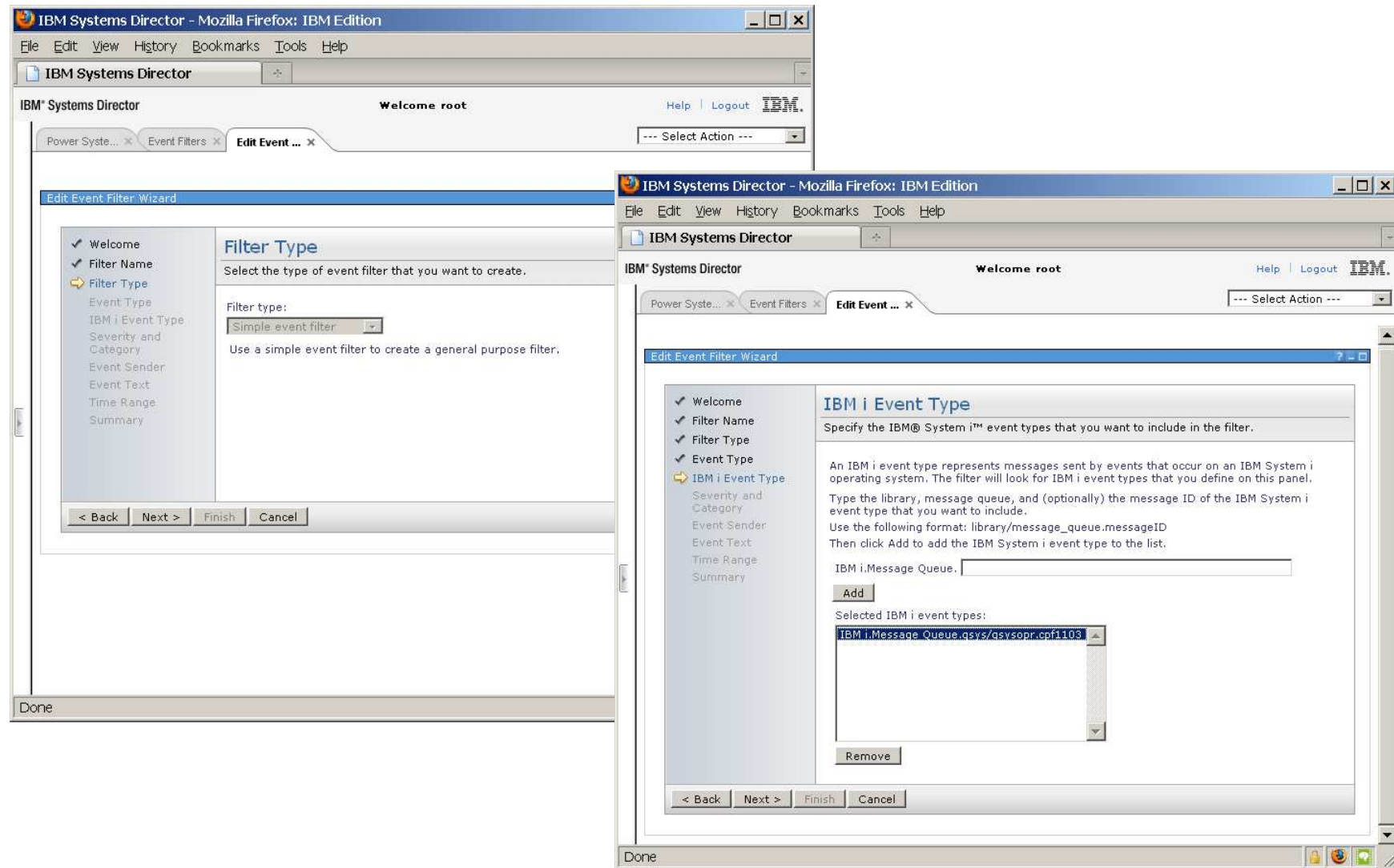
Select	Name	Description
<input type="radio"/>	Threshold Event Filter	Use this filter to activate an event after it meets the filter criteria mo
<input checked="" type="radio"/>	Simple Event Filter	This is a general-purpose filter.
<input type="radio"/>	Application Event Filter	Use this filter to ignore duplicate events.
<input type="radio"/>	Exclusion Event Filter	Use this filter to activate a group of events and then exclude a subg

Page 1 of 1 1 Selected: 1 Total: 4 Filtered: 4

OK Cancel Help

Done

Event Filters for QSYSOPR message (3 of 4)



Event Filters for QSYSOPR message (4 of 4)

The image displays two screenshots of the IBM Systems Director web interface, specifically the 'Edit Event Filter Wizard' for QSYSOPR messages.

Left Screenshot: Event Text Step

- Wizard Progress:** Welcome, Filter Name, Filter Type, Event Type, IBM i Event Type, Severity and Category, Event Sender, **Event Text** (current), Time Range, Summary.
- Section: Event Text**
 - Specify the event text that you want to include in this filter.
 - Event text to include: Custom (selected)
 - Select Custom to type specific event text that you want to include.
 - Text to search for: (one or more words, separated by spaces)
 - Text entered: dirdemo
 - Search options:
 - ☒ Any word
 - ☐ All words
 - ☐ Exact phrase
 - ☐ Case sensitive
- Buttons:** < Back, Next >, Finish, Cancel

Right Screenshot: Summary Step

- Wizard Progress:** Welcome, Filter Name, Filter Type, Event Type, IBM i Event Type, Severity and Category, Event Sender, Event Text, **Summary** (current), Time Range.
- Section: Summary**
 - Review your selections for this event filter.
 - You have completed the Event Filter wizard. This page is a summary of your selections.
 - Summary details:
 - Name: DIRDEMO
 - Description: Monitors for CPF1103 for "DIRDEMO"
 - Type: Simple
 - Text: dirdemo
 - Text case: Insensitive
 - Text type: Any word
 - Time range: All the time (24x7)
 - Category:
 - Event severity:
 - Sender:
 - Server zone: America/Chicago - Central Standard Time - CST
 - Event types: OS/400.msgq.qsys/qsysopr.cpf1103
 - Excluded event types:
 - Frequency interval:
 - Frequency count:
 - Extended attributes:
 - Variables:
- Buttons:** < Back, Next >, Finish, Cancel

Trademarks

The following are trademarks of the International Business Machines Corporation in the United States, other countries, or both.

AIX®, IBM®, iSeries®, BladeCenter®, DS4000®, EnergyScale, IBM® Systems Director Active Energy Manager, i5/OS®, Netcool®, Power®, POWER®, POWER5™, POWER6™, POWER7™, Power Systems, Power Systems Software, System x®, Tivoli®, zSeries®, and z/VM®

Not all common law marks used by IBM are listed on this page. Failure of a mark to appear does not mean that IBM does not use the mark nor does it mean that the product is not actively marketed or is not significant within its relevant market.

Those trademarks followed by ® are registered trademarks of IBM in the United States; all others are trademarks or common law marks of IBM in the United States.

For a complete list of IBM Trademarks, see www.ibm.com/legal/copytrade.shtml:

The following are trademarks or registered trademarks of other companies.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries. Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency, which is now part of the Office of Government Commerce.

* All other products may be trademarks or registered trademarks of their respective companies.

Notes:

Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.

IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.

All customer examples cited or described in this presentation are presented as illustrations of the manner in which some customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics will vary depending on individual customer configurations and conditions.

This publication was produced in the United States. IBM may not offer the products, services or features discussed in this document in other countries, and the information may be subject to change without notice. Consult your local IBM business contact for information on the product or services available in your area.

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

Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

Prices subject to change without notice. Contact your IBM representative or Business Partner for the most current pricing in your geography.