IBM Systems Director

The Single Point of Control to Manage Your Data Center

Greg Hintermeister

What Customers Told Us

I don't need Director…I only have AIX

Director is too hard to set up

Tutorials are too long

Issues center on general installation tasks

Too difficult to find tasks

Health is #1 priority

Need understandable, rational, Tivoli/Director roadmap for BPs

Better alert management

Persistent status area, marquee

Can't wait until a real failure occurs to discover that Director is not working

Director has too much function
Director is too complicated
I want new function

Too many *$&$*@&#*@$(@ Icons

User Account Management not currently usable

Director is only product in world that doesn't include TCP Port Monitoring

If your mother can't understand it, it's too complicated.

Integration of storage management

NO JARGON.
Fly-over help needed with brief explanations of terms

Upgrade from one version to another is too difficult

Not accurate when monitoring of LED status

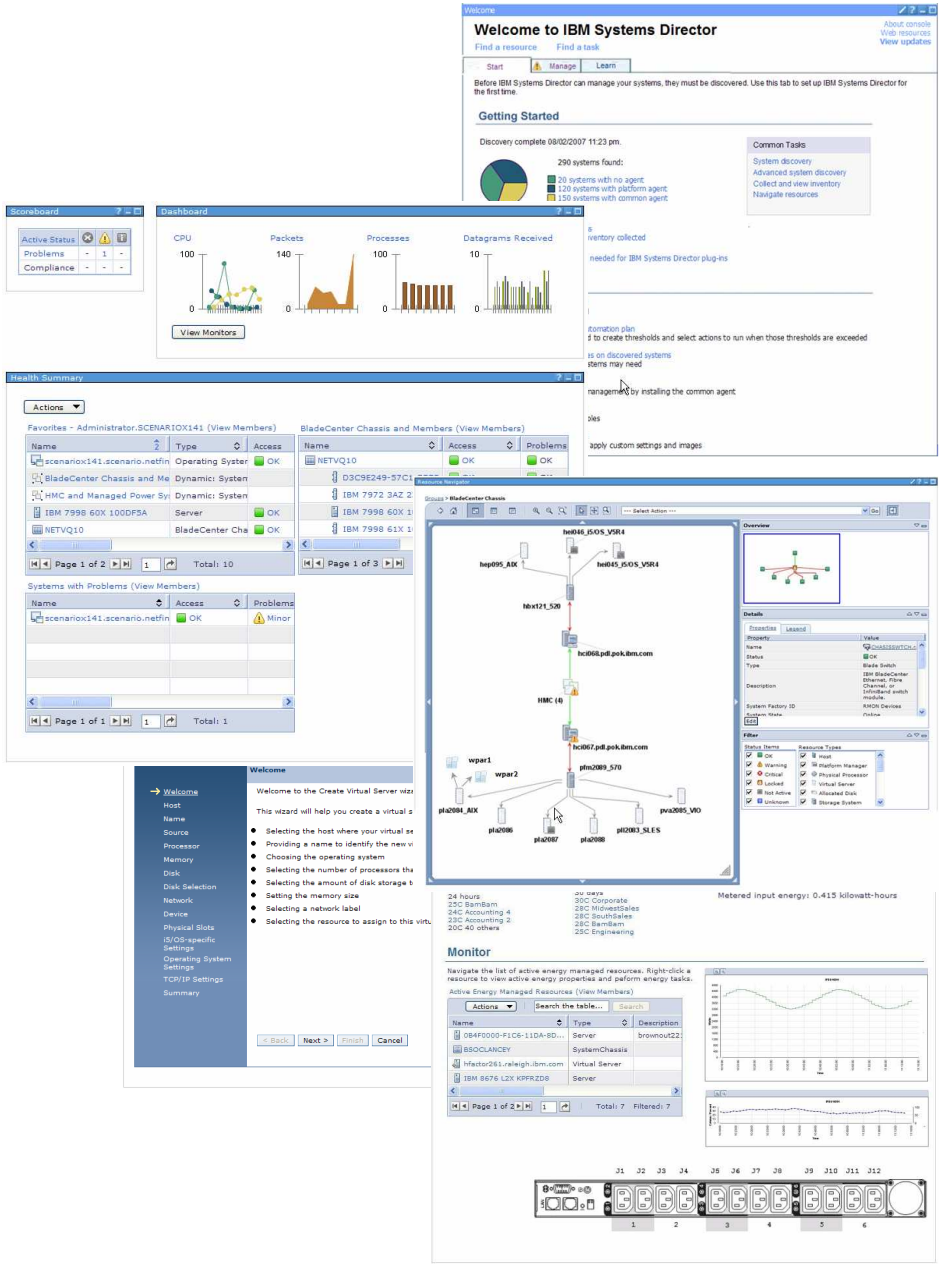
Need pre-canned automation plans

Would love to see a quick summary of how things are doing

With SMBs you get about 1-2 hours. If it doesn't work by then, we abandon it.

How We Responded

- **Simplified Setup**
  - Start, manage, learn
- **Focus on Health, Automation**
  - Health Summary
  - Monitors, Thresholds, Updates
  - Automation Plans
- **Easy to Navigate**
  - Power Systems summary
  - Intuitive drilldown and Views
  - Topology map
- **Simply Virtual**
  - Create virtual server
  - Edit virtual resources
  - Relocate
- **Energy Management**



IBM Systems Director Overview

Highlights

- **Next Generation Solution**
- **End-to-end Management**
- **Systems Director Topology**
- **Consistent User Experience**

IBM Systems Director Overview

Next generation of IBM Director that delivers

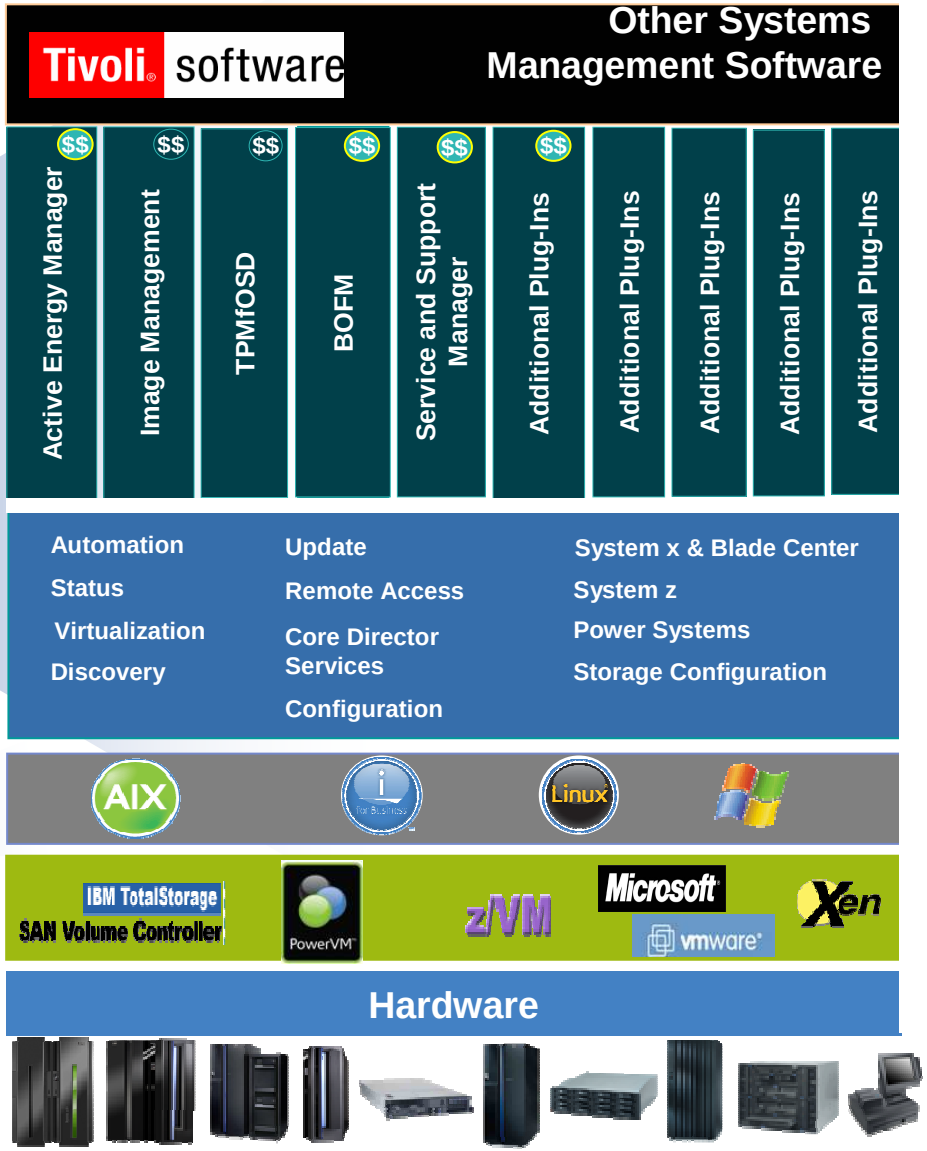
- **Single point of control** from a consistent Web-based user interface
- Simplified deployment, installation and update process
- Easy-to-learn new tasks with intuitive wizards, tutorials and integrated help
- **Topology graph** views to simplify troubleshooting across server, storage and network resources
- Comprehensive system navigation through groups, search, status and relationships
- Integrates IBM's **best-of-breed virtualization** capabilities to provide new and radically improved ways to simplify the management of physical and virtual platform resources
- Increased **platform support through the addition of single system platform-level management functionality for AIX and IBM i**
- Increased platform support through leveraged industry standards **CIM**
- Support for **embedded agents** included with a platform or deployed by other systems management tools
- A consistent access point to integrate and extend platform management throughout the infrastructure

IBM Systems Director Overview

End-to-end Management

Platform Management

- Navigator for IBM i
- AIX web console
- HMC web console
- Remote Access



Enterprise Service Management

Advanced Managers & Priced Plug-Ins

Base Systems Director Managers & Hardware Platform Managers

Resource Management

Managed virtual and physical environments

IBM and non-IBM hardware

Tivoli and Systems Director

Tivoli = Service Management

Integrated visibility, control & automation across heterogeneous business and technology assets

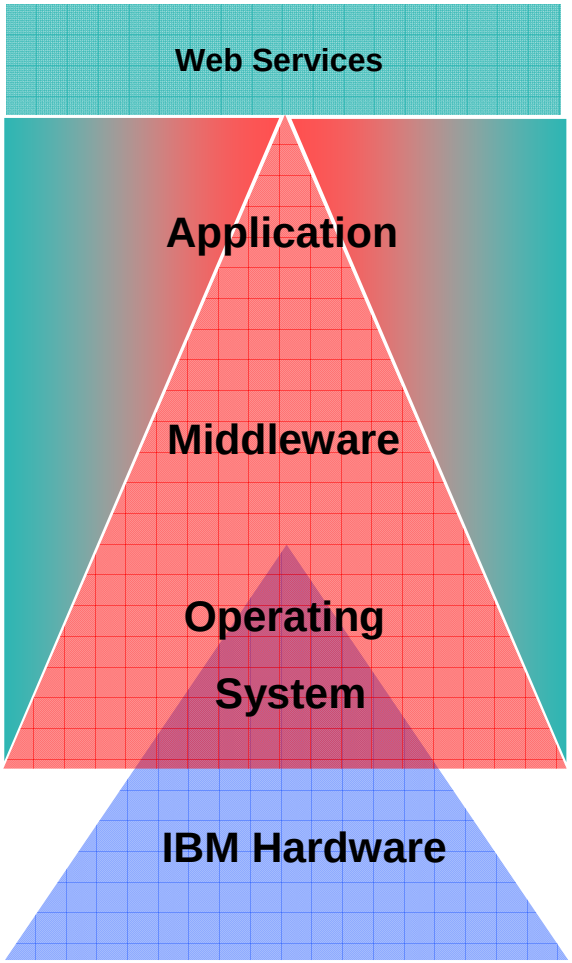
- ✓See the business
- ✓Govern and control the business
- ✓Optimize the business

Systems Director = Platform Management

Detailed "care and feeding" of IBM hardware

- ✓Tell me what I have
- ✓Let me install & configure it
- ✓Tell me if it's working
- ✓Let me update it

IBM Monitoring Capabilities



IBM Systems Director

- For IBM servers, task-oriented detailed management of power, hardware, firmware and basic monitoring of OS health
- Platform level maintenance of firmware and OS updates
- Base Systems Director included with with IBM System x, BladeCenter, Power Systems and Linux on System z

IBM Tivoli Monitoring

- Extensive monitoring capabilities focused on management of performance and health of OS, middleware, applications and transactions (composite applications) across heterogeneous platforms
- Historic data available through TDW for analysis and reports
- Tivoli provides a Systems Director connector agent to deliver hardware metrics from Systems Director to ITM
- ITM agents and infrastructure shipped with IBM System p and System z

Systems Director **Tivoli ITM** **Tivoli ITCAM**

IBM Systems Director Overview

Topology

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

IBM® Systems Director 'tiered' agent support

- **Common Agent**
  - Provides a single agent management system for status reporting and operations
    - Common authentication and credential management using a single agent manager
    - Single, shared incoming port (firewall friendly) for management
    - Increased availability using a watchdog to restart common agent, if needed
  - Single agent runtime shared by IBM systems and Tivoli products like Tivoli Provisioning Manager reduces agent footprint, supports shared credentials and drives discovery, inventory and other common services
  - Replaces the previous 5.x Level 2 Agent while providing Seamless integration of Platform Agent
- **Platform Agent**
  - Provides a subset of Common Agent functions used to communicate with and administer the managed system, including hardware alerts and status information
  - Improved interoperability through open standards, rather than through proprietary technologies
  - Firmware and driver updates and remote deployment
- **Agent-less Management**
  - Agent-less managed systems are 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.

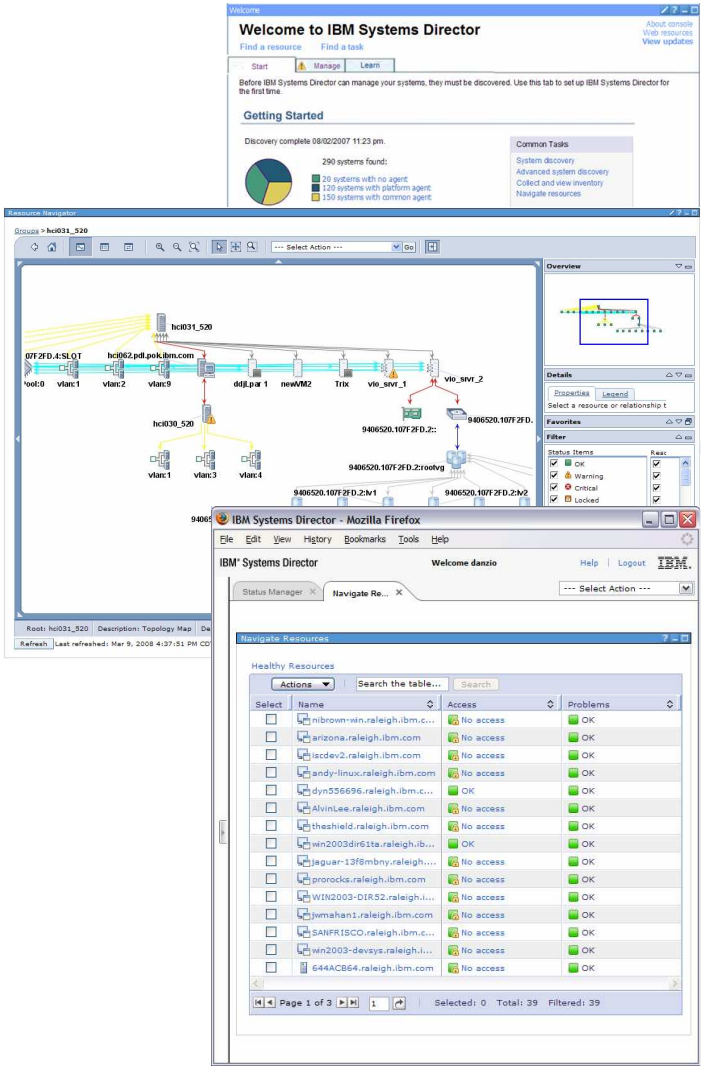
IBM Systems Director Agents

	Agentless	Platform Agent	Common agent
Discovery	✓	✓	✓
Collect limited operating-system inventory data	✓	✓	✓
Remotely deploy and install Common Agent and Platform Agent.	✓	✓	✓
Perform limited remote access	✓ limited	✓ limited	✓
Perform restart capabilities	✓ limited	✓ limited	✓
Manage alerts	X	✓	✓
Monitor health and status - enabling UIM to enterprise environments	X	✓ limited	✓
Collect platform inventory data	X	X	✓
Perform power management function	X	X	✓
Collect comprehensive platform and operating system inventory data	X	X	✓
Perform remote access, including transferring files	X	X	✓
Additional event support	X	X	✓
Monitor processes and resources, and set critical thresholds send notifications when triggered	X	X	✓
Manage operating system resources and processes	X	X	✓
Manage updates	X	X	✓

IBM Systems Director Overview

Consistent user experience with common tasks

- Discover, navigate and illustrate systems on the network, visualize detailed inventory and relationships
- Identify problematic systems and drill down to the root cause
- Update firmware, drivers, and operating systems, and orchestrate the installation process
- Update plug-ins to add new functions to the base capabilities
- Monitor systems in real time and set critical thresholds to notify administrators of emerging problems
- Configure settings of a target system and create a configuration plan to deploy these settings to similar systems
- Reduce virtualization complexity
- Manage energy



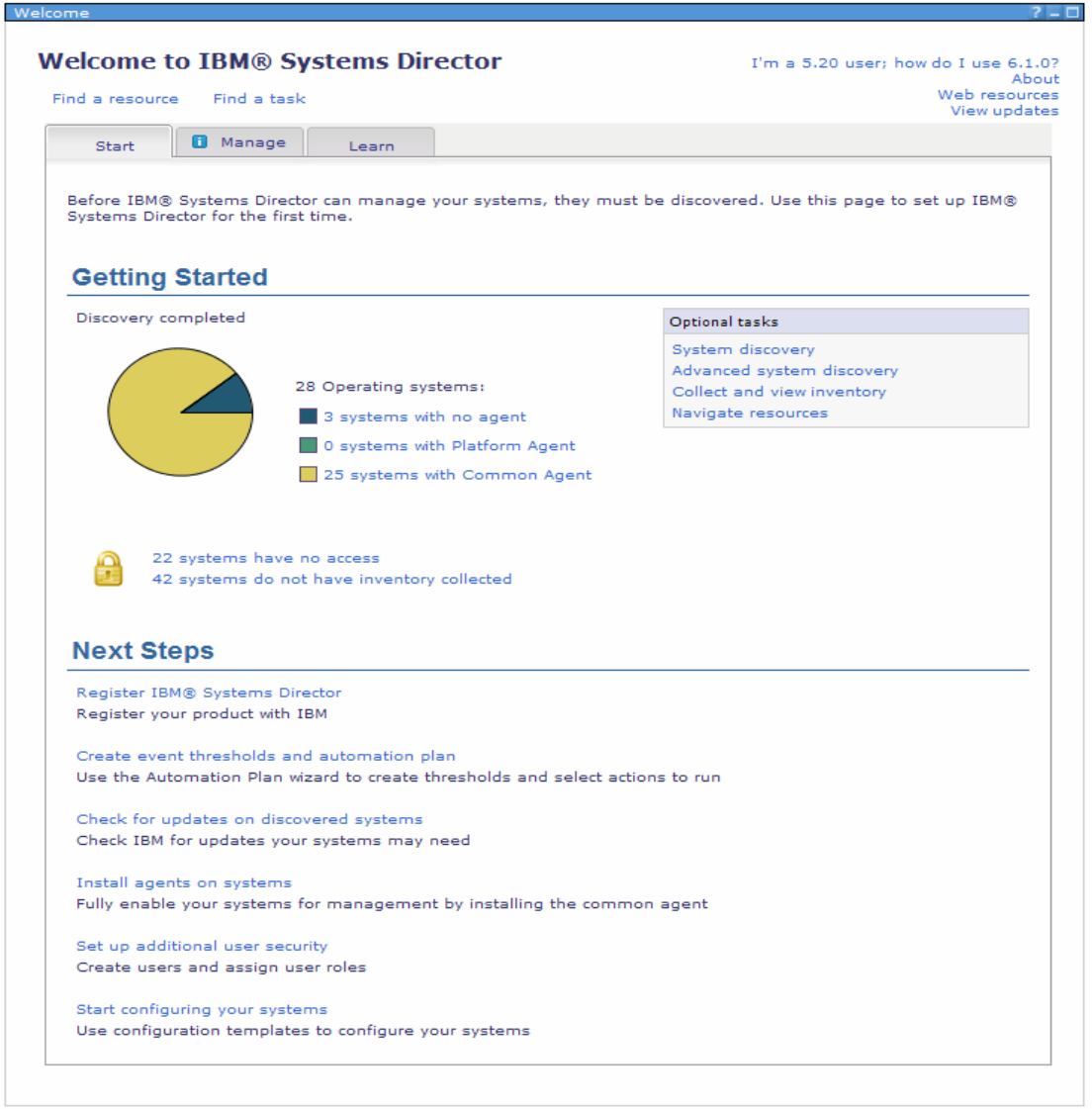
Simplified Setup and Getting Started

Highlights

- **Start tab**
- **Manage tab**
- **Learn tab**

Simplified Setup and Getting Started

- **Start tab**
  - Click discover
  - View results
- **Manage tab**
  - Simple “activity-based” approach
  - Highlight platform management
- **Learn tab**
  - Learn each activity
  - Learn Power systems integration



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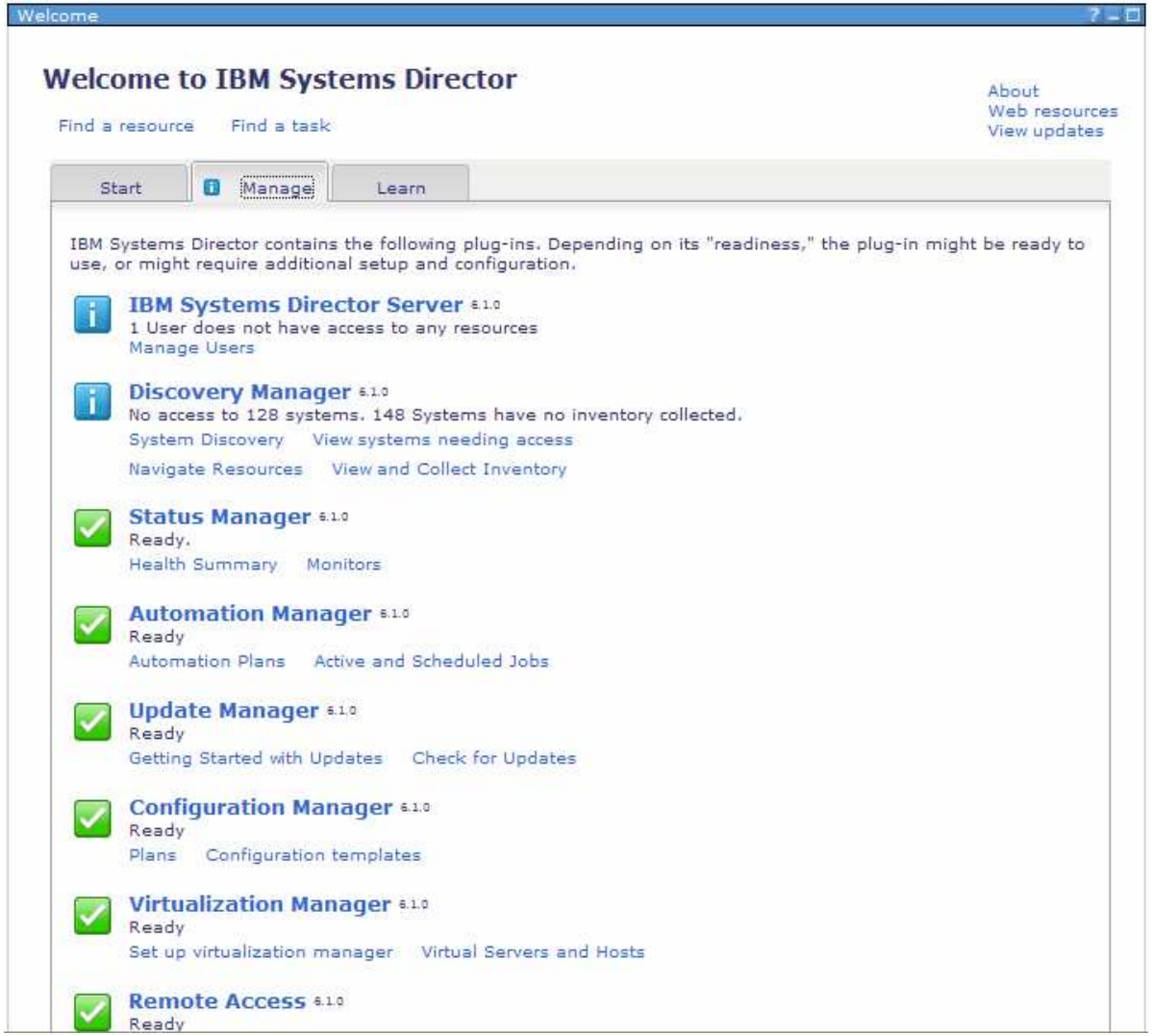

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Focus on Health, Status, Automation

Highlights

- **Health summary**
- **Monitoring**
- **Update Compliance**
- **Automation Plans**

Focus on Health, Status, Automation

- **Health summary**
  - Favorite systems
  - Critical monitors
  - Group thumbnails
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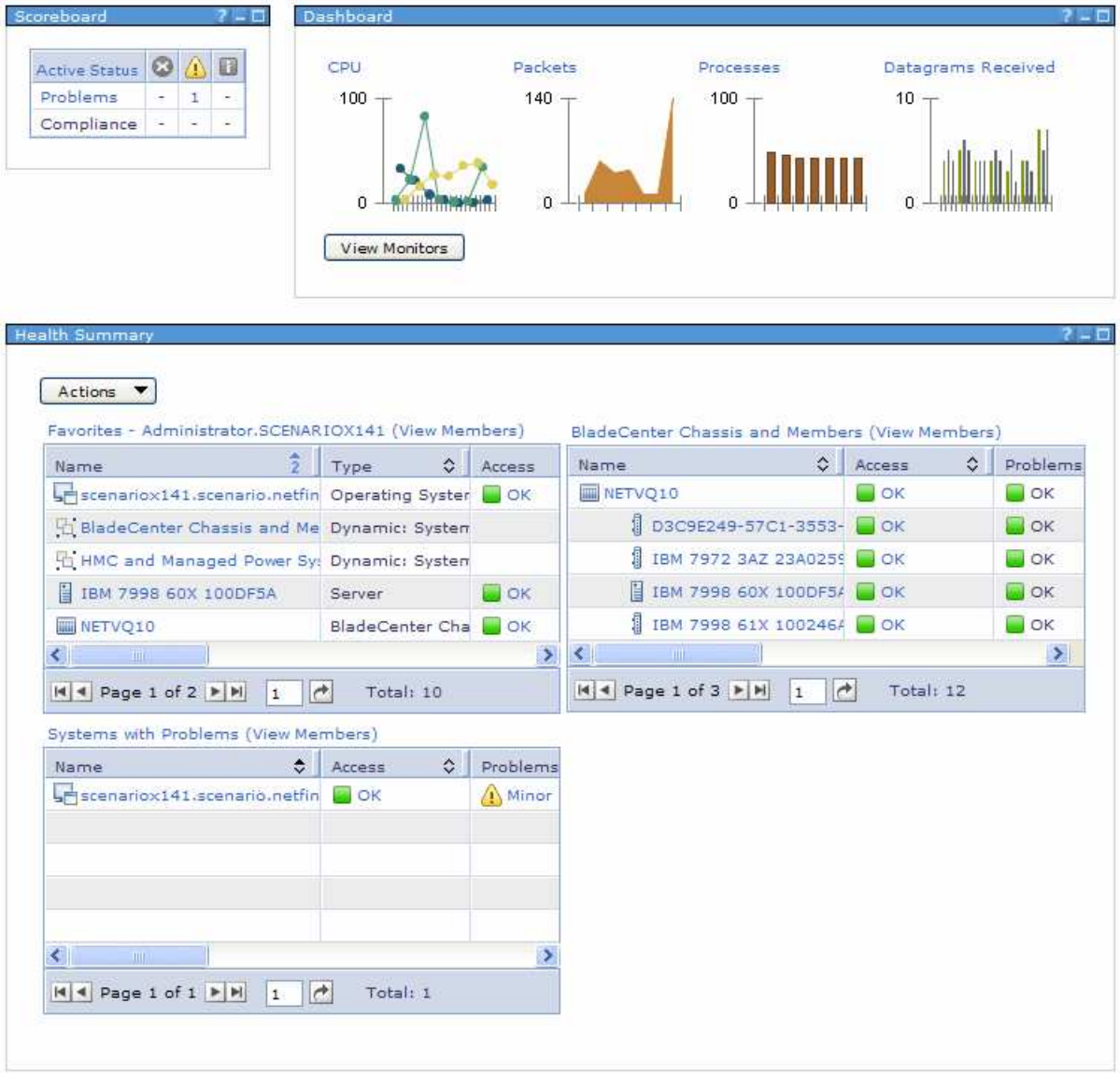
- **Automation Plans**
  - Notify
  - Run commands
  - Trigger tasks



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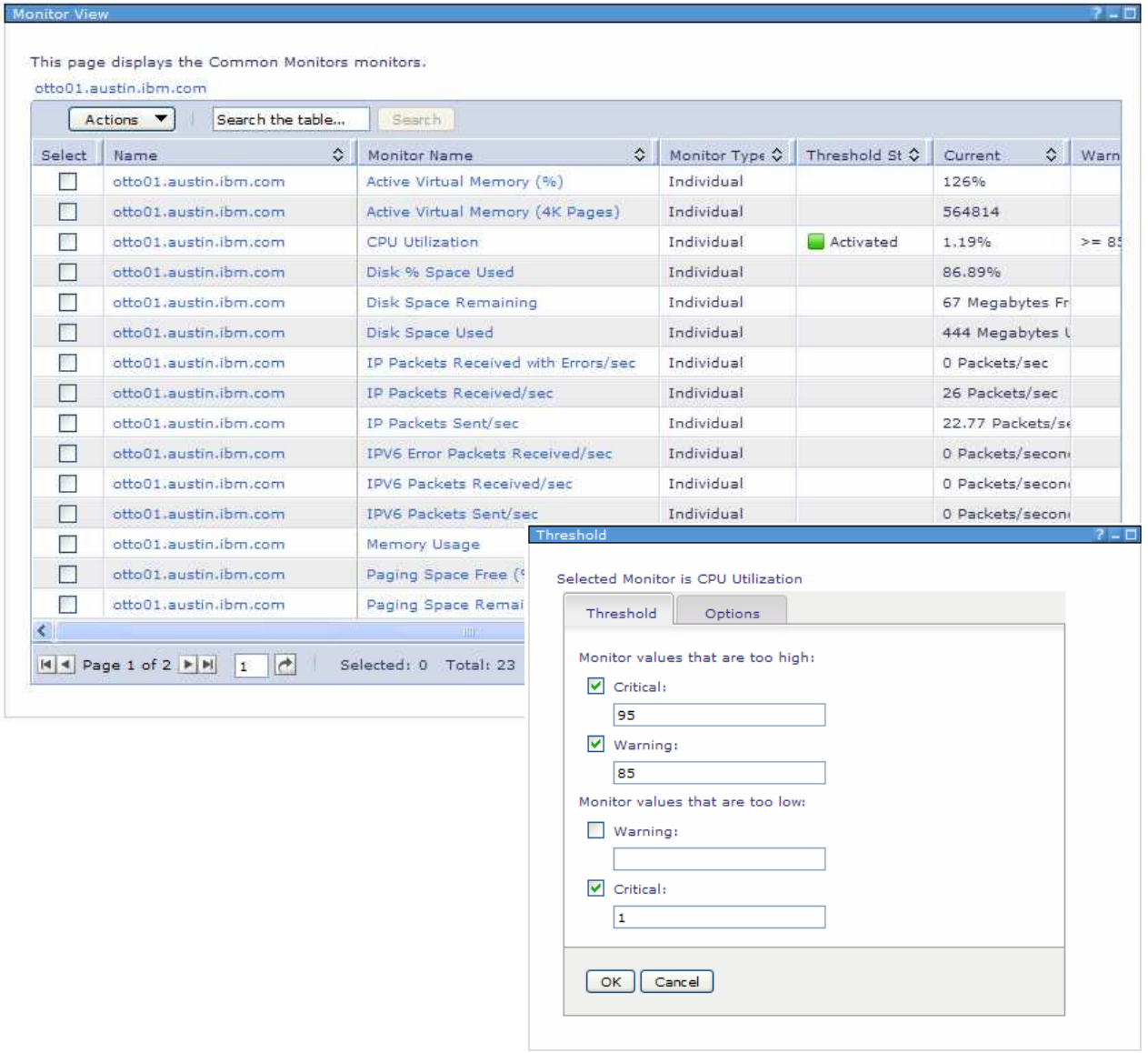

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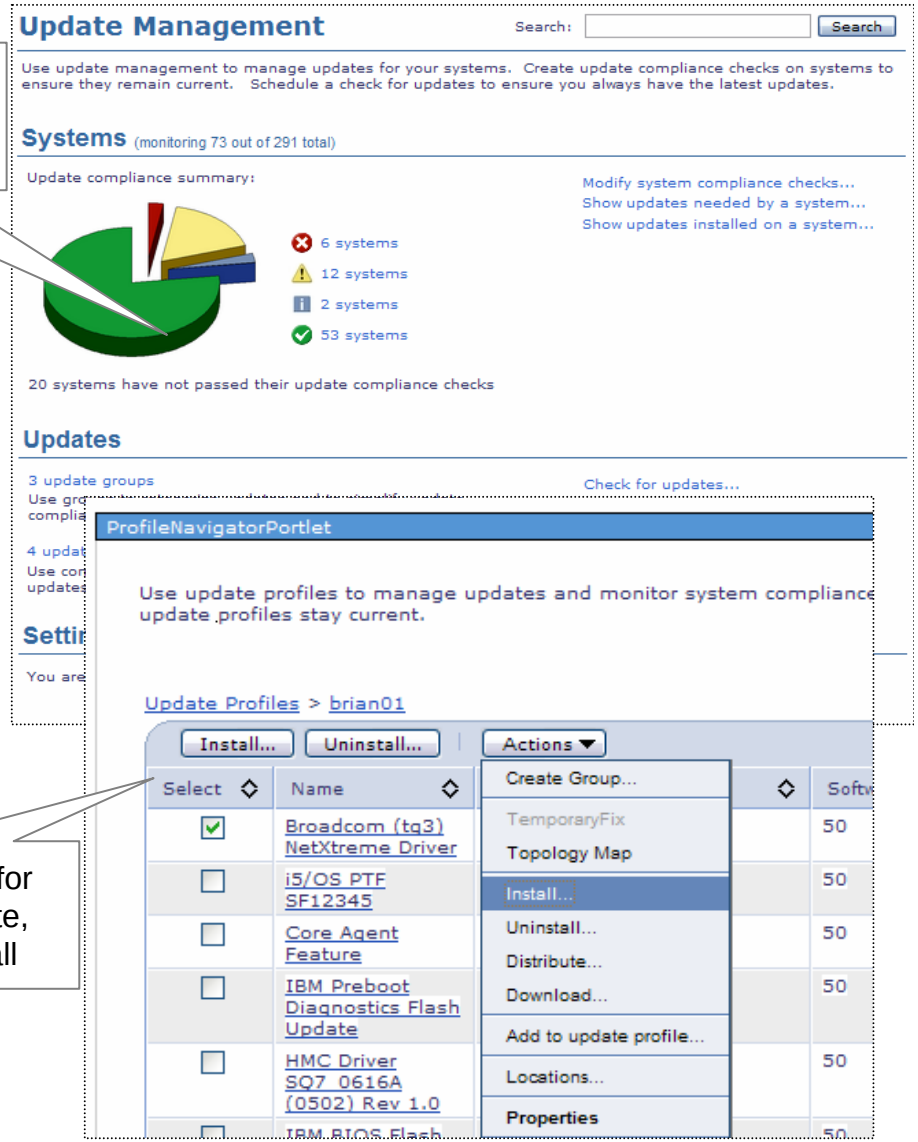
Summary page for single view



Integrated actions for download, distribute, install and uninstall

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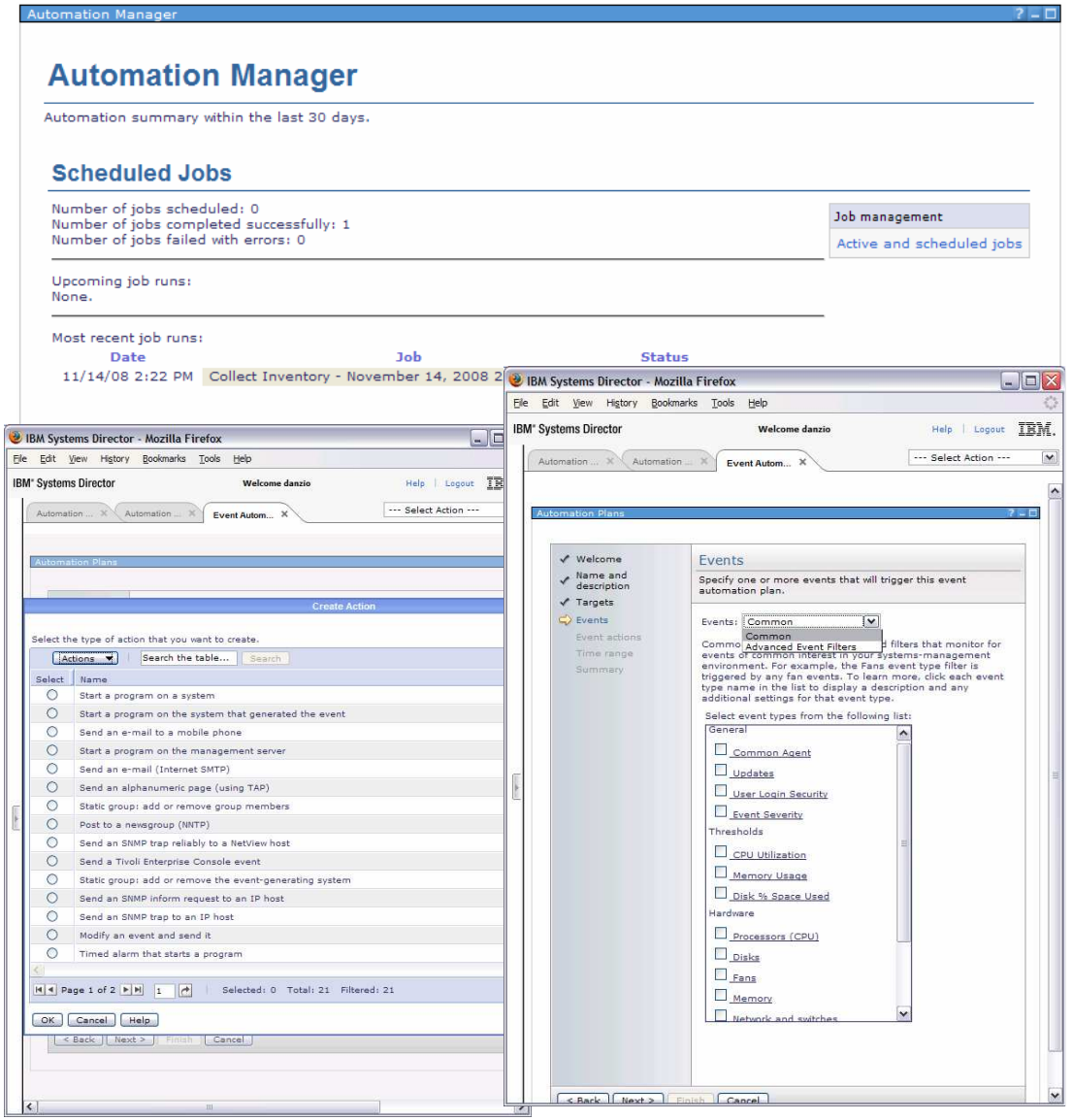

Easy to Navigate Power Systems

Highlights

- **Power Systems summary**
- **Drilldown to properties**
- **Finger-tip troubleshooting**
- **Inventory**
- **Topology maps**
- **Launch embedded tasks**

Easy to Navigate Power Systems

- **Power Systems summary**
  - Launch-point
  - Familiar
  - Intuitive groups
- **Drilldown to properties**
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- **View topology map**
  - Relationships
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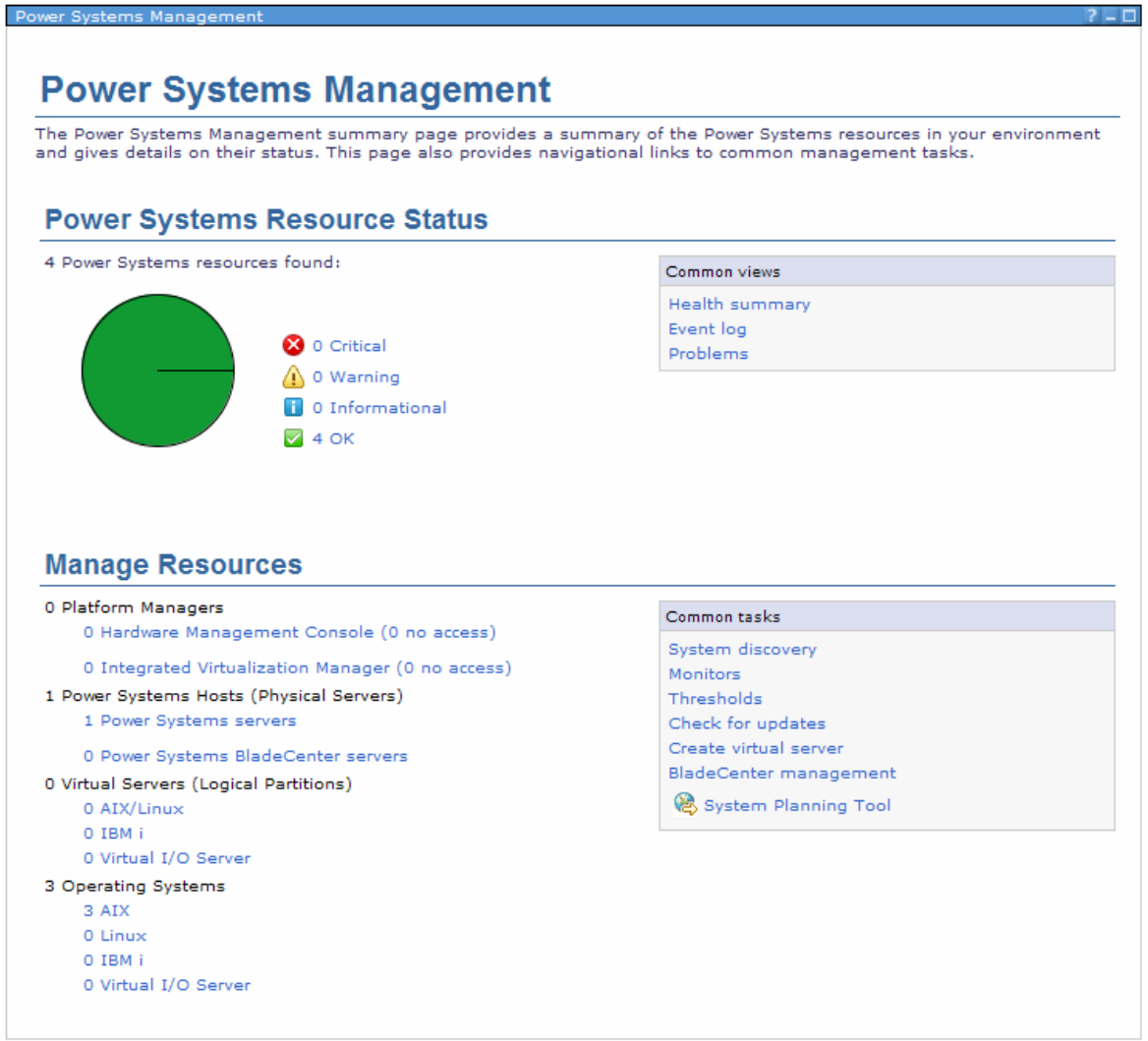

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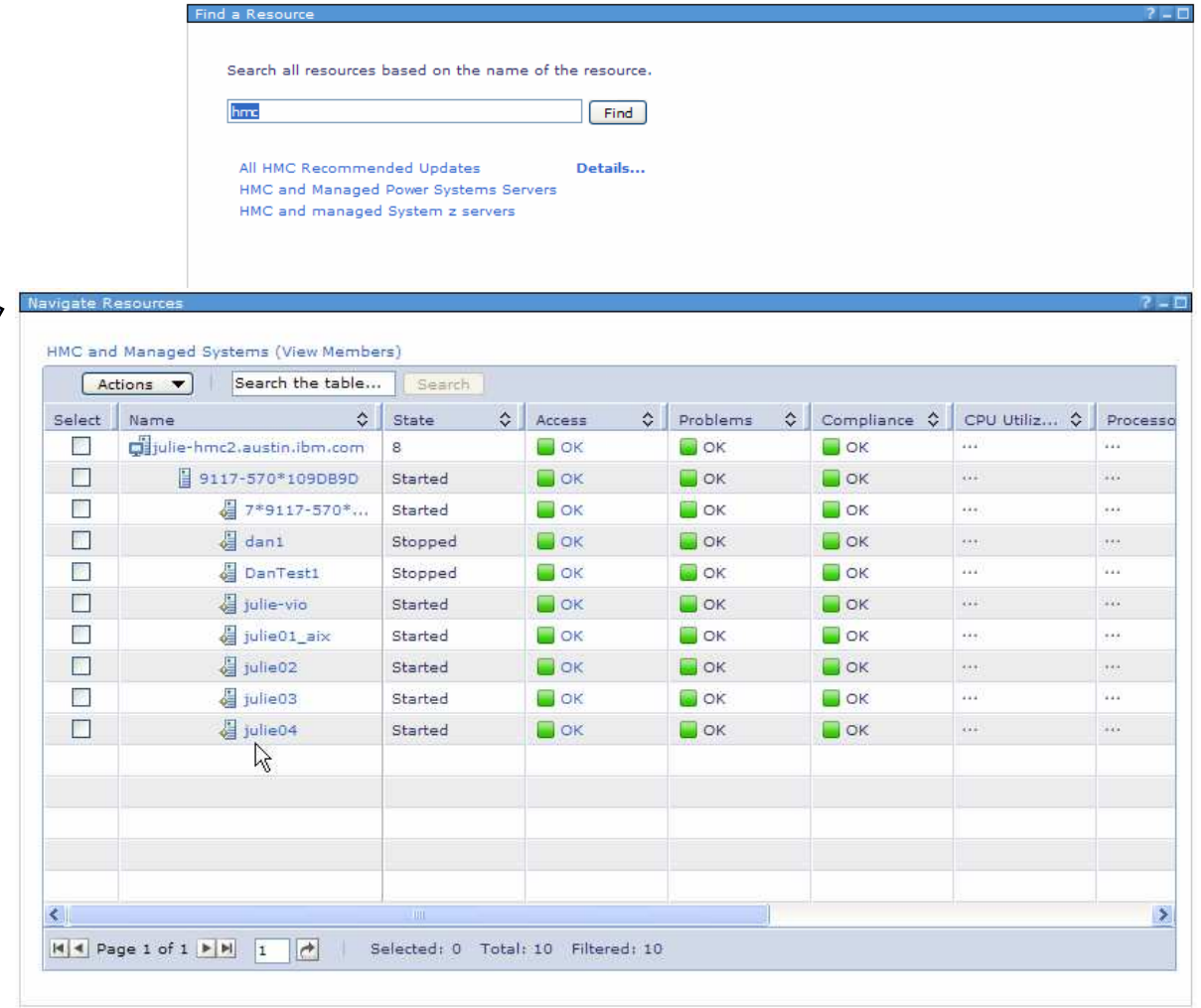

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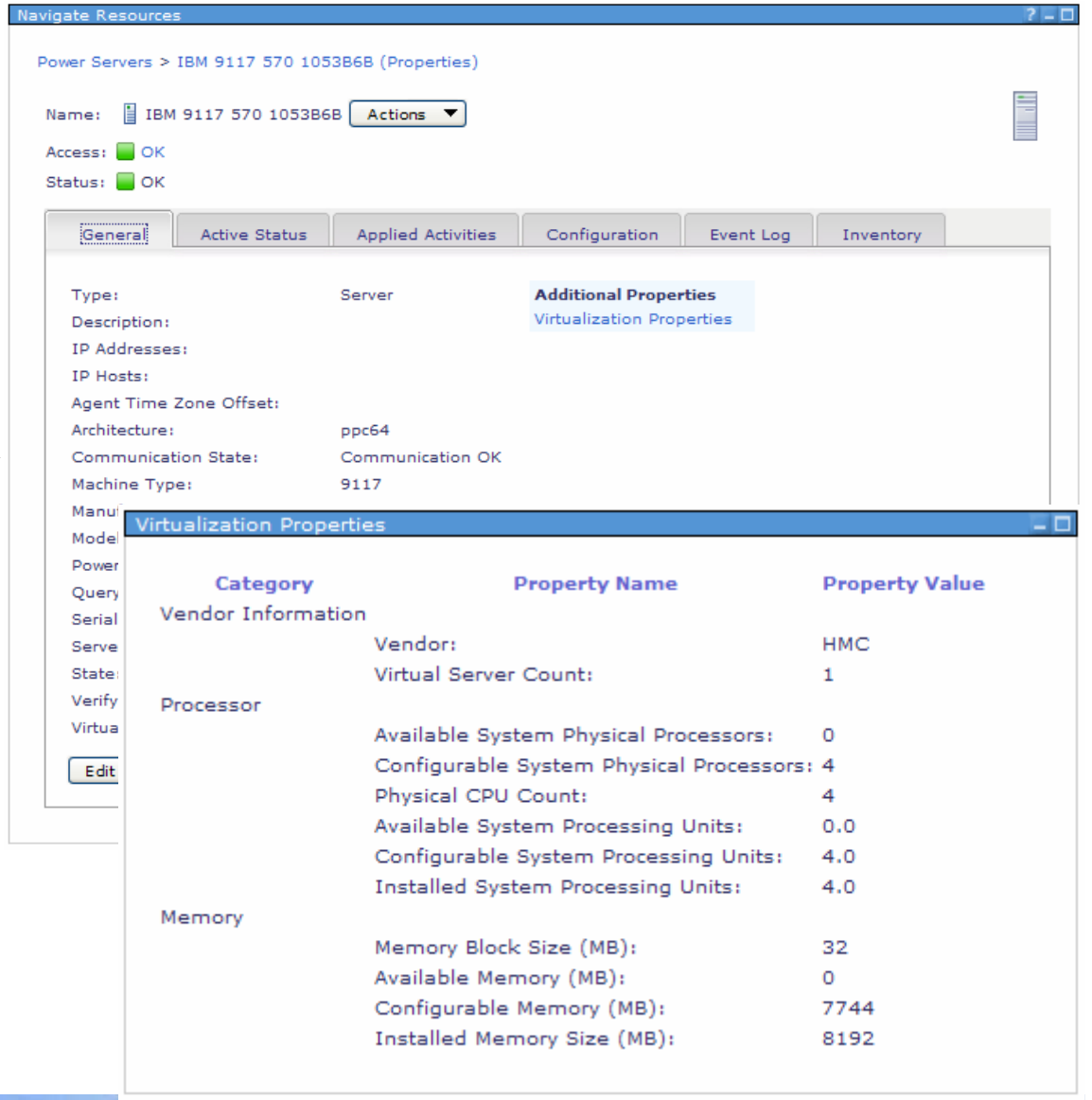

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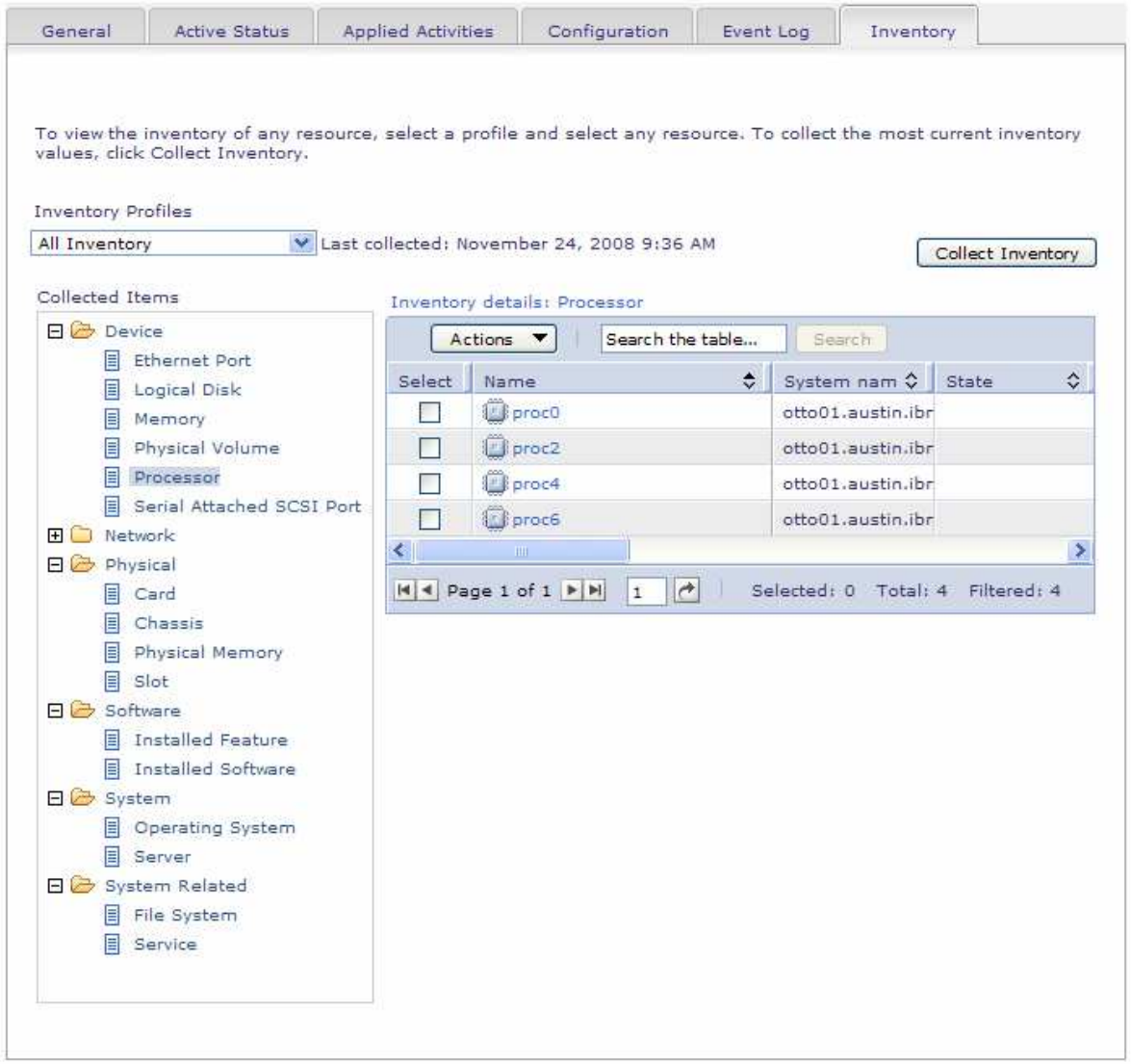

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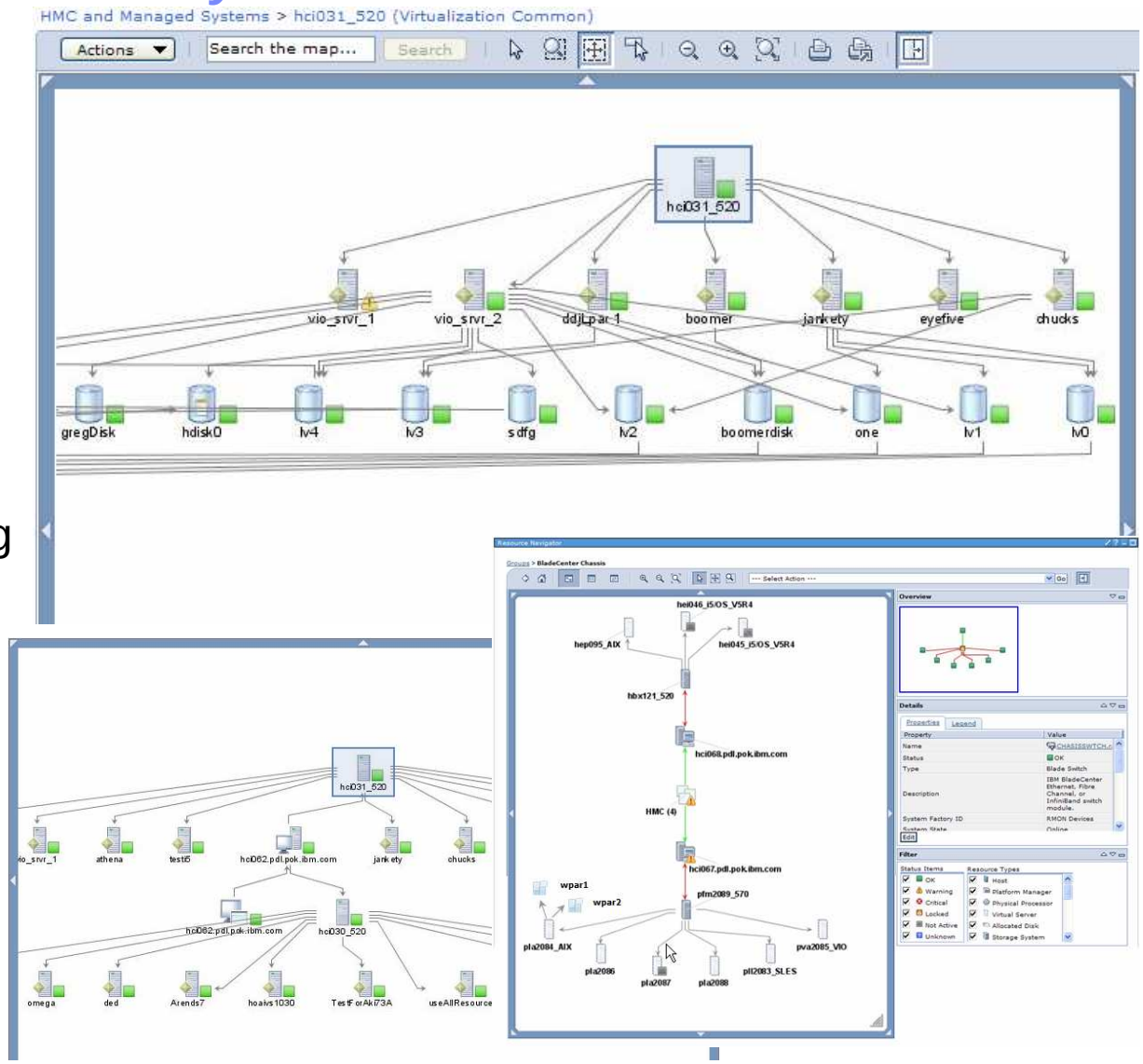

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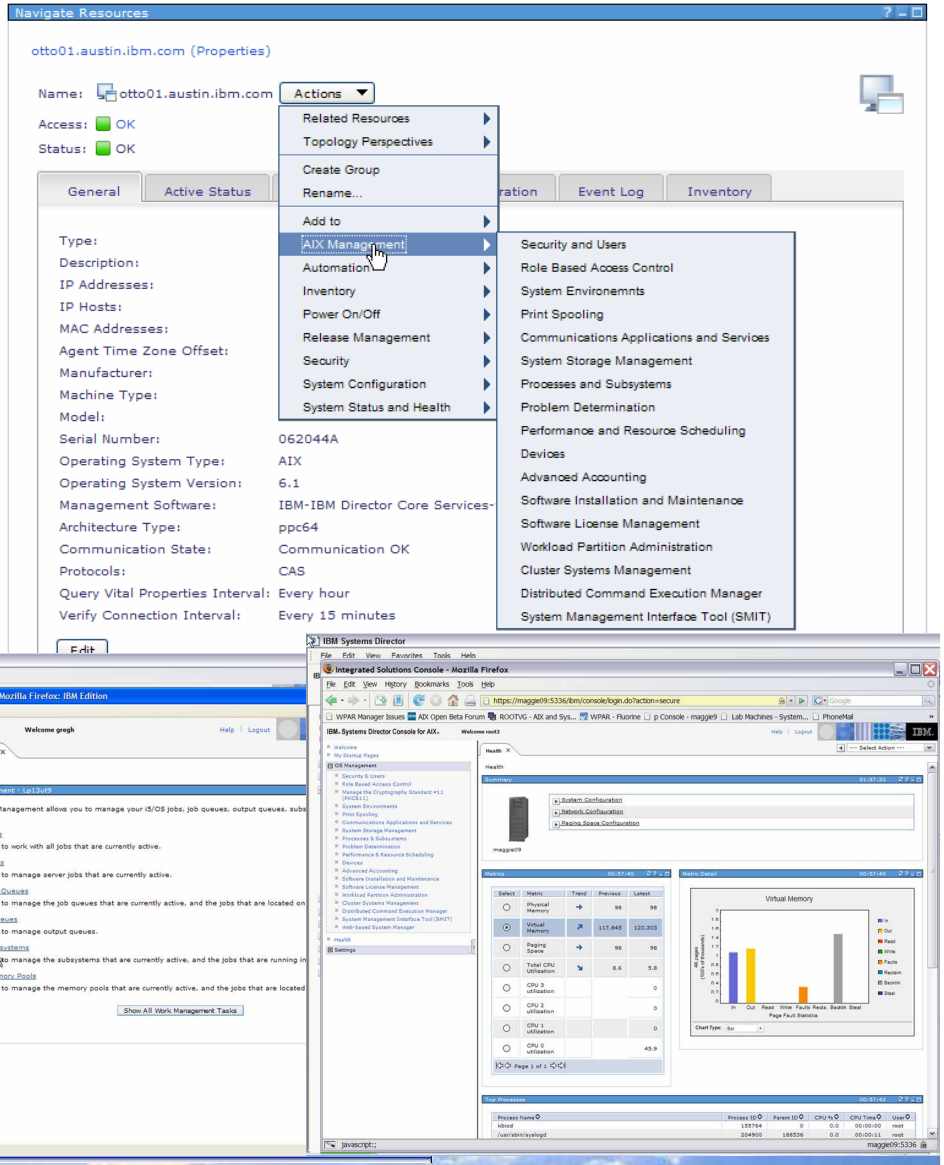
  - IBM i, HMC, AIX



Simply Virtual

Highlights

- **Multi-Platform Management**
- **Edit virtual resources**
- **Relocate**
- **Configure for Deployment**

Simply Virtual

- **Multi-Platform Management**
  - Virtual Servers and Hosts
  - HMC and Systems
  - Life-cycle management
  - Topology Maps
- **Edit virtual resources**
  - Edit Hosts
  - Edit Virtual Servers
  - GUI or command line
- **Relocate**
  - Live relocation
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- **Configure for Deployment**
  - Real-time
  - Templates
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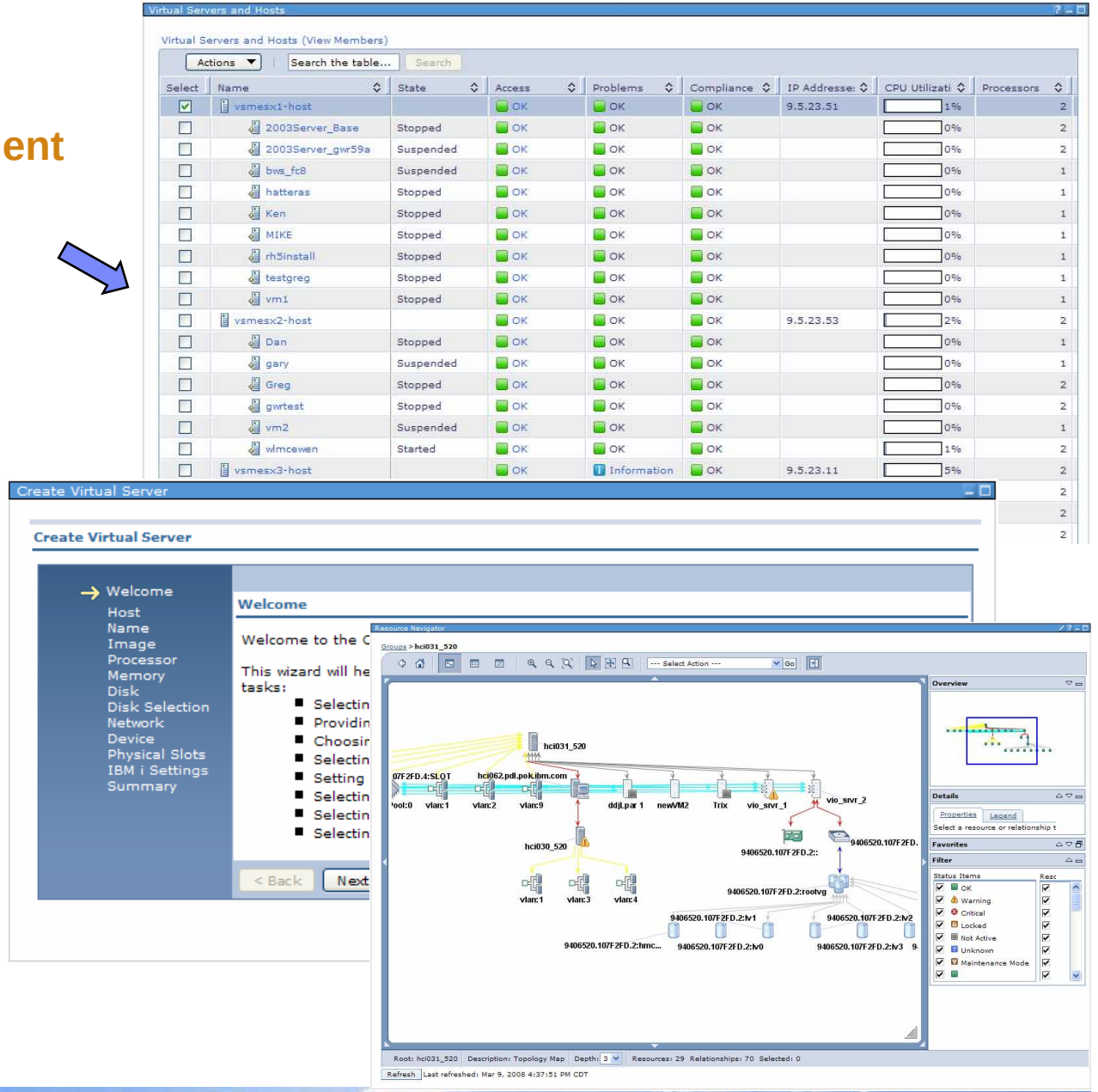

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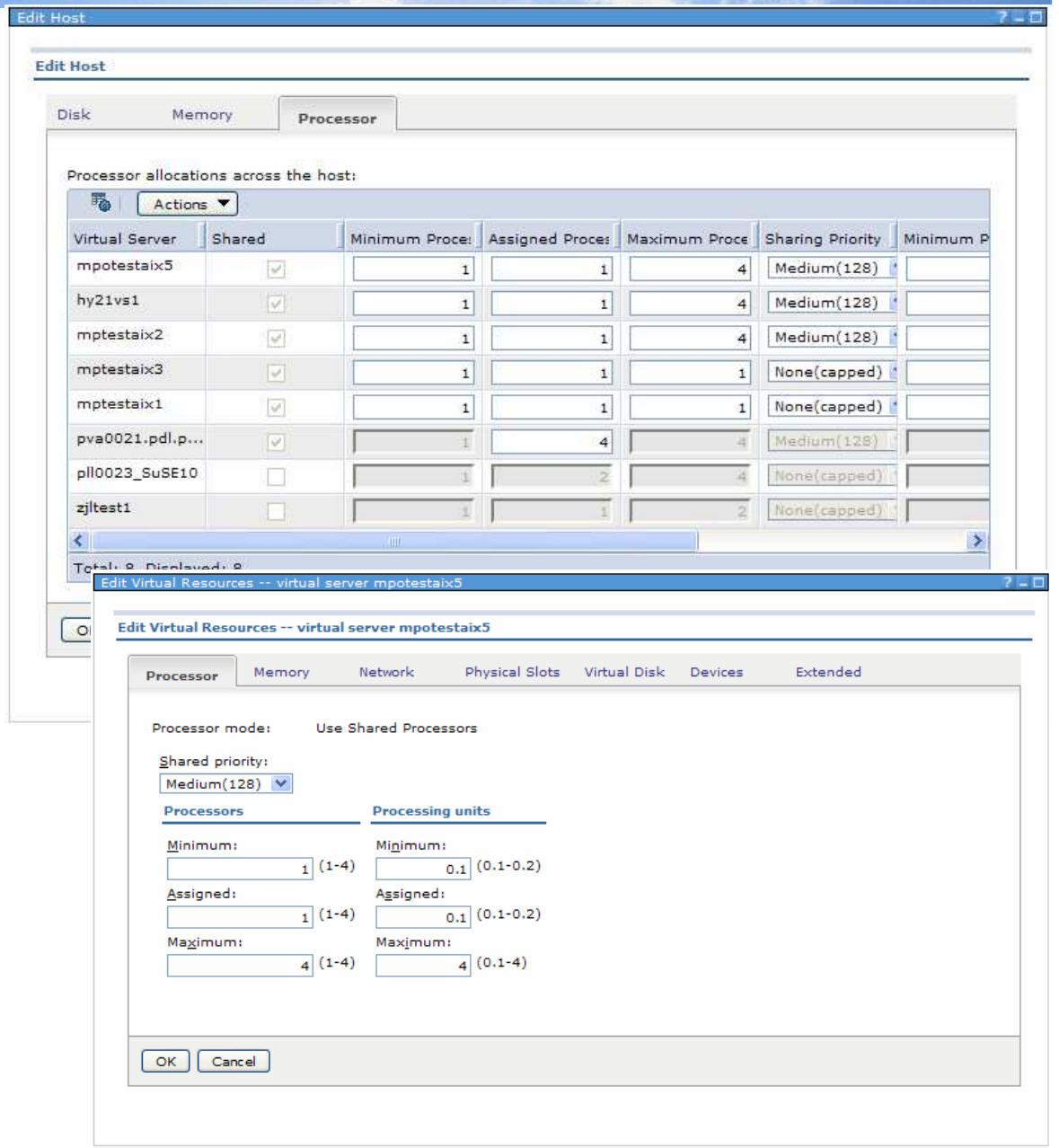

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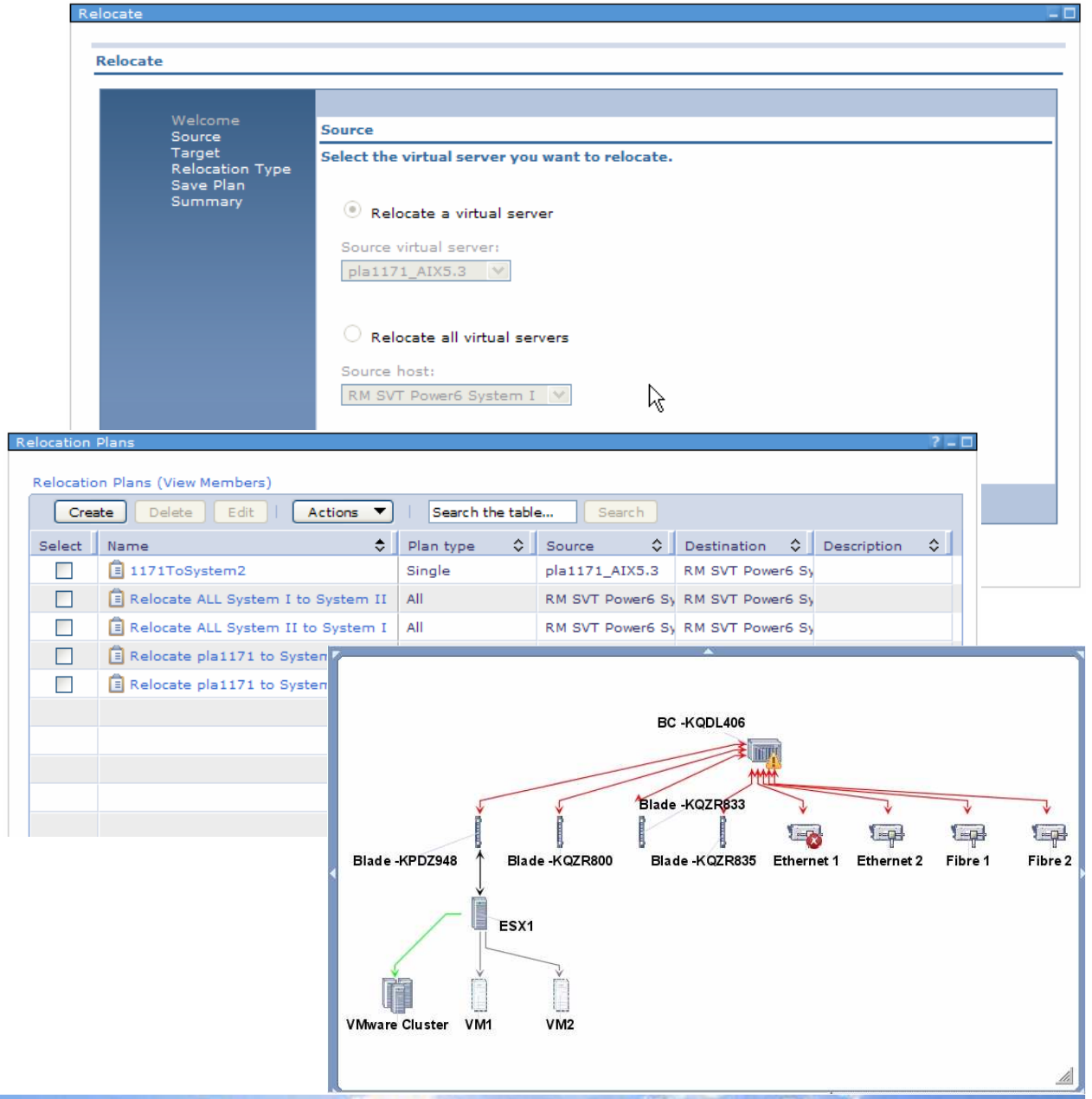

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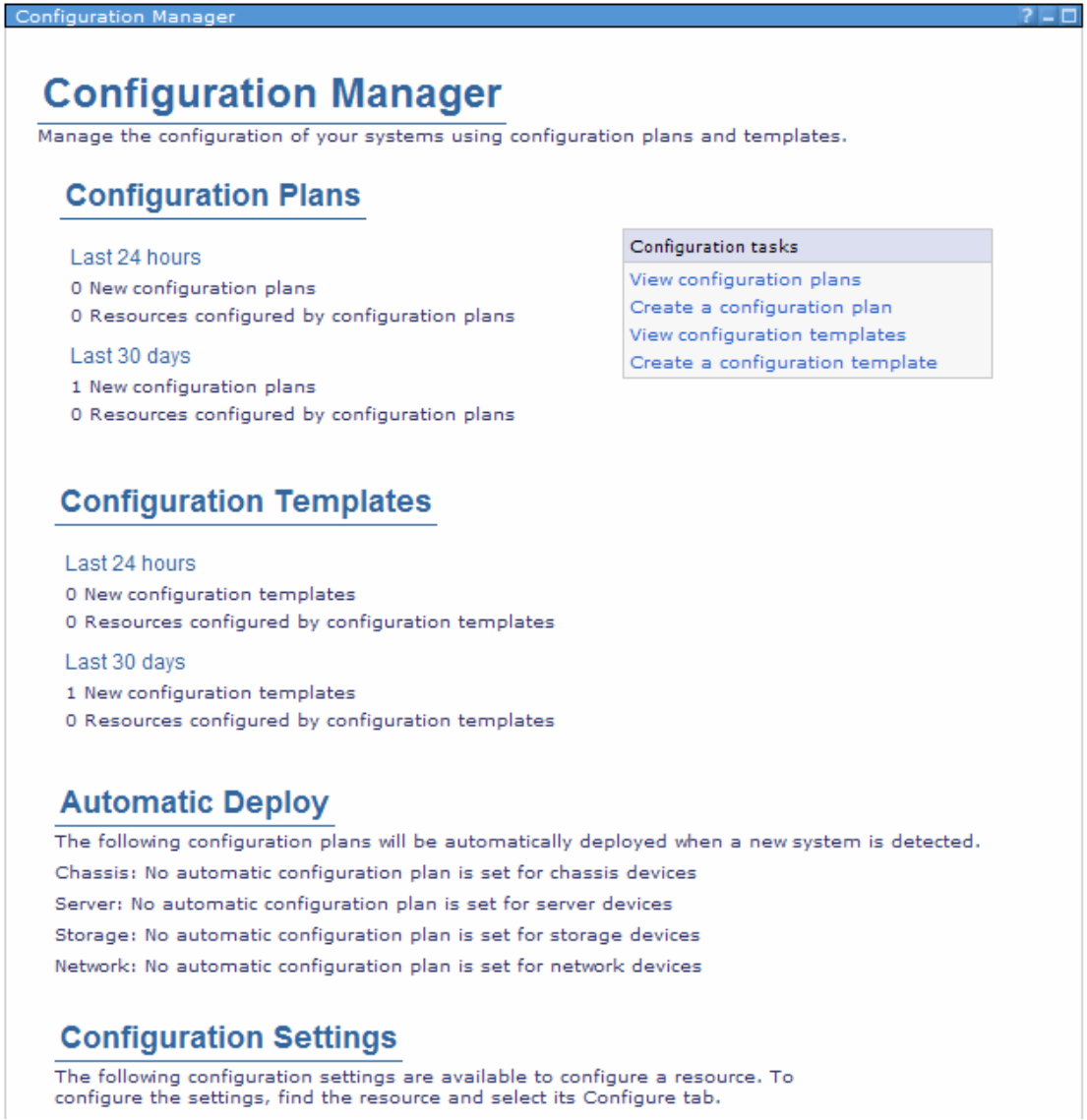


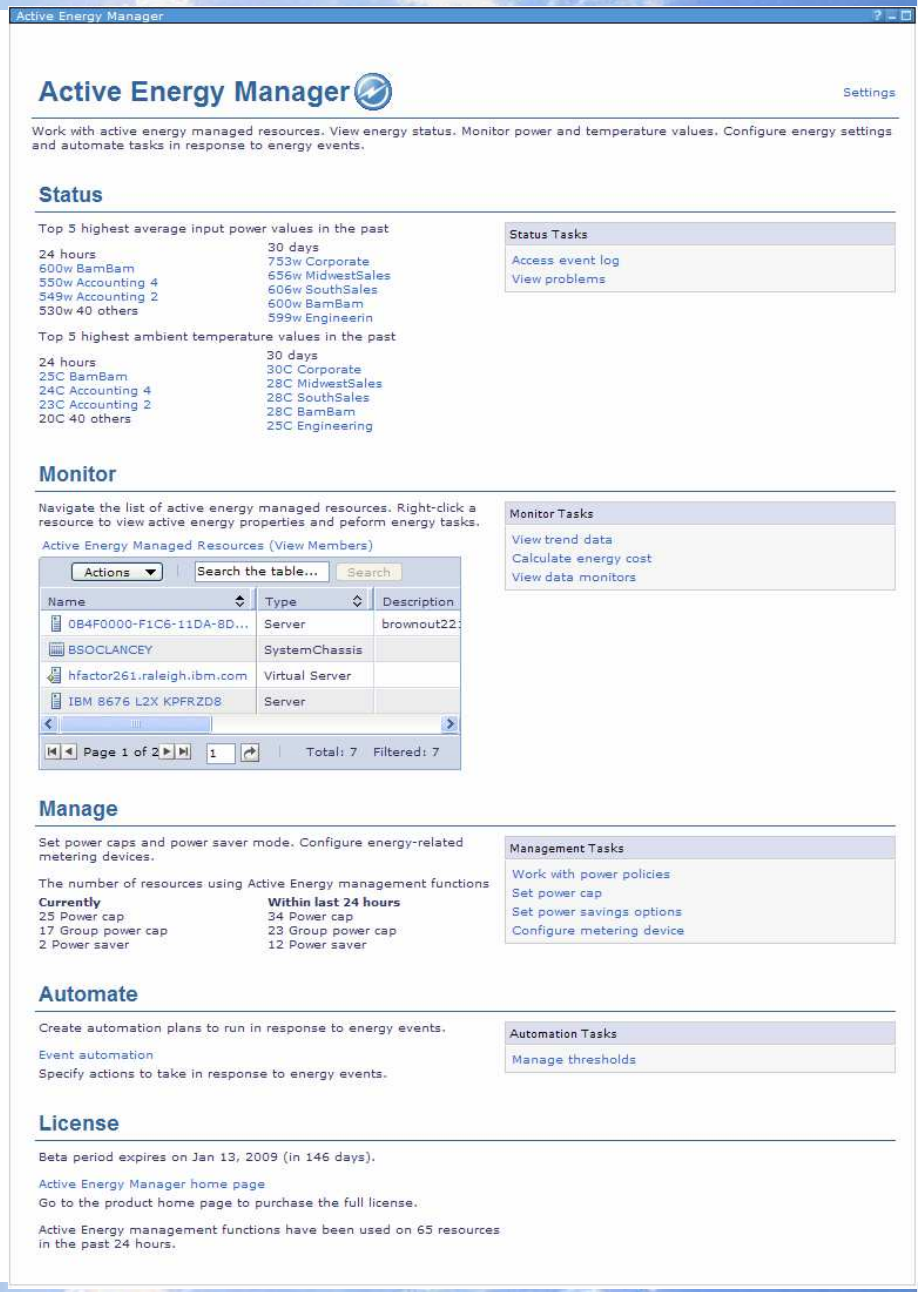
Energy Management

Highlights

- **Energy Usage Summary**
- **Configuring Energy**
- **Monitoring, automation**

Energy Management

- **Energy Usage Summary**
- **Configuring Energy**
  - Power capping
  - Power savings mode
  - Configure PDU
- **Update PDU firmware**
- **Monitoring, automation**
  - power and temperature values
  - Trend Data
  - Watt-Hour Meter
- **Topology Map**
  - System “plugged into” PDU



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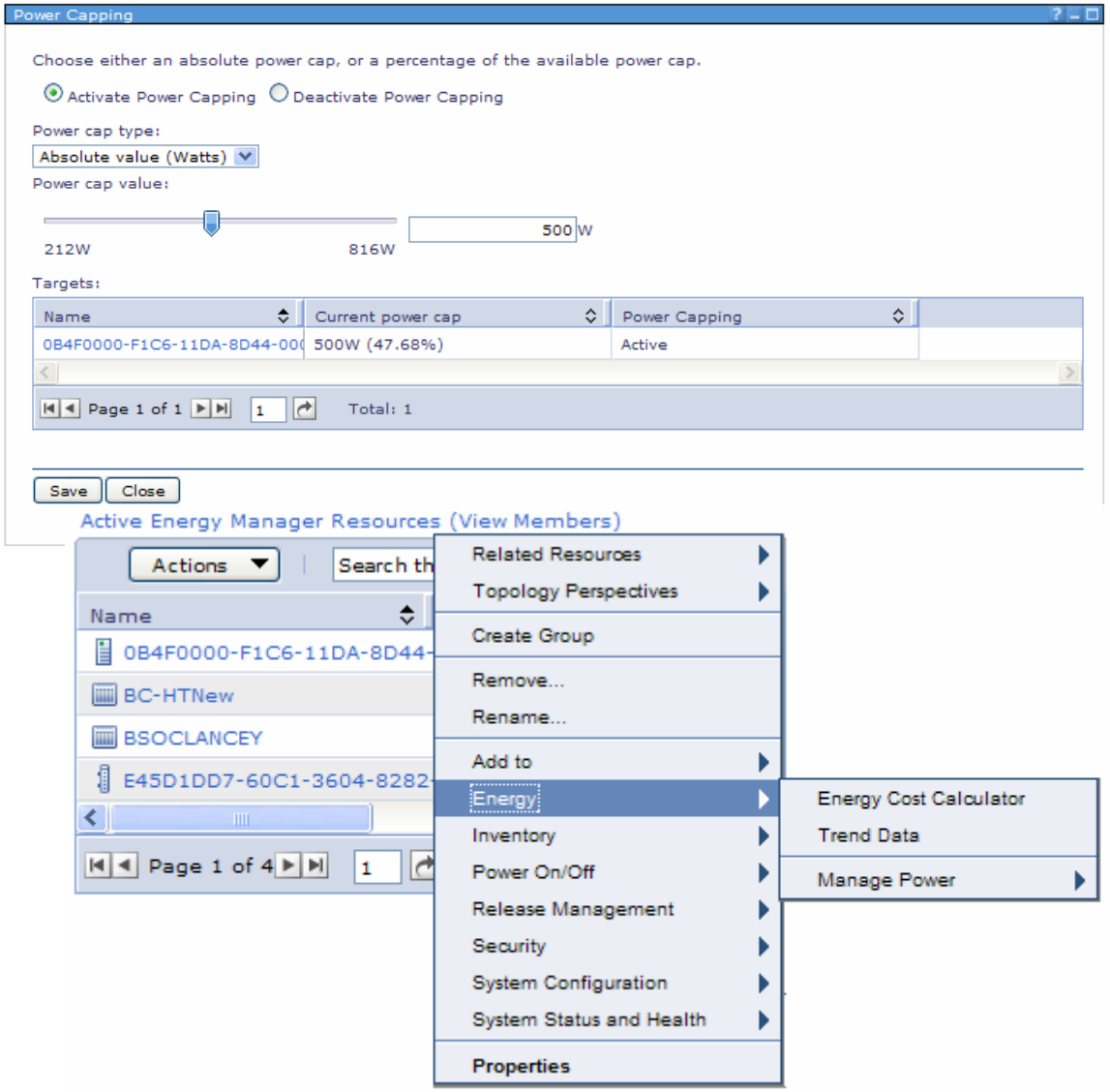

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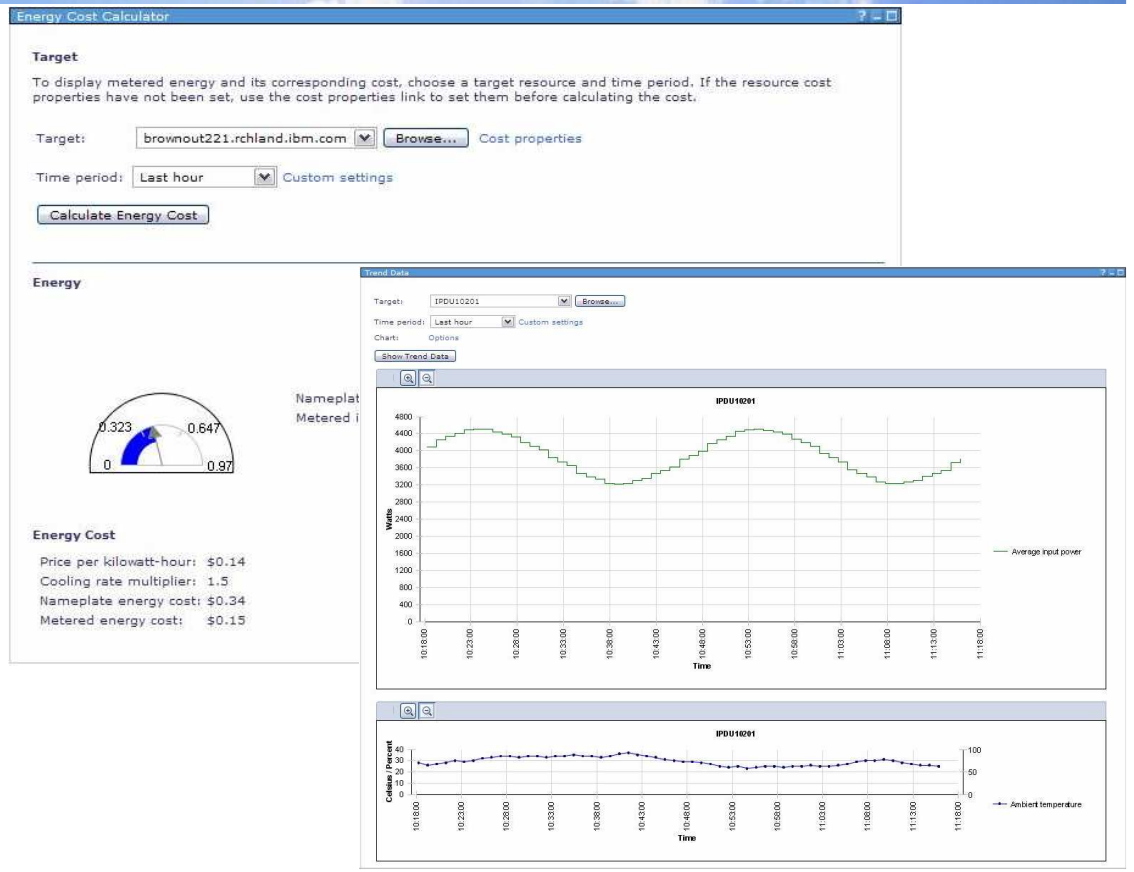

This page displays the Active Energy Monitors monitors.

0B4F0000-F1C6-11DA-8D44-0...

Actions | Search the table... | Search

Select	Name	Monitor Name	Monitor Type	Threshold St	Current
☐	0B4F0000-F1C6-	Ambient Temperature	Individual		25.00
☐	0B4F0000-F1C6-	Average Input Power	Individual		449.40
☐	0B4F0000-F1C6-	Average Output Power	Individual		428.00
☐	0B4F0000-F1C6-	Effective CPU Speed	Individual		100.00
☐	0B4F0000-F1C6-	Exhaust Temperature	Individual		40.00

IBM® Systems Director 6.1 summary

- Integrates IBM's best-of-breed virtualization capabilities to provide new and radically improved ways to simplify the management of physical and virtual platform resources
- Unifies the monitoring and control of IBM systems, delivering a consistent look and feel for common management tasks
- Delivers multi-system support across IBM Power, System x, System z, and IBM Storage systems and non-IBM x86 systems
- Provides an extendable and modular foundation to advance the core systems management capabilities with additional plug-ins
- Enables seamless integration of IBM systems with the total infrastructure, and upward integration with enterprise service management solutions such as IBM Tivoli
- Delivers a consistent and unified platform management foundation that facilitates reduced training costs

Implementation Recommendations

- **Direct or proxy internet access from Ibm Systems Director Server is a recommended prerequisite**
  - update management processes facilitated
- **Unicity of Linux and AIX operating systems global ssh keys is a strict prerequisite**
  - regeneration of ssh keys should be added as a post-install script during cloning of operatiing systems
  - regeneration of UNIQUE ID (UID) should be done

  not implicite with nim cloning either csm cloning either alt_disk_install
- **Discover from Hardware to Operating Systems order**
- **Remarks :**
  - IBM Systems Director Common Agent included with AIX distribution and base install since AIX 5.3 TL9 and AIX 6.1 TL3.
  - IBM Systems Director Common Agent included with VIOS 2.1

Recommended Documentation

PDFs

- IBM Systems Director for AIX Planning, Installation, and Configuration Guide (GI11-8709)
- IBM Systems Director Systems Management Guide (GC30-4176)
- IBM Systems Director Commands Reference (GC30-4170)
- IBM Systems Director Troubleshooting and Support Guide (GC30-4177)
- IBM Systems Director Active Energy Manager Installation and User's Guide
- IBM Systems Director VMControl Installation and User's Guide
- IBM Systems Director Network Control V1.1

Infocenter

http://publib.boulder.ibm.com/infocenter/director/v6r1x/index.jsp

References

- **IBM Systems Director Site**
  - http://www.ibm.com/systems/management/director/
- **IBM Director Documentation (education, tutorials, articles)**
  - http://publib.boulder.ibm.com/infocenter/systems/index.jsp?topic=/director_6.1/fqm0_main.html
- **IBM Director FORUM**
  - http://www.ibm.com/developerworks/forums/dw_forum.jsp?forum=759&cat=53
- **IBM Systems Director Download Site**
  - http://www.ibm.com/systems/management/director/downloads/
- **IBM Systems Management Web Site**
  - http://www.ibm.com/systems/management

Last Announcements

- **IBM Systems Director 6.2.0**
- **IBM Systems Director VMControl 2.3**
- **IBM Systems Director Active Energy Manager 4.3**
- **IBM Systems Director Network control 1.2**

General Availability : June, 25 , 2010

IBM Systems Director V6.2 : What is new ?

New features in IBM® Systems Director V6.2:

- **Improves the performance and scalability of IBM Systems Director in managing large environments**
- **Extends platform support to discover and manage IPv6-capable devices**
- **Simplifies the end-to-end installation and update processes**
- **Improves the usability of the Discovery Manager**
- **Enables hierarchical management of multiple IBM Systems Director Servers from a single IBM Systems Director Server**
- **Provides Representational State Transfer (REST) interfaces to help integrate IBM Systems Director functions with other data center management solutions**

Network control V1.2 : What is new ?

IBM® Systems Director, with its network management component, provides a single, integrated environment for managing both servers and networks.

IBM Systems Director Network Control extends the Systems Director product to include the integrated management of both physical and virtual network systems.

- **IBM Systems Director Network Management V6.2 adds the following new benefits:**
  - Support for IPv6 standards
  - Support for many new models of Ethernet switches and related networking devices
- **IBM Systems Director Network Control V1.2 adds the following new benefits:**
  - Facilitates the management of virtual switches
  - Combines views of both physical and virtual network topologies
  - Displays systems according to VLAN
  - Integrates the configuration of Brocade FCoCEE switches

VmControl V2.3 : What is new ?

- **IBM® Systems Director VMControl Image Manager for Linux® on System z®, V2.3, an IBM System Director plug-in, provides a comprehensive set of virtualization management tools that can be used to simplify and improve the utilization of virtual server, storage, and network resources, and to increase the level of workload resilience.**

The main features in this release:

- **Enhanced image management capabilities for Linux images running on z/VM® and Linux images running on Power® operating systems in PowerVM™ virtualization**
- **Virtual server life cycle management and relocation for VMware vCenter 4.1**
- **Virtual server life cycle management for Microsoft® Hyper-V V2**
- **System pools for IBM Power Systems™**
- **Data center integration and extensibility using Representational State Transfer (REST) interfaces**

Active Energy Manager V4.3 : What is new ?

IBM Systems Director Active Energy Manager™ (AEM) V4.3 software, an IBM® Systems Director plug-in, is available on the AIX® and Linux® operating systems to help you monitor and manage the power and thermal usage of your IT environment.

AEM is a unique energy management software tool that can provide a single view of the actual power usage across systems in your infrastructure as opposed to the benchmarked power consumption.

The main new features in this release are:

- **IBM POWER7™ technology-based servers can be monitored for energy consumption and can be energy-managed from AEM. This includes the ability to set power capping and set static power savings mode.**
- **PDUs from Server Technologies and Geist can now be monitored. By adding these popular products, AEM continues to increase its scope.**
- **AEM supports integration with the latest releases of APC's InfraStruXure Central V5.1 and V6.0 and Eaton's Power Xpert V2.0 for monitoring power and cooling infrastructure.**