

Tips on how to better manage virtual and physical networks

HP Network Automation 7.6 Technical Awareness Webcast

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Agenda

- Introduction to network automation
- Overview of network virtualization
- What's new in HP Network Automation (NA) 7.6
 - Virtualization additions/enhancements
 - vSwitch support
 - Virtual context support
 - Virtualization enhancements
 - VLAN enhancements
 - Link aggregation



Introduction to network automation

Overview of network virtualization

Virtualization additions

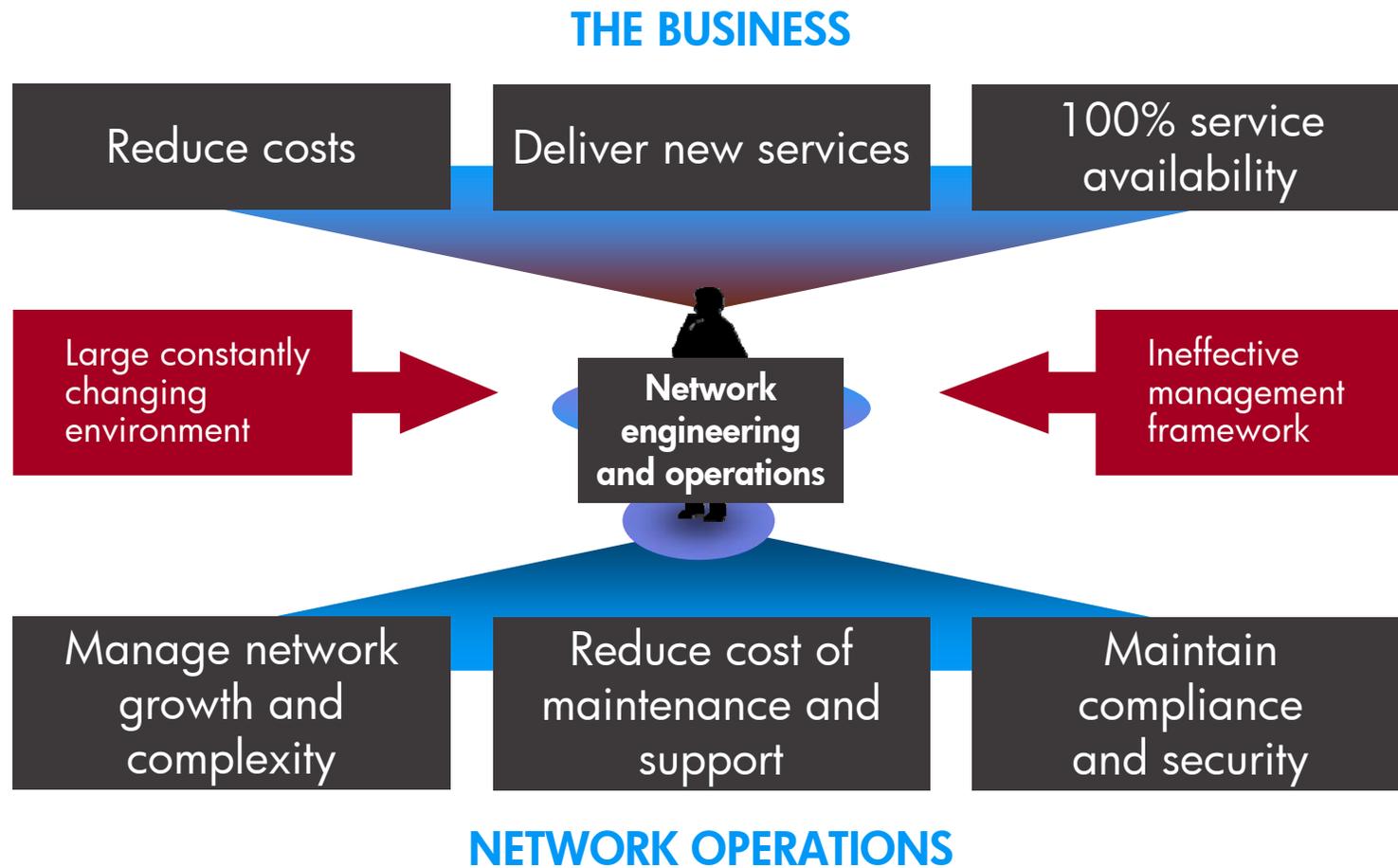
Virtualization enhancements

Resources



Network lifecycle management priorities: reduce costs, increase agility

Easy to say, difficult to do



What is needed?

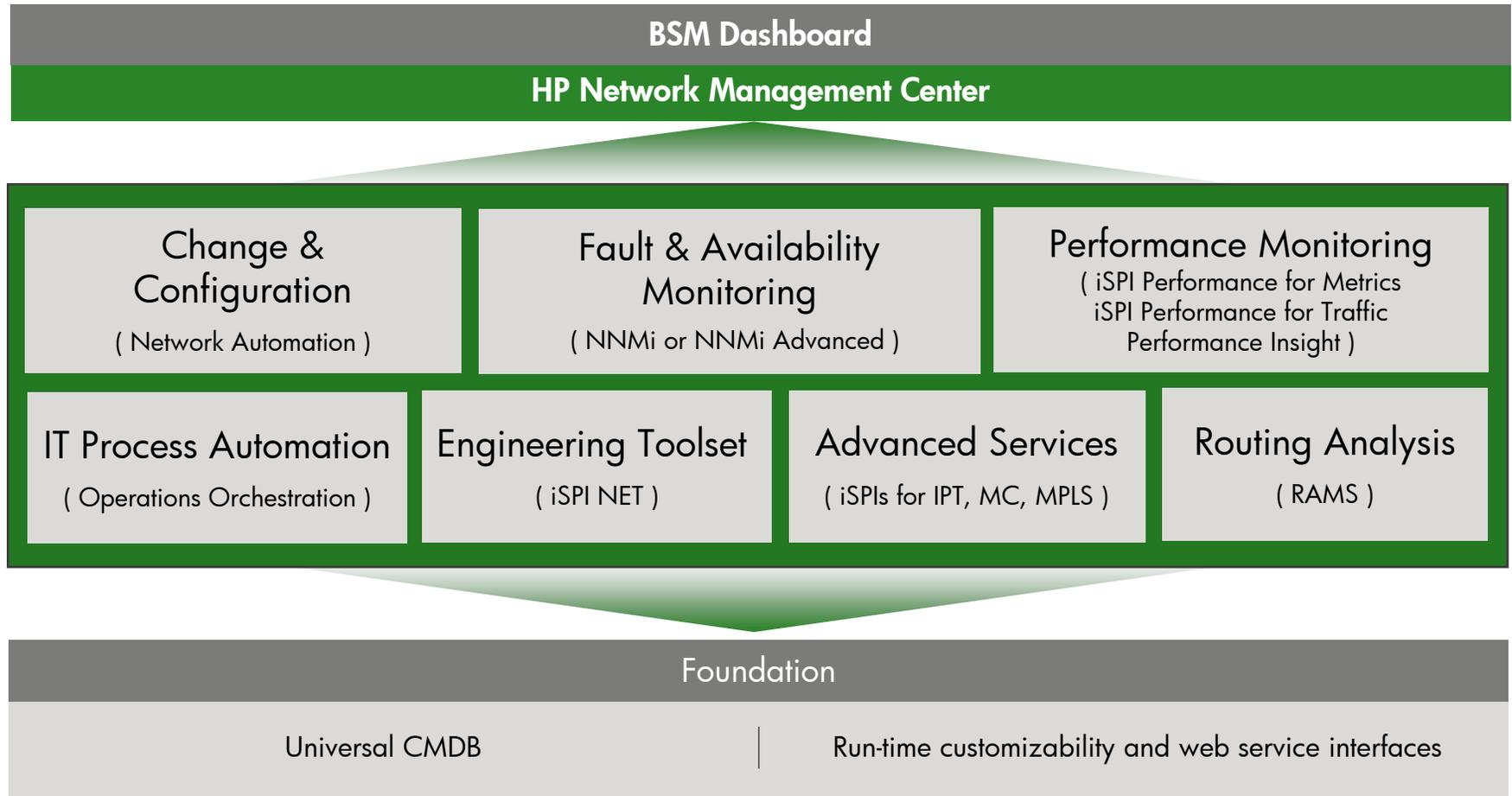
Automated network device
management and compliance
enforcement

Proactive network
fault and performance
management with
integrated remediation

HP Automated
Network Lifecycle Management

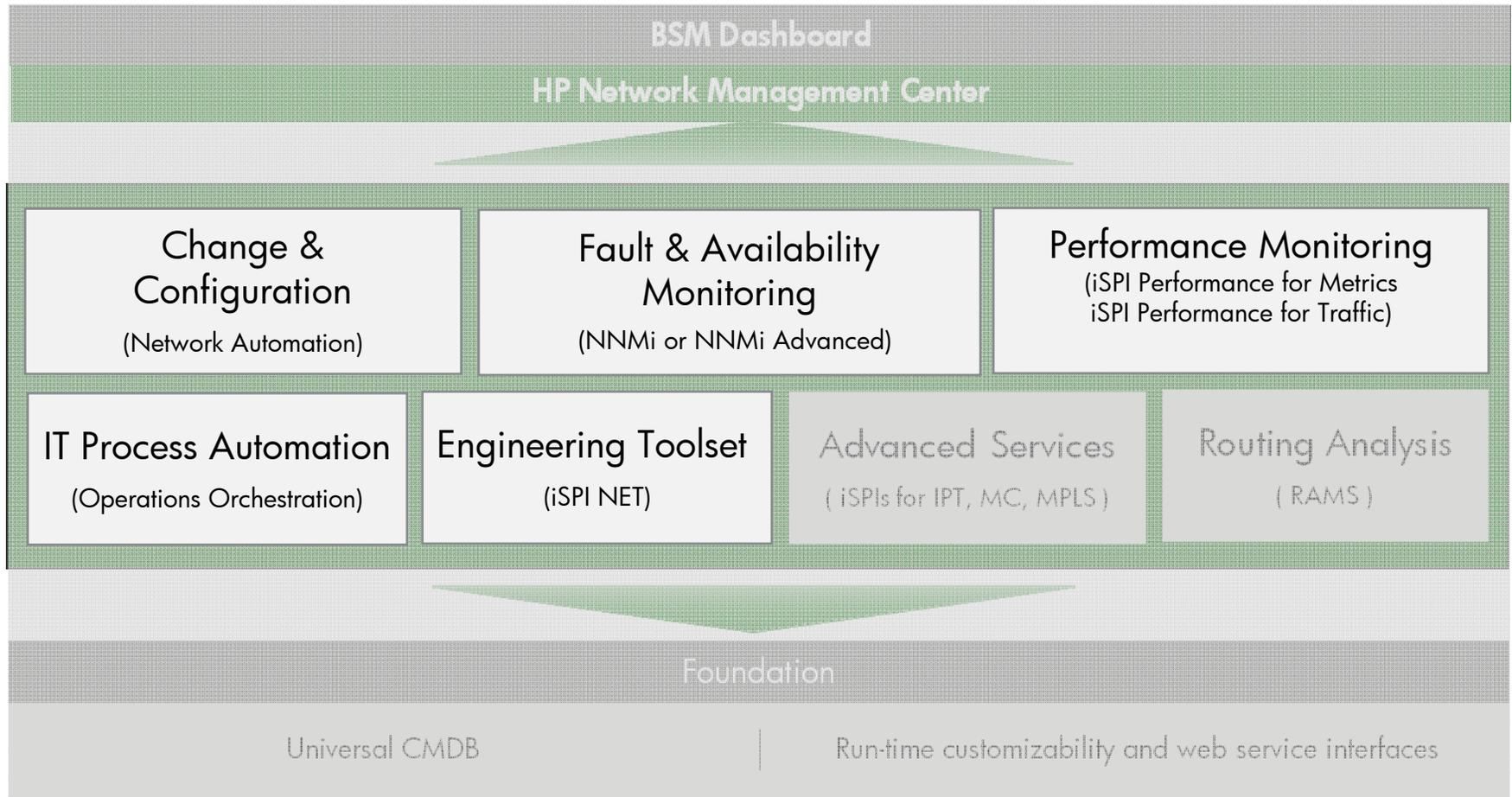


HP Network Management Center



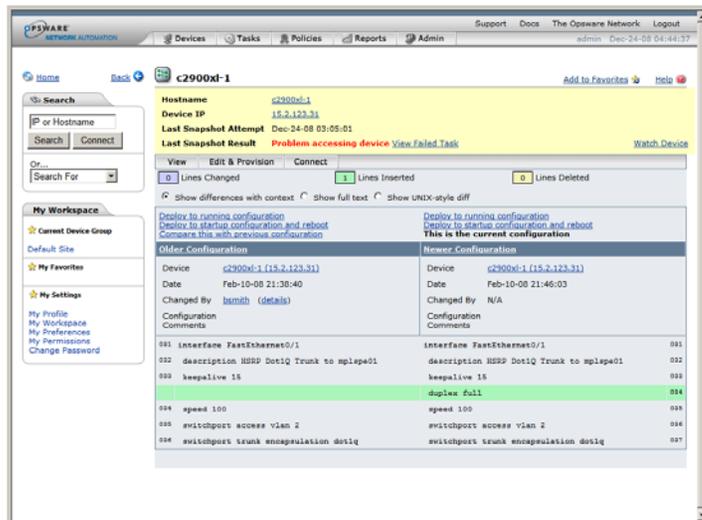
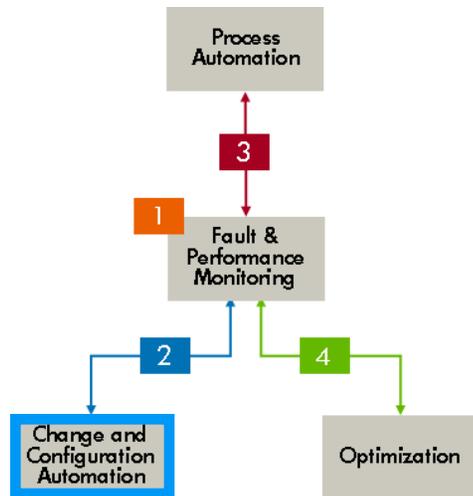
HP Network Management Center

Automated Network Lifecycle Management



Change and configuration management

HP Network Automation software



Solution overview

Key challenges

- Reduce network operating costs quickly
- Compliance and security burden
- Single pane of glass solutions for network engineering and operations

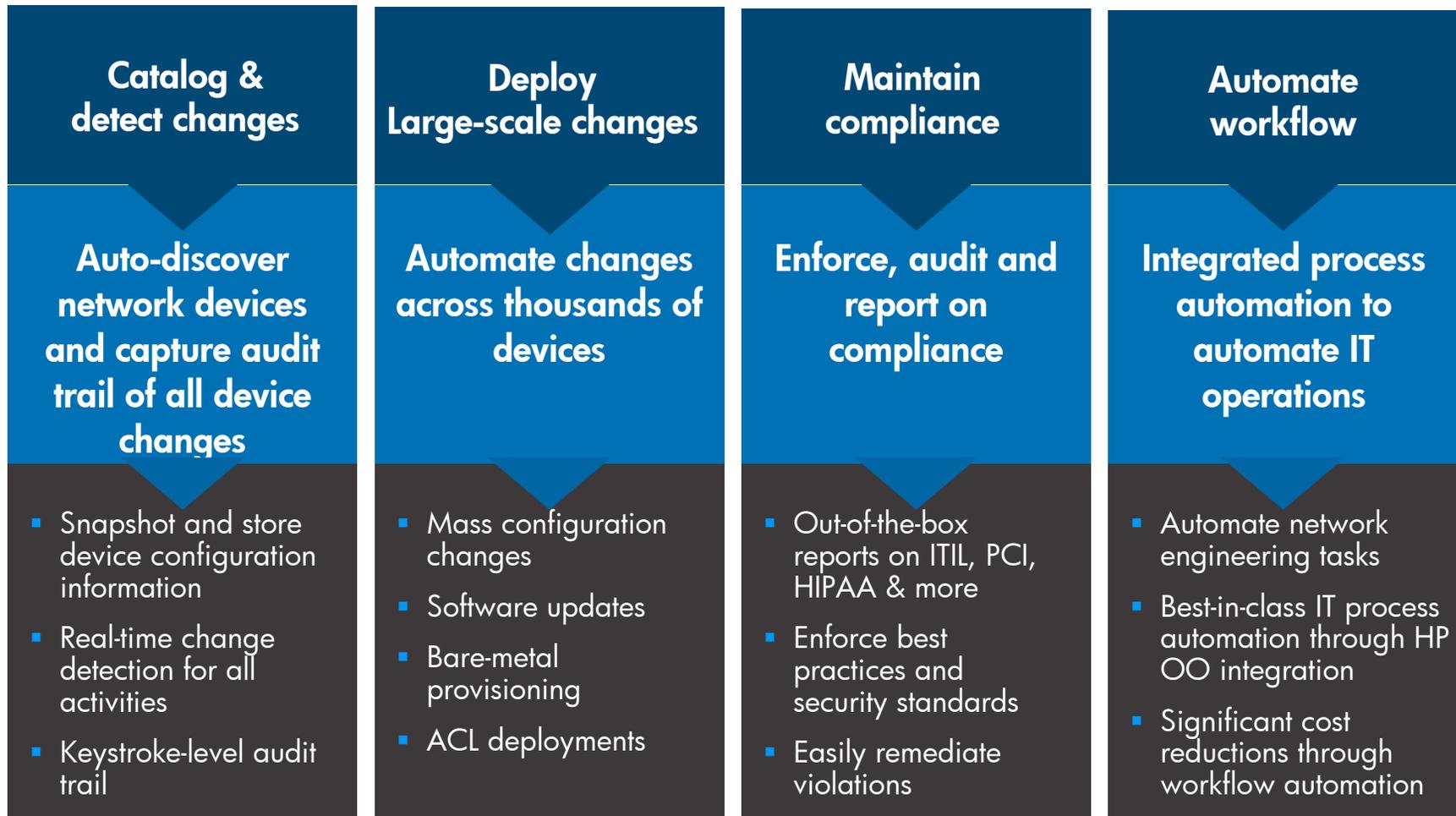
Key capabilities

- Automated change and configuration management for heterogeneous networks
- Policy-driven compliance and security mgmt.
- Ease of installation and extreme scalability

Key differentiators

- Pre-integrated with NNMi for provisioning and incident resolution
- Broadest network device support
- Unique Cisco & virtual device capabilities
- Multimaster for HA and scalability

HP Network Automation use cases



Unique advantages of HP Network Automation

Fast time to value	<ul style="list-style-type: none">▪ Easy to install, deploy and get started▪ Immediate value through device discovery and policy-based config▪ Simple, intuitive web browser interface
Broadest and growing device coverage	<ul style="list-style-type: none">▪ 70+ vendors, 2800+ devices▪ Unique coverage of virtual devices▪ Network Driver Studio – build your own drivers
Strategic OEM with Cisco creates unique value	<ul style="list-style-type: none">▪ Deeper integrations and faster support for new Cisco technology▪ Integral Cisco image management with connection to cisco.com▪ Cisco Nexus, ION and IXR support
Integrations across BTO portfolio	<ul style="list-style-type: none">▪ Monitoring, performance, DCA, service management and CMDB▪ IT process automation
IT process automation and application integration	<ul style="list-style-type: none">▪ Change approval seamlessly integrated with your ticketing system▪ Networking/application triage troubleshooting procedures automated▪ Bi-directional integration with leading systems management tools
Proven enterprise scalability	<ul style="list-style-type: none">▪ Location independent network management▪ Built-in fail-over / disaster recovery▪ Scales to 100K+ devices

HP NA and NNMi integration features

- From NNMi launch
 - Configuration differences / history
 - NA device policy compliance report
 - Command scripts and diagnostics
 - Access devices
- Designate out of service for devices undergoing change activity
- Auto-propagate changed community strings to NNMi
- Auto-config new devices for required NNMi management settings
- Alerting on duplex & speed mismatch
- Out-of-the-box policies and command scripts for validating NNMi settings

The screenshot displays the HP Network Node Manager (NNMi) interface. The main window is titled 'HP Network Node Manager' and has a menu bar with 'File', 'Tools', 'Actions', and 'Help'. The 'Actions' menu is open, showing a list of actions. A sub-menu is visible, listing several 'View NA Device Information' related actions:

- View NA Device Information
- View NA Device Configuration
- View NA Device Configuration Diffs
- View NA Device Configuration History
- View NA Policy Compliance Report
- Telnet To NA Device
- SSH To NA Device
- Launch NA
- Launch NA Command Scripts
- Reporting - Report Menu
- Launch NA Diagnostics

Below the sub-menu, other actions are listed, including 'Delete', 'Own Incident', 'Unassign Incident', 'In Progress', 'Completed', 'Close', and 'Run Diagnostics'. The main window also shows a table of incidents with columns for 'Se...', 'Pri...', 'Last Occurren...', 'AT', and 'Source Node'. The table contains several rows of incident data.

Se...	Pri...	Last Occurren...	AT	Source Node
5	5	3/3/09 11:50:48 PM		mcrouter184
5	5	12/18/08 10:15:20...		data_center_...
5	5	12/18/08 3:00:16 AM		mplsce01
5	5	12/10/08 5:39:14 AM	admin	mplsp03
5	5	12/9/08 11:54:47 PM	jakeb	mplsp02



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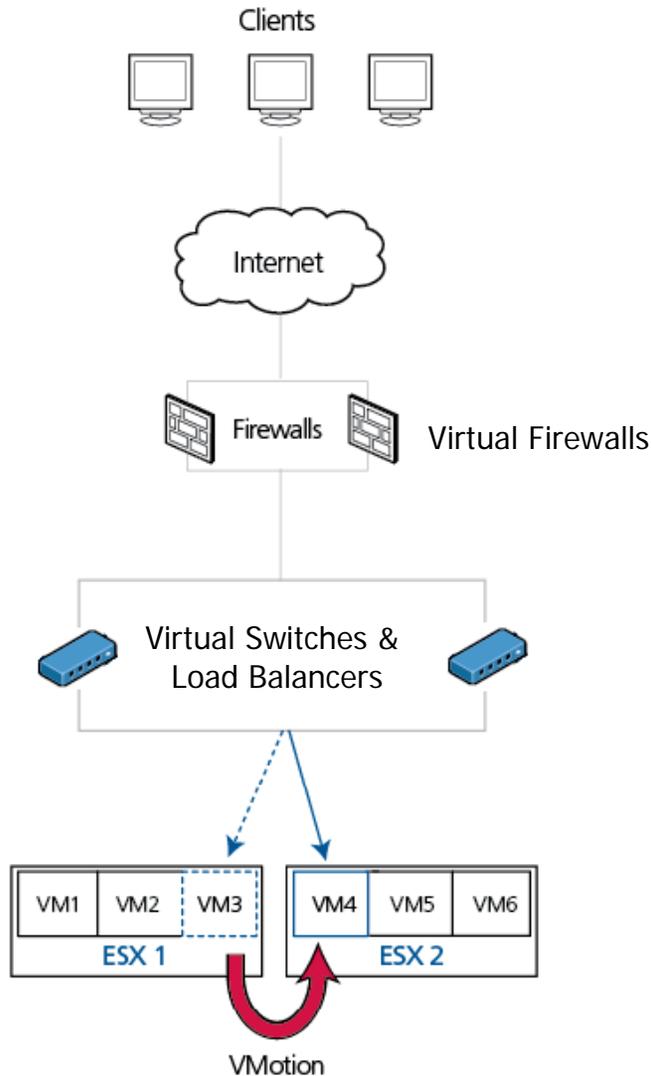
Virtualization additions

Virtualization enhancements

Resources



The network virtualization challenge:



1. The network has morphed inside the server, and the network engineers no longer have access to the entire network.
2. The network devices have morphed into multiple virtual devices (contexts).

Architecture

Device and scheduler enhancements

Virtualization additions

Virtualization enhancements

Resources



HP Network Automation – new in 7.6

Deliver visibility, automation, and control of physical and virtual networks

Key Features

- Automatically discover, track and manage VMware vSwitch and Cisco 1000v running on ESX servers
- Added Virtual Context management for virtual network devices
- Automated VLAN provisioning, trunk ports, link aggregation

How is it different?

- Support for vSwitch on ESX 3.x/4.x and Cisco Nexus 1000v virtual switches
- Virtual Context support (Cisco ACE and Cisco FWSM)
- Enhanced VLAN automation capabilities eliminates scripting and displays VLAN info
- Link aggregation (port channel) support
- Enhanced Task Scheduler
- Enhanced Device Selector and Device Group Manager

Customer benefits

- Single product to manage all physical and virtual network devices
- Improved management of VLANs between servers, VMs and virtual switches
- Unique ability for Network Engineering to manage virtual devices and VLANs as part of cross-silo workflow coordination

Issue/opportunity: vSwitch

- Server virtualization is changing the face of the datacenter.
- Virtual server devices are commonplace now, and the network is becoming increasingly virtual.
- Managing and configuring virtual network components is complex and tedious.
- HP NA 7.6 leads the way with vSwitch support.



Issue/opportunity: Virtual context

- Physical network devices have been virtualized into multiple unique virtual devices complete with configurations and interfaces.
- Managing and tracking these virtual devices is complex and/or impossible because they don't have unique IP addresses.
- HP NA 7.6 provides features to manage and navigate multiple contexts by automatically creating device context relationships.
- HP NA 7.6 has support for Cisco FWSM and Cisco ACE.
- The result: Reduced cost due to using less rack space and power.



Architecture

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Issue/opportunity: enhanced VLAN support

- Consistent VLAN configuration between the physical and virtual switches is critical in virtualized environments.
- VLANs are used to implement redundancy, security and network performance for the virtual servers.
- NA 7.6 provides automation functionalities necessary to fully view and provision VLANs on network switches.

Issue/opportunity: Link aggregation

- Multiple Ethernet switch ports are commonly linked together in virtualized server environments to meet bandwidth requirements.
- A port channel is a virtual interface comprised of multiple Ethernet switch ports.
 - The port channel implementation only understands configured aggregates, NOT dynamically created aggregates.
 - Diagramming was enhanced to show port channel members.
 - VLAN provisioning supports working with port channel interfaces, like any other interface.

Architecture

Device and scheduler enhancements

Virtualization additions

Virtualization enhancements

Resources

- **Location:** Gaylord National Resort & Convention Center
- **Call for papers deadline:** February 1
- **Early bird pricing:** \$1,495 (increases to \$1,695 after February 28)
 - Register with code *OUTCOMES* and receive \$100 discount
- **www.hpsoftwareuniverse2010.com**



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Q&A

