

## What's New

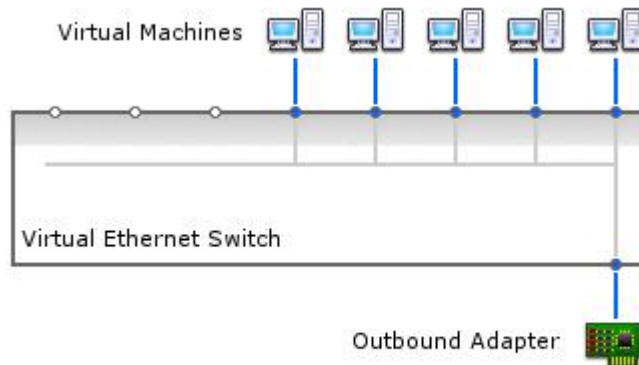
This QuickSpec outlines the key new features and stability enhancements in HP Network Automation 7.60, the latest release of our award-winning network configuration management and automation platform.

## Virtual switch support

Network Automation 7.60 supports the management of server-embedded software switches for a select set of devices, most significantly the virtual ethernet vSwitch in VMware's ESX environment.

Figure 1 shows the connections between the virtual machines (VMs) and the vSwitch in an ESX environment. The vSwitch and VMs are running inside an ESX host, which is logically inside a data center. A vSwitch runs as a service of an ESX server and is not directly visible on the network.

Figure 1. vSwitch support within the VMware ESX environment



Network Automation 7.60 uses the ESX APIs to gain access to the vSwitch service so that it can identify and manage the vSwitch within the ESX server. With this new release, Network Automation can isolate the vSwitch and manage it just as if it were another physical network device, using the same Network Automation GUI and API interfaces used with physical network devices.

Figure 2. vSwitch device support in Network Automation 7.60

## Product Highlights

The screenshot displays the configuration page for an ESX host. At the top, there are tabs for 'View', 'Edit', 'Provision', and 'Connect'. Below the tabs, the 'Device Configuration' section is highlighted in yellow. It shows the following details:

- Hostname:** [esx](#)
- Device IP:** [10.255.45.45](#)
- Last Snapshot Attempt:** Aug-04-09 14:07:11
- Last Snapshot Result:** Configuration unchanged

Below the configuration details, there are links for 'View Text Config', 'Download Text Config', and 'Email Text config'. A status message reads: 'This is the first configuration | This is the current configuration'. Other fields include 'Changed By: N/A', 'Create Date: Jul-30-09 14:40:52', and 'Configuration Comments' with an empty text area and a 'Edit Comments' link.

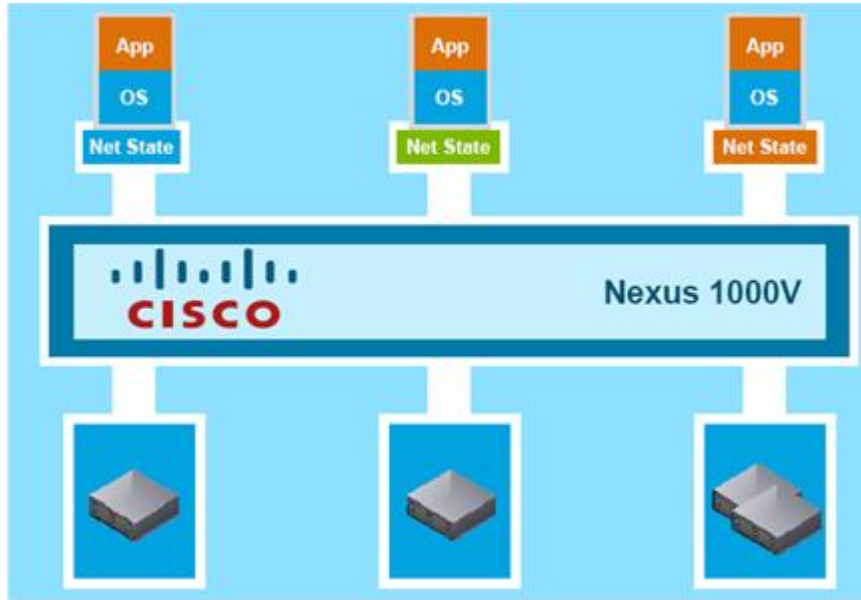
The 'Sections:' section contains a table with the following configuration text:

Line	Configuration Text
001	----- Data Centers -----
002	Datacenter
003	Name: ha-datacenter
004	Network: HaNetwork-VM Network
005	Datastore: 47160d27-1539478f-67f0-00123fffaae4
006	

Version 7.60 also supports the Cisco Nexus 1000v virtual switch by utilizing the VMware distributed switch API. Network Automation 7.60 supports this device with the same GUI, CLI, and API interfaces it uses to support physical devices.

Figure 3. Cisco 1000v support within the VMware ESX environment

## Product Highlights



### Virtual context support

Virtual context support allows users to manage contexts from devices that support the concept of administrator/context relationships. Such devices include Cisco FWSM, Cisco ACE, among other network devices. HP NA supports provisioning of virtual contexts by assigning it a configuration.

Devices may have relationships with other devices or modules inside of them that run an operating system with enough rich content to consider them unique devices complete with a full configuration and interfaces. Network Automation 7.60 distinguishes relationship types, including both user-defined and system-defined relationships. It also handles parent-child relationships-accessing child devices via the parent-and peer relationships. Data for parent, peer, and child devices is extracted and stored with relationship-context understanding. Device dependencies can also be defined using a new Device Relationships API.

Figure 4. Virtual context support

## Product Highlights

<b>Hostname</b>	<a href="#">baconadmin</a>
<b>Device IP</b>	<a href="#">10.255.41.41</a>
<b>Last Snapshot Attempt</b>	Aug-04-09 14:54:33
<b>Last Snapshot Result</b>	Configuration change detected

<a href="#">View</a>	<a href="#">Edit</a>	<a href="#">Provision</a>	<a href="#">Connect</a>
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### NA Module Status

[View List](#)

**This is the first diagnostic | This is the most recent diagnostic**

Create Date Aug-04-09 14:56:43

Sections:

Line	Inventory Text				
001	Context Name	Class	Interfaces	Mode	URL
002	*admin	default	Vlan10,Vlan41	Routed	disk:/admin.cfg
003	craig-context	default	Vlan10,Vlan41	Routed	disk:/craig.cfg
004	foo	default		Routed	disk:/bar
005					
006	Total active Security Contexts: 3				

To facilitate device-context understanding, we created a new task page for entering device-specific information needed to create contexts. The page also provides a way to specify configuration templates.

## Enhanced task scheduling

We added two key task-management features to improve the execution order of tasks-task prioritization and round-robin execution of group tasks.

### Task prioritization

This feature makes it possible to set priorities so that the most important tasks are finished first. Five priority levels are defined, with priority 1 being the highest. Users granted appropriate permissions can assign priority 1 when they create or update tasks. The administrator user group has this permission by default. Users without permission can set priority to any level between 2 to 5. All tasks are created with default priority level 3.

Figure 5: Enhanced task scheduling with the ability to set task priority

## Product Highlights

The screenshot displays the configuration page for a task named "Take Snapshot". At the top, there are "Save Task" and "Delete Task" buttons. The "Task Name" field contains "Take Snapshot". Under the "\* Applies to" section, a "Device / Group" list is shown with 12 entries, each with a computer icon and an IP address in parentheses: ac1e0003 (172.32.0.3), ac1e0006 (172.32.0.6), ac1e0008 (172.32.0.8), ac1e0009 (172.32.0.9), ac1e000a (172.32.0.10), ac1e000b (172.32.0.11), ac1e000c (172.32.0.12), ac1e000d (172.32.0.13), ac1e000e (172.32.0.14), and ac1e0012 (172.32.0.18). Below the list is a search bar with the placeholder text "Enter IP address, hostname or device group name". There is also a "CSV File" section with a "Browse..." button and a link to "Task CSV Template". The "Start Date" section has two options: "Start As Soon As Possible" (selected) and "Start At" with a date/time field set to "2009-08-05 11:00". The "\* Task Priority" section shows a dropdown menu with values 1, 2, 3, 4, and 5, where 3 is currently selected. A "Comments" text area is located at the bottom.

### Round-robin group tasks

The round-robin feature enables a "one task from each group task at a time" execution. When tasks execute in round-robin mode from two task groups, task execution alternates between the two groups.

When task priorities and task round-robin are combined, all tasks in a specific priority level are treated as peers for round-robin purposes. Once all tasks and subtasks of a given priority level are depleted, then tasks of the next priority level are executed.

## Product Highlights

### Enhanced device selector and device group manager

An improvement in the GUI simplifies navigation of device group trees to select devices and device groups, making it easier to select one of thousands and simplifying functions like scheduling tasks, testing policies, or editing device-group membership.

Figure 6. New GUI for device and group selection

The screenshot shows the HP Network Automation GUI. On the left, there is a 'Device Group' tree with a search bar containing '(10.255.40.15)'. The tree lists various groups like 'Detected Devices911', 'ForTestPolicy', 'Group1' through 'GroupE', 'minbarParent', 'NewGroupForDemo', 'P1', 'PA', 'Redmond', and 'TestGroupA'. On the right, a 'Devices' table is displayed with columns for 'Host Name', 'Device IP', 'Device Vendor', and 'Device Model'. The table contains 15 rows of device information. At the bottom right, there is an 'Add Devices' button.

Host Name	Device IP	Device Vendor	Device Model
host	1.2.3.4		
host	1.2.3.101		
VTPLAB-c2950-SR	10.255.1.21	Cisco	WS-C2950-1
DALAB-RTR01	10.255.1.22	Cisco	1841 (1841
VTPLAB-C2900XL-	10.255.1.27	Cisco	WS-C2924M
10.255.1.38	10.255.1.38		
10.255.1.44	10.255.1.44	Cisco	
Passport-8603	10.255.1.49	Nortel	ERS-8603
10.255.1.52	10.255.1.52	Nortel	
10.255.1.53	10.255.1.53	Nortel	
10.255.1.60	10.255.1.60	Nortel	
10.255.1.64	10.255.1.64		
LAB-c3620-ipv6	10.255.1.66	Cisco	3620 (3600
Baystack-350	10.255.1.67	Nortel	350-24T
BayRS-ARN	10.255.1.79	Nortel	Advanced R
Aironet_C1200	10.255.1.87	Cisco	AIRAP1210
LABALPHINE8804	10.255.1.91	Extreme	Alpine3804
ns5gt-lab-randino	10.255.1.94	Juniper	NetScreen-5

We also dramatically decreased the load time of devices from database to the device selector. Once the device selector has loaded, it is possible to search for a device by name or IP. If the user doesn't know the name or IP and only enters a part of it, a filter limits the display to matching devices, making scrolling through lists easier. The number of devices or device groups displayed on a page has been dramatically increased, so that users switch pages less often. And we improved the ease of selecting devices across device groups.

### Enhanced VLAN support

Virtual local-area networks (VLANs) provide virtualization for network switches by allowing a switch to be segmented into multiple broadcast domains. Full VLAN support is becoming increasingly important in virtualized environments, since VLANs provide redundancy and security from physical switches to virtual switches accessed through server network interface cards. As VLAN provides security, scalability, and network management issues in layer 2, which is very common in virtual server environments.

Network Automation 7.60 provides functionalities necessary to fully view and provision VLANs on network switches from different vendors.

- A complete list of VLANs for a device

## Product Highlights

- Specific VLAN details
- A list of ports assigned to a VLAN
- Trunk ports
- A list of VLANs on a trunk port
- The native VLAN of a trunk port (the VLAN whose traffic on the trunk port is not tagged)
- VTP settings of a network switch

In addition, it makes it possible to:

- Create a new VLAN on a network switch
- Change a port assigned to a VLAN (add/prune ports)
- Configure a port as a trunk port (multiple VLAN with tagging)
- Change trunk port native VLANs
- Configure a trunk port as a non-trunk

Figure 7. Complete per-port VLAN visibility

VLAN Detail	
Device	<a href="#">ProCurve 6600_deploy2 (10.255.40.89)</a>
VLAN Name	Vlan_109
VLAN ID	109
VLAN Type	
VLAN Status	Port-based
VLAN MTU	
VLAN Ports	<a href="#">9</a> <a href="#">10</a> <a href="#">12</a> <a href="#">14</a> <a href="#">16</a> (VLAN Trunk) <a href="#">17</a> (VLAN Trunk) <a href="#">20</a> <a href="#">24</a> <a href="#">25</a> <a href="#">26</a>

## PortChannel and VLAN trunk support

PortChannel support is the ability to manage all of the individual physical interfaces associated with the virtual PortChannel interfaces.. ports that participate in that PortChannel. Network Automation 7.60 also provides visibility and management of 802.1q VLAN trunks. P comes from enhanced diagnostics, new information in device configuration files, and/or context knowledge.

Figure 8. PortChannel visibility



## Product Highlights

Interface Detail	
<b>Interface Detail</b>	
Device	<a href="#">lab-HPProc-5406zl (10.255.40.65)</a>
Name	Trk15
Type	PortChannel
Aggregated Ports	<a href="#">A14</a> , <a href="#">A15</a> , <a href="#">A16</a> , <a href="#">A19</a> , <a href="#">A20</a> , <a href="#">A23</a>
Status	Configured Up
Connected To	0 server(s)
Description	
Configuration	<a href="#">View Configuration</a>
Comments	
Last Modified	Nov-13-09 06:50:08
	<a href="#">Edit Detail</a>

When users view VLAN details, all ports associated with the VLAN are listed. If a VLAN port is a member of a VLAN trunk, it is marked with a link associated with ports is provided for each physical port on a device. Users can then drill down and see all the virtual ports associated with that physical port. This helps users understand the impact of virtual ports that will be affected by a change to a parent port.

The ability to understand PortChannels and VLAN trunks is a common requirement in server virtualization environments. For example, PEs manage servers that assign multiple connections to a physical port. If that port were to go down (say for maintenance purposes), it would affect all VLANs that are associated with that port.

## Provisioning and scripting API enhancements

New API enhancements provide more flexible device provisioning by enabling device provisioning tasks to be integrated with external systems. New API methods will be built around these commands to provide the functionality via the Perl/Java/SOAP layer. New APIs include list-device templates, show-device template configurations, modify-device template configurations, device provisioning using the Device Relationships API, and other variable configuration and test-case API calls.

## Native 64-bit support: Solaris

Network Automation 7.60 supports native 64-bit on the Solaris OS for dramatically improved application performance using 64-bit Java Virtual Machine (JVM). A key driver for this increased performance is more and better memory utilization.



## Product Highlights

### Caching improvements

Caching improvements increase performance of many functions. Users can now eliminate redundant data lookups such as driver lookup and device lookup while using memory more efficiently on both 32-bit and 64-bit systems.

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### Operating system and database support

HP Network Automation release 7.60 will NOT support the following:

Operating systems: SUSE 9, RHEL AS 3.x, Windows 2000  
Databases: Oracle 9i, Microsoft SQL Server 2000, MySQL 3.x  
Solaris operating systems: Any 32-bit Solaris version

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