

# ALCATEL-LUCENT OMNIVISTA 2500 VIRTUAL MACHINE MANAGER

The Alcatel-Lucent OmniVista™ 2500 Virtual Machine Manager (VMM) automates data center network operations, streamlining virtualization deployment for new business imperatives.

Data center operators are facing significant challenges on how to manage virtual network elements in conjunction with the physical network. OmniVista 2500 VMM unifies physical and virtual infrastructures providing network operators with a comprehensive view into a complete end-to-end network from monitoring to advance provisioning operations. This enables error-free network administration operations and simplifies the deployment of new value-added services.

The OmniVista 2500 VMM, an optional component for the OmniVista™ 2500 Network Management System (NMS), addresses new operational requirements and new capabilities required to ensure consistent, unified management and operation simplification for the new virtualized infrastructure deployed in data centers. The OmniVista 2500 VMM offers a comprehensive end-to-end solution that unifies physical and virtual infrastructures into a single pane of glass for network operators.

Using the OmniVista 2500 VMM, network operators can monitor and control virtual networks, ensuring that virtual network policies are consistently and automatically applied across the infrastructure. This enables error-free network operations for the IT organization and simplifies deployment of value-added services such as live virtual machine migration which includes VMware® VMotion™ and Citrix® XenMotion™.

The OmniVista 2500 VMM contributes to a comprehensive manageability solution that, in conjunction with the OmniVista 2500 NMS, spans the Alcatel-Lucent routing and switching network portfolio.

## **VIRTUALIZATION APPLICATION DEPLOYMENT IS BRINGING NEW OPERATIONAL CHALLENGES FOR IT**

Virtualization technology in the data center creates new challenges for network administrators, such as how to manage virtual elements in conjunction with the physical infrastructure. Server virtualization technology allows IT organizations to drive effective and efficient use of computing and storage resources by collapsing multiple physical servers onto a virtual machine running on a single host using hypervisor. Hypervisor platforms blur the line between the traditional network infrastructure, security and server teams.

Virtualization infrastructure requires a different set of management tools from physical infrastructure, making it difficult for network operators to obtain a consolidated and consistent view of the entire network. Because the physical network must be in sync with the virtual network to provide the connectivity services required by applications in a virtual environment, this lack of visibility negatively impacts network operators' ability to ensure smooth operations in virtualized data centers, especially when dynamic events such as virtual machine motion require immediate network provisioning.

The OmniVista 2500 VMM addresses these challenges by providing for the network IT administrator transparent automated provisioning capabilities with an integrated view of the virtual server and network environments, enabling a unified and cohesive management system for troubleshooting and monitoring the network.

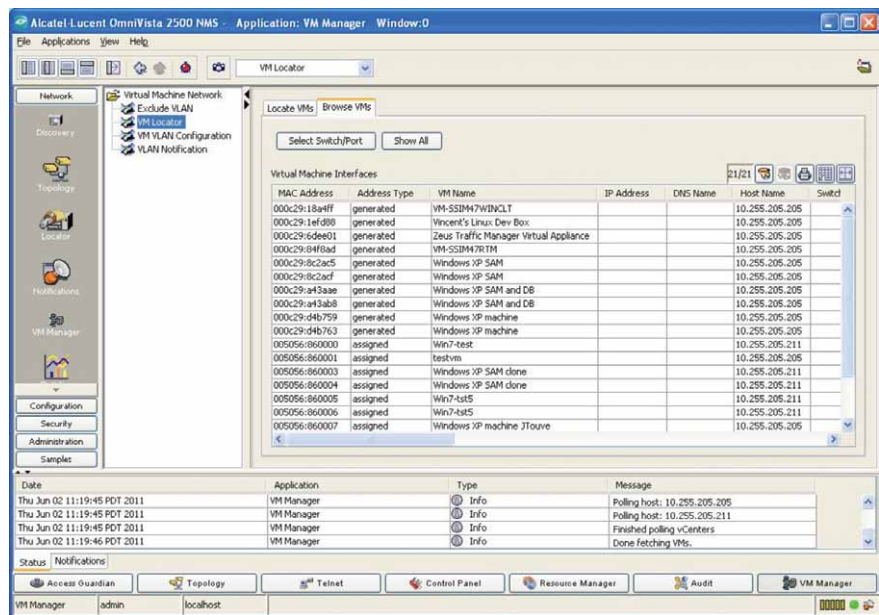
**Table 1. Product matrix**

FEATURES	BENEFITS
<b>Vendor agnostic architecture</b>	
<ul style="list-style-type: none"> <li>Supports and interfaces with leading Enterprise virtualization vendors, VMware® vCenter™ and Citrix® XenServer™</li> </ul>	<ul style="list-style-type: none"> <li>Adaptive, extensible architecture, reducing vendor lock-in</li> <li>Flexible approach supporting a variety of virtualization platforms, hypervisors and distributed virtual switches</li> </ul>
<b>Virtual network resource visibility and inventory</b>	
<ul style="list-style-type: none"> <li>Automatically discovers and constantly updates the complete virtual network inventory (virtual machine name, MAC, IP address, host information, network devices IP address, VLAN ID and multi-tenant)</li> </ul>	<ul style="list-style-type: none"> <li>Increases the efficiency of operations</li> <li>Offers a complete, single pane of glass for end-to-end physical and virtual networks</li> </ul>
<b>Simplified tracking and troubleshooting capabilities with Locator</b>	
<ul style="list-style-type: none"> <li>Provides correlated information and a single pane of view on connectivity between virtual and physical networks</li> <li>Real-time and historical location tracking for virtual machine</li> </ul>	<ul style="list-style-type: none"> <li>Offers a complete current state of the network with constant synchronization</li> <li>Provides an end-to-end view of the virtual and physical network</li> <li>Simplifies troubleshooting operations and reduces downtime</li> </ul>
<b>Automated unified provisioning</b>	
<ul style="list-style-type: none"> <li>Establishes universal network profile (UNP) definition and its extensive configuration</li> <li>Manages universal network profile assignment to network infrastructure to ensure consistent service delivery</li> </ul>	<ul style="list-style-type: none"> <li>Streamlines configuration to reduce human errors</li> <li>Eliminates the need to constantly communicate between network infrastructure and virtualization team changes related to configuration changes</li> <li>Ensures consistent profiles across data centers</li> </ul>
<b>Event and audit logs</b>	
<ul style="list-style-type: none"> <li>Maintains a log of all OmniVista 2500 VMM events and automatically records all critical actions</li> </ul>	<ul style="list-style-type: none"> <li>Provides historical records for UNPs and critical events</li> <li>Allows network administrators to be quickly informed and keeps track of all critical configuration changes</li> </ul>
<b>Reduced IT learning curve and training costs</b>	
<ul style="list-style-type: none"> <li>OmniVista 2500 VMM runs as optional module fully integrated with the OmniVista 2500 NMS</li> </ul>	<ul style="list-style-type: none"> <li>Integrates with existing OmniVista 2500 NMS application and management tools, relying on existing cohesive workflow with a single touch</li> <li>Reduces IT operations complexity and costs by consolidating management tools</li> </ul>
<b>Flexible installation</b>	
<ul style="list-style-type: none"> <li>Supports leading IT platforms and leading server operating systems</li> <li>Leverages hypervisor platforms directly out of the box</li> </ul>	<ul style="list-style-type: none"> <li>Offers flexibility for IT department for optimal server OS and performance</li> <li>No software add-ons required on hypervisor platforms, reducing capital expenditure (CAPEX) and operating expense (OPEX) costs related to deployment</li> <li>No configuration change required on virtualization environments, preserving IT workload, reduce IT efforts and eliminating coordination across teams</li> </ul>

## FULLY INTEGRATED WITH LEADING ENTERPRISE VIRTUALIZATION PLATFORMS FOR MAXIMUM VISIBILITY AND MONITORING

The OmniVista 2500 VMM provides an adaptive, agnostic framework allowing the support and interfaces with leading Enterprise virtualization platforms from VMware and Citrix. It interfaces with virtualization and hypervisor applications such as VMware vCenter and Citrix XenServer without any additional software installation or configuration changes. Using the OmniVista 2500 VMM dashboard capability, the network administrator can discover, visualize and monitor the entire virtual network inventory. The OmniVista 2500 VMM Locator constantly monitors, logs and reacts to virtualization events by keeping track of the virtual machine location in the physical network infrastructure through live and historical data tracking and logging.

**Figure 1. Inventory of virtual network components**

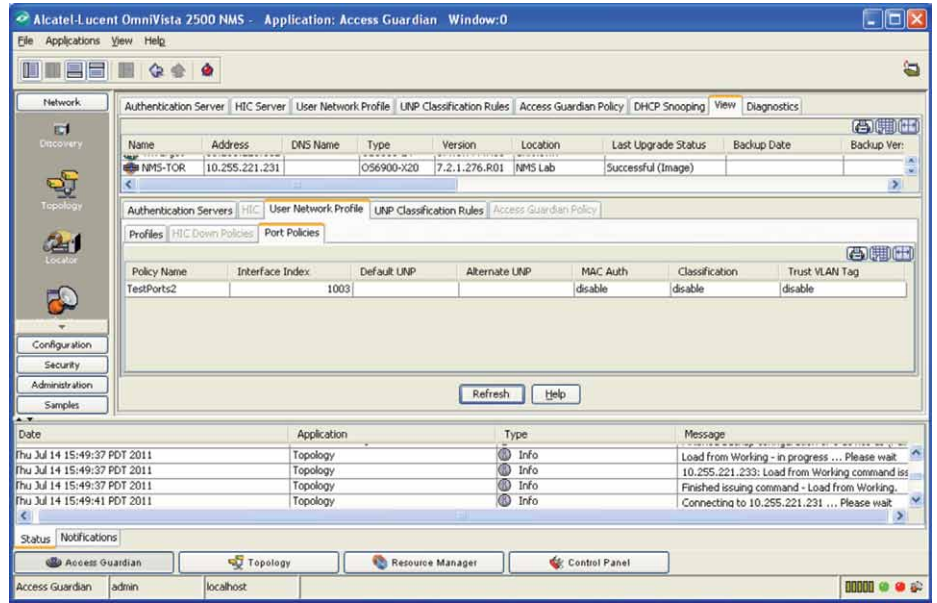


## AUTOMATED NETWORK INFRASTRUCTURE PROVISIONING FOR VIRTUAL MACHINE MOVEMENTS

The OmniVista 2500 VMM simplifies the automatic deployment of individual and unique UNPs. The product establishes UNPs for physical and virtual machine bindings and coordinates the distribution of them across the data center fabric. The OmniVista 2500 VMM also simplifies the virtual network profile definition and critical parameters settings, such as VLANs and quality of service (QoS) for applications and network security, ensuring continuous performance and delivery of services regardless of the physical location of the virtual machines.

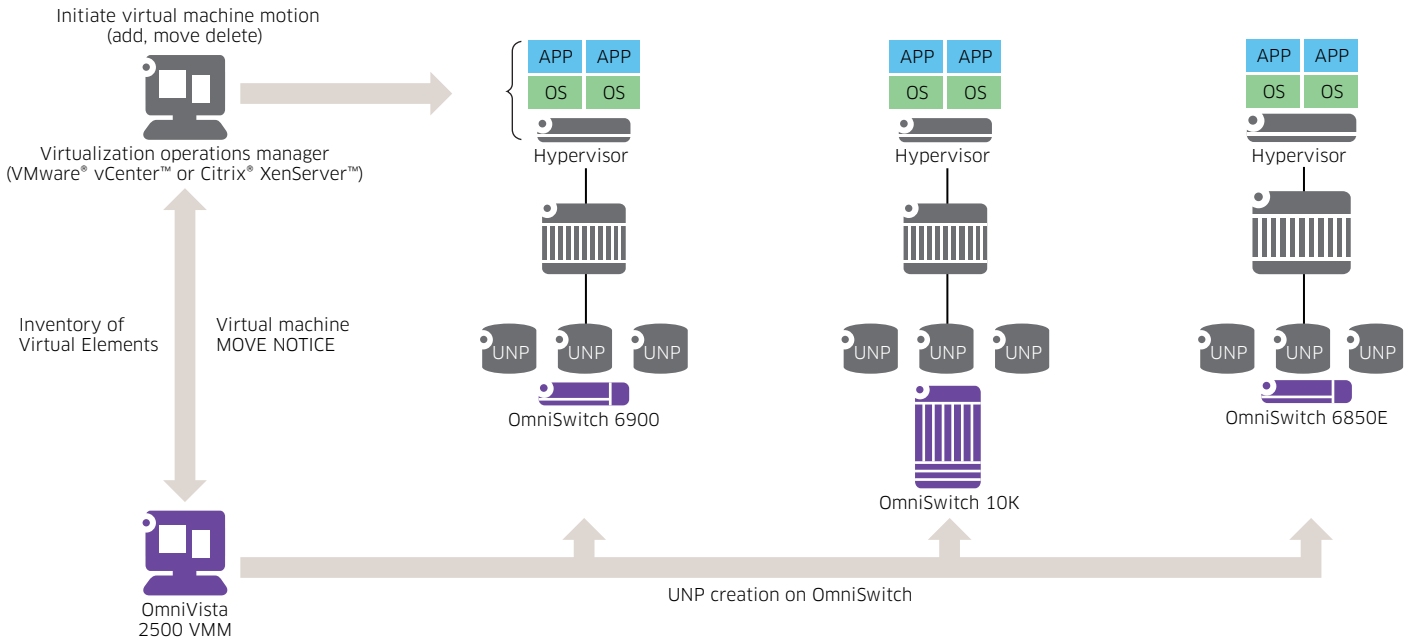
The OmniVista 2500 VMM automates network infrastructure provisioning, eliminating configuration conflicts between virtual and physical networks, and increasing the IT efficiency of day-to-day operations.

Figure 2. Universal Network Profiles provisioning



OmniVista 2500 VMM enables the network operator to provision, define and deploy end-to-end universal network policies across the network infrastructure for seamless virtual machine movements.

Figure 3. Collaborative management between a virtual and network infrastructure



## TECHNICAL SPECIFICATIONS

### Minimum OmniVista 2500 VMM software requirements (server and client)

- Microsoft® Windows® Server 2008 and Server 2012 (64 bit version)
- Microsoft® Windows® 7 Enterprise (32 and 64 bit versions)
- Red Hat® Enterprise Server 6.2 and 6.3 (32 and 64 bit versions)
- SUSE® Linux Enterprise Server 11.2 (64 bit version)

### Minimum OmniVista 2500 NMS and OmniVista VMM server configuration

- For Microsoft Windows, Red Hat ES, SUSE configuration
  - Intel® Pentium® Quad Core 2 GHz minimum
  - 4 GB RAM minimum

### Minimum OmniVista 2500 NMS and OmniVista VMM client system configuration

- For Microsoft Windows, Red Hat ES, SUSE configuration
  - Intel Pentium Dual Core 2 GHz minimum
  - 2 GB RAM minimum

### Requirements to operate with VMware

- VMware vCenter Standard Releases, 5.1

### Requirements to operate with Citrix

- Citrix XenServer Advanced and Enterprise Release 6.1

### Devices and Software releases requirement for Universal Network Profiles support

#### For OmniSwitch™ 6900 (OS6900) and OmniSwitch™ 10000 (OS10K):

- AOS Release 7.2.1 R02 minimum
- AOS Release 7.3.1 R01 minimum for multi-tenancy configuration (Services Access Ports/ IEEE 802.1aq SPBM)

#### For OmniSwitch™ 6850E (OS6850E):

- AOS Release 6.4.5 R02 minimum

## ORDERING INFORMATION

OmniVista 2500 VMM runs as an optional, additional module on top of OmniVista 2500 NMS. At a minimum, customers deploying OV2500 VMM must have OmniVista 2500 NMS Starter Pack deployed. OmniVista 2500 VMM requires minimum Release 3.5.5 to operate.

PART NUMBER	DESCRIPTION
OV2500-VMM-S	License for OmniVista 2500 VMM. License for small deployment up to 200 virtual machines for inventory, monitoring support and network provisioning. Supports a single instance of VMware vCenter, release 5.0 or higher. Supports Citrix XenServer, release 6.0.1 or higher. Requires OmniVista 2500 NMS, release 3.5.5 to operate.
OV2500-VMM-M	License for OmniVista 2500 VMM. License for medium deployment up to 1000 virtual machines for inventory, monitoring support and network provisioning. Supports a single instance of VMware vCenter, release 5.0 or higher. Supports Citrix XenServer, release 6.0.1 or higher. Requires OmniVista 2500 NMS, release 3.5.5 to operate.
OV2500-VMM-L	License for OmniVista 2500 VMM. License for large deployment up to 5000 virtual machines for inventory, monitoring support and network provisioning. Supports a single instance of VMware vCenter, release 5.0 or higher. Supports Citrix XenServer, release 6.0.1 or higher. Requires OmniVista 2500 NMS, release 3.5.5 to operate.
OV2500-VMM-MI	License for OmniVista 2500 VMM. License for multiple instances deployment up to a combined total of 5000 virtual machines for inventory, monitoring support and network provisioning. Supports dual instance of VMware vCenter, release 5.0 or higher. Supports dual instance of Citrix XenServer, release 6.0.1 or higher. No simultaneous hypervisor platform supported at once. Requires OmniVista 2500 NMS, release 3.5.5 to operate.

