

# Alcatel-Lucent OmniVista 2500 Network Management System

The Alcatel-Lucent OmniVista® 2500 Network Management System (NMS) provides cohesive management and network-wide visibility, increasing IT efficiency and business agility. It provides a full set of management tools for converged mobile campus. This single platform enables operators to easily provision, manage and maintain a network infrastructure with its network elements, alarms, unified access security policies, and virtualization. It also provides advanced network analytics for a full visibility into wireless, devices and applications, as well as predictive analysis for forward planning.



Providing a network-wide management system for the Alcatel-Lucent Enterprise Network portfolio, the OmniVista 2500 NMS provides a comprehensive set of components and tools for infrastructure configuration, monitoring, security, device configuration, alert management, to accelerate, downtime resolution, and overall management.

## Benefits

- Provides a web-based user interface for comprehensive, network-wide management platform, increasing IT efficiency and business agility.
- Web interface provides a customizable dashboard that can be tailored to the network administrator's most-used or critical management functions.
- Geo-location topology provides intuitive visualization of all network equipments a based on their actual GPS coordinates and their site assignation
- Network topology with advanced multilevel discovery to create comprehensive logical and physical maps
- Northbound interfaces based on RESTful APIs easily integrate customized network management functions or third-party systems.
- The highly scalable system is available as a virtual appliance for major operating systems with virtualization and hypervisors support
- Operating in High-Availability Mode (HA) for Mission-critical deployment with Master/Stand-by Virtual appliances
- Single Policy Management of the entire Network with UPAM (Unified Policy Authentication Management) services:
  - BYOD (Bring Your Own Devices) integration with UPAM to provide full management and consistency of services
  - Unified access provisioning provides a single set of policy enforcement instructions for both wired and wireless users, with external authentication database (LDAP, Radius, Active Directory)
  - Captive Portal with integrated credentials management for email, sms, social Login (Facebook, Google+)
- Simplifies configuration change management through scheduling and backup operations for Stellar Access Points and OmniSwitches
- Network analytics monitor the network bandwidth and key traffic patterns through advanced collection and reporting capabilities. This provides insights for the IT department and CIO on how network resources are consumed, making it possible to proactively optimize the end-user experience.
- Application Visibility, with application monitoring, helps IT organizations to get a better understanding of bandwidth consumption per application. It provides network-wide user-based policies for bandwidth prioritization and enforcement actions. Application Visibility-optimized IT operations, allow better security compliance and network resource use.
- Reduces the cost and time required to deploy Quality of Service and access control lists across thousands of devices, delivering consistent policy behavior
- Provides an open approach by integrating with third-party intrusion detection/ protection solutions (IDS/IPS), or any other intrusion notifications, leveraging security and traffic monitoring built into Alcatel- Lucent OmniSwitch® and OmniAccess® Stellar solutions.
- Creates seamless, fully integrated management for virtual machine (VM) movements and ensures that network policies move with the VM.

## Features

### Platform

- Enterprise class, web-based consolidated network management application for network provisioning, troubleshooting, performance analysis and configuration operations for AL-e OmniSwitches and Stellar Access Points
- Unified workflow for network services, resources, and users for wired and wireless infrastructure
- Northbound interface RESTful APIs for application interoperability and ecosystem support

## Datasheet

## **Deployment**

- Available as a virtual software appliance for full turnkey operation, supporting leading Hypervisors and operating systems
- Available in High Availability mode for mission critical deployment with Master/Standby operations over Layer 2 and Layer 3

## **User interface**

- Web-based client, allowing access through any browser, including mobile browsers
- User interface follows Web 2.0 principles, responsive web design enabling easy navigation, consistent workflow and user experience

## **Geo-location topology**

- Google map integration by displaying devices or network sites by its physical location address or by its GPS coordinates
- Display device list, equipment status associated to a geographical site

## **Network topology**

- Detailed discovery of Alcatel-Lucent Enterprise OmniSwitches and third-party devices over SNMP v2c/v3
- Registration for Stellar Access Points with wireless & RF services configuration

## **Topology**

- HTML5 topology with overlay display for Wired/wireless devices and virtual chassis
- Hierarchical Map layout for large infrastructure
- Network visualization for logical and physical infrastructure, with actual neighbor linkage info and live device status
- Layer 2, LLDP adjacency views
- IP subnet, ERP, SPB-M, protocol logical views
- Dynamic, customizable, logical map based on user-defined filters (IP subnet, location, model, user-provided descriptive info, custom maps)

## **Dashboard**

- Real-time monitoring and analysis of critical network performance indicators through visual widgets for LAN and Stellar Access Points Stellar wireless access points
- Full choice of displays, data and other important network and device for wired and Wireless performances management information, with advanced reporting capabilities

## **Network administration controls**

- Provides network administrators with both the tools and the ability to grant access to only those features and resources operators need with role-based administrative controls
- Provides controls to support IT for best practices. Management rights and access to all devices managed by OmniVista 2500 are granted through operator groups, device groups, and custom views of the devices with fine granularity on the authorized feature set
- Secure administration credentials with authentication over RADIUS for network administration user and user groups

## **Notification manager**

- Monitors and analyzes alerts, notifications and network performance from Alcatel-Lucent Portfolio and third-party devices in real time
- Advanced alert capabilities through customizable filters and sorting capabilities
- Remediation and notification actions based on predefined conditions with a single click

## **Locator**

- Rapid troubleshooting and isolation of network issues through one-click mitigation
- Allows administrators to quickly search and pinpoint device location and associated devices, based on multiple criteria and live or historical searches
- Discovers third-party devices and indicates the nearest device that runs the Alcatel- Lucent operating system and to which the third-party device can be switched, showing the link on a topology map
- Expedites troubleshooting and problem resolution with right-click contextual menu and direct interaction with other OmniVista 2500 NMS components

## **Resource manager**

- Manages complete device configuration life cycle (Back-up, Restore)
- Automation tools to create infrastructure wide software image update for baseline version management for Stellar Access Point and OmniSwitches

## **Network analytics**

- Provides insight in the network health with advanced graphical analytics on most problematic devices based on device state (CPU, memory, temperature)
- Wireless performances insights and KPIs for Stellar APs (Health, SSID, throughput, band utilization)
- Monitors network bandwidth and traffic patterns down to the device port level through sflow<sup>®</sup> sampling collection and reporting
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- Provides valuable insights into the applications (Top N apps) that are consuming the most network bandwidth, monitors application traffic arriving from users (Top N talkers), and stores and displays flow data with up to one minute granularity
- Provides insight in the network health with advanced graphical analytics on most problematic switches based on device state (CPU, memory, temperature)
- Enables automatic generation of business centric, CIO-oriented graphical analytics reports for network

## **Predictive analytics**

- Improves network health by providing capacity trending analysis, application on-port utilization, and potential anomalies in the on-port utilization that could impact network health and operational performance, thus enabling an enhanced end-user experience
- Threshold alert on trend projections and network anomalies, accelerating issue resolution by quickly identifying root causes and early warning signs of situations that could lead to outages, thus reducing downtimes
- Identifies new network resource requirements or needs for network redesign at an early stage, before they become a problem, thus streamlining network deployment

## Application visibility

- Provides Application Visibility through extensive application monitoring, for network-wide application inventory and use, allowing a better understanding of bandwidth consumption across wired and wireless networks
- Allows centralized policy enforcement and application usage policy for the discovered applications by applying QoS policy enforcement such as, rate limiting, blocking and application prioritization across Stellar Aps and OmniSwitches
- Maintains application signature library that is always up to date, with subscription services for efficient application monitoring deployment
- Improves user experience and business outcome with embedded analytics engine, showing in depth application usage reports and key measurement indicators

## Policy view

- Configures and deploys policies networkwide for bandwidth management and network access credentials through a task-centric workflow

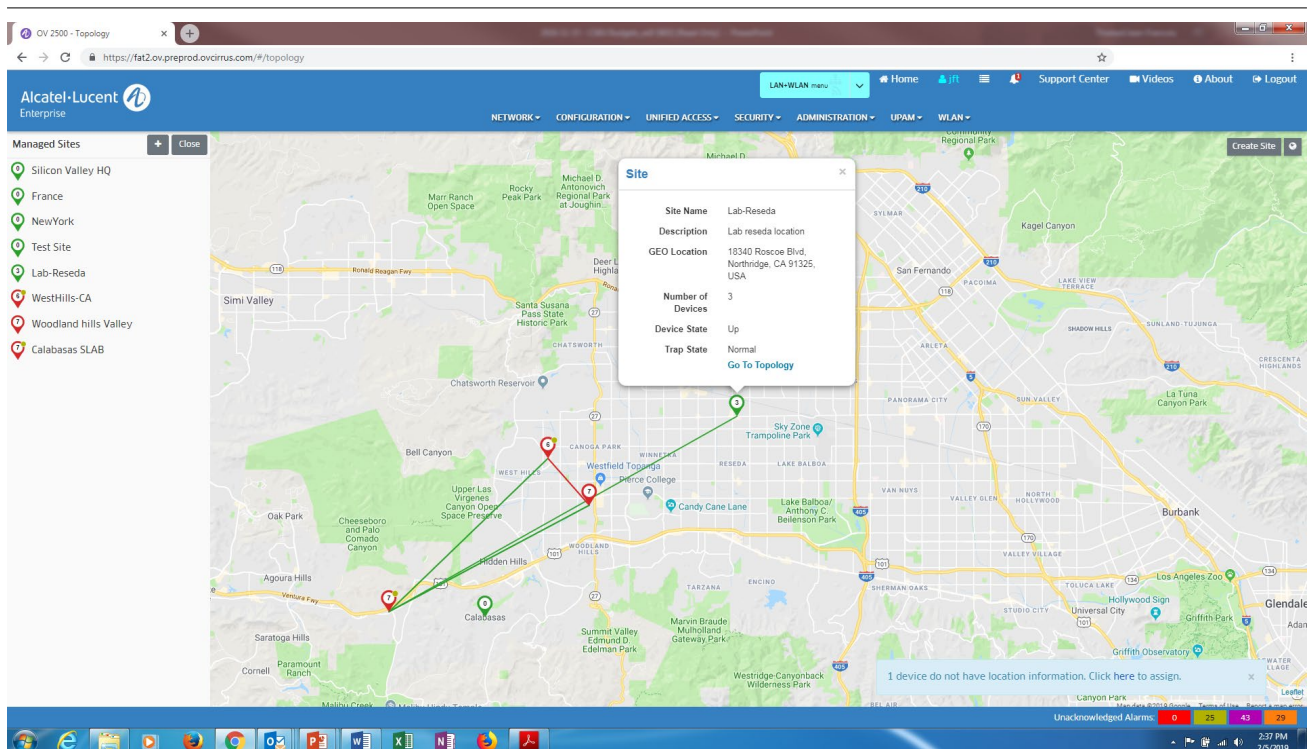
## Universal Policy Authentication Management

- Unified user interface for wired and wireless role profiles for user-based access
- Cohesive authentication configuration and end-user profile definition for appropriate network access rights and dynamic business policies

## Captive Portal

- Integrated captive portal with credentials management for email, sms, social Login (Facebook, Google+)
- External captive portal redirection (FQDN, redirect URL, Radius Server Authentication)

Figure 1. Geo-Location topology



Geo-location node map shows nodes and device status in geographical context using Google map

Figure 2. Network topology view - Advanced map capabilities for wired and wireless infrastructure

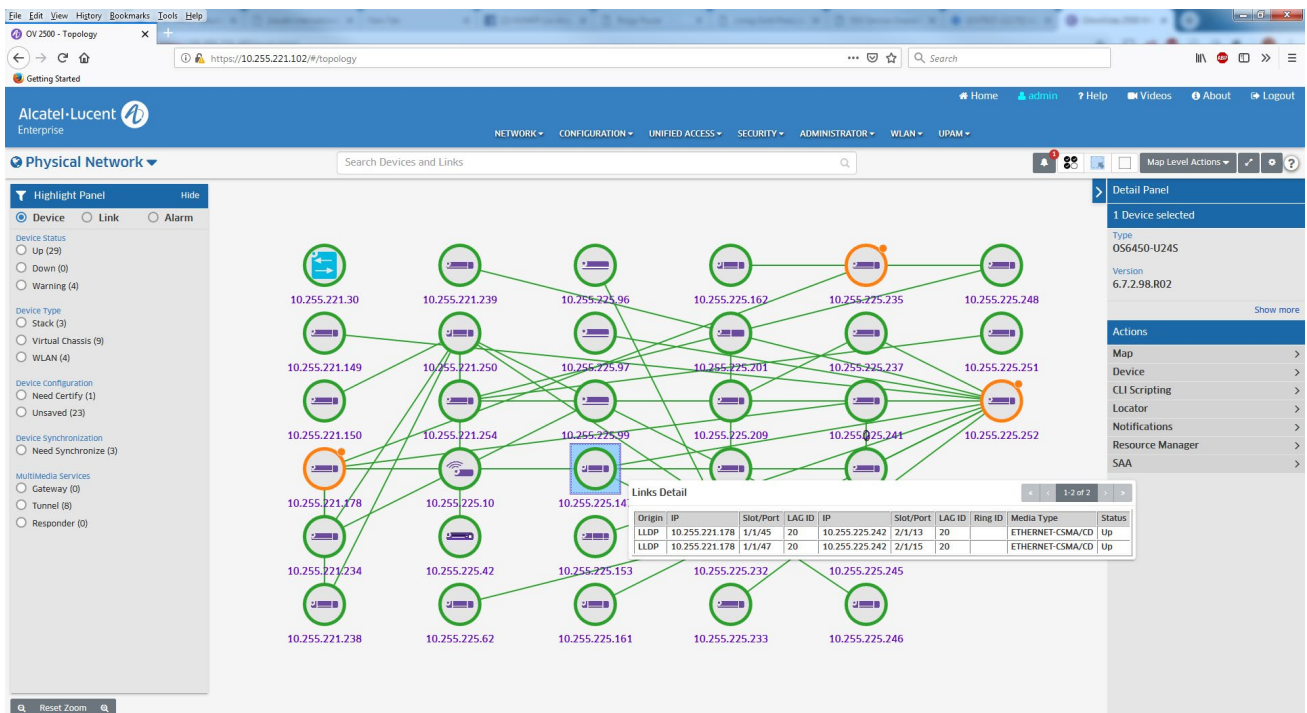


Figure 3. Dashboard - Key indicators for faults, availability and performances for wired and wireless infrastructure

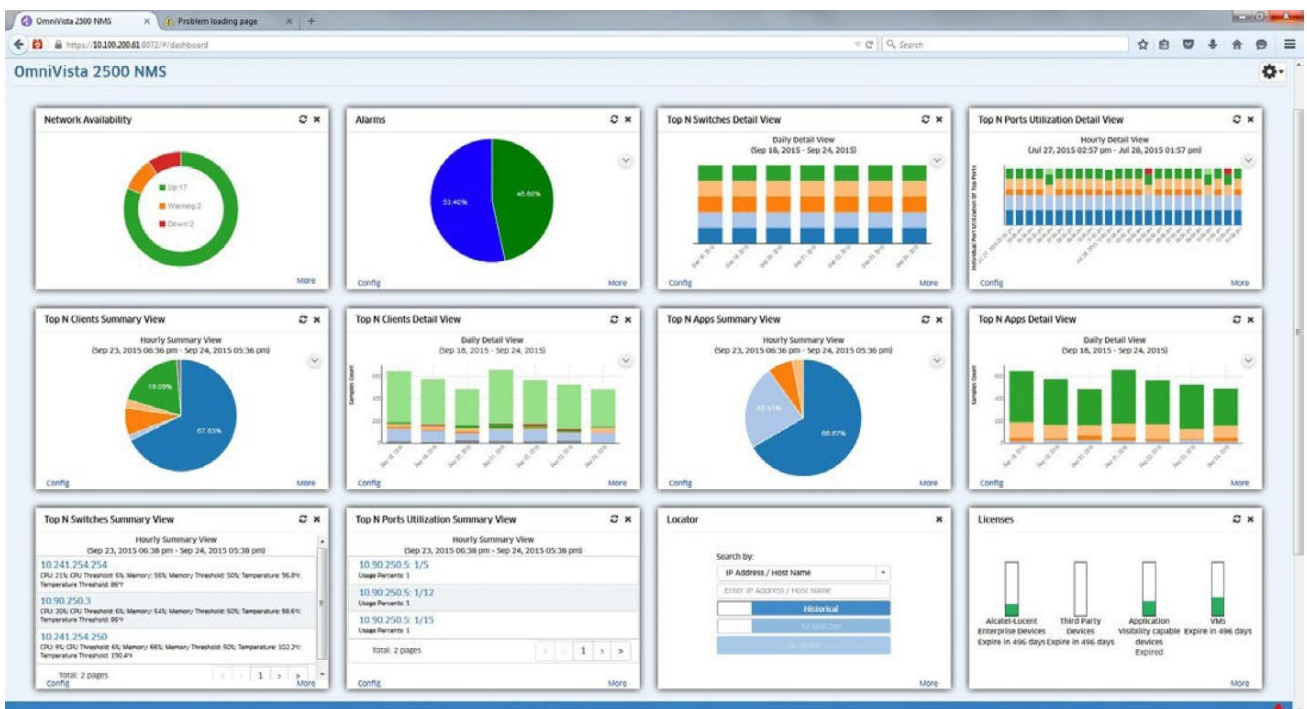
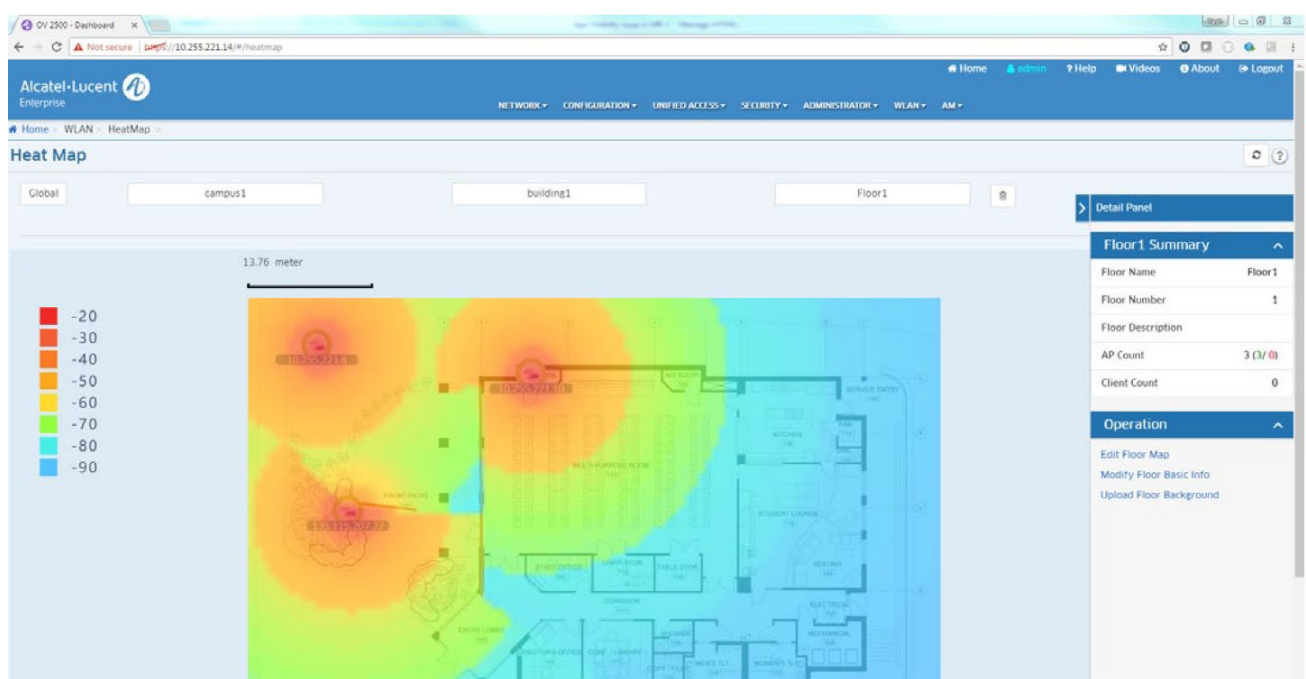


Figure 4. Heatmap for optimizing Wi-Fi coverage and wireless performances



### Quarantine Manager

- Provides threat mitigation through a secure perimeter against intrusion and malware attacks
- Provides mitigation and remediation through various actions (quarantine VLAN, port shutdown, blocking MAC addresses)

### Virtual Machine Manager

- Single pane-of-glass for end-to-end physical and virtual networks infrastructure operations
- Agnostic support, Interfaces with VMware vCenter®, Microsoft Hyper-V® and Citrix™ Hypervisor for discovery and inventory
- Real-time tracking between VM and its network location

### ProActive Lifecycle Management

- Facilitates customer support and maintenance operations by delivering automated network insights and in-depth device inventory
- Captures hardware and software information at the device level based on warranty level, and lifecycle status based on hardware and software status through graphical reporting and instant dashboard reporting widgets
- Analyzes and correlates data against the Alcatel-Lucent Enterprise service and support maintenance best practices for faster support and easy remediation operations (requires an adequate support and service maintenance contract for feature access)

## Technical specifications

### Virtual appliance

- Certified hypervisors:
  - VMware ESXi™ 6.0, 6.5, 6.7
  - Microsoft Hyper-V 2012 & 2016 (Microsoft® Windows™ Server 2012 R2 & 2016, Windows 8.1 Pro & Enterprise Editions, Windows 10 Edition
  - VirtualBox v5.2 min
- Minimum requirements (Single Server configuration)
  - Intel® Pentium™ Eight Core 2.4 GHz
  - 16 GB RAM
  - 500 GB free disk space
- Minimum requirements (High-Availability deployment)
  - Intel® Pentium™ Eight Core 2.4 GHz
  - 16 GB RAM
  - 500 GB free disk space
- Certified Web browsers
  - Google Chrome 65+ for Windows PC and Linux clients
  - Mozilla® FireFox™ 59+ for Windows PC and Linux clients
  - Microsoft Internet Explorer™ 11+ for Windows PC client

### Certified Web browsers

#### OmniVista 2500 NMS client

- PC Client Minimum configuration
  - Microsoft Windows, Red Hat ES, SUSE LP (32 and 64 bit versions)
  - Intel Pentium Dual Core 2.4 GHz minimum
  - 8 GB RAM
- Mobile device (early availability)
  - iOS release 10.0 min & Android release 7.0 min
  - Google Chrome 65+

### Certified AOS releases and models

- OmniSwitches series with AOS release 8.4.1 and higher
- OmniSwitches series AOS release 6.7.2 and higher
- OmniSwitches series (OS2220) with OS8.3.1.2 and higher

### Unified role-based profiles with UPAM support

- OmniAccess Stellar Series (AP1101, AP1201, AP1201H, AP1221, AP1222, AP1231, AP1232, AP1251) with Stellar AWOS 3.0.5 in Wi-Fi Enterprise mode.

### Application visibility

- OmniSwitch 6860 and 6860E with AOS release 8.4.1 or higher
- OmniAccess Stellar series (AP1221, AP1222, AP1231, AP1232, AP1251) with Stellar AWOS 3.0.5 operating in Wi-Fi Enterprise mode

### Third-party systems interoperability

- Virtual Machine Manager hypervisor interoperability
  - VMware vCenter™ Standard Release 6.0 and higher
  - Microsoft Hyper-V 2012 & 2016
  - Citrix Hypervisor Advanced and Enterprise Release 6.5 and higher

### Performances and scalability

- Up to 5000 network devices including 4000 Stellar Access Points per single instance deployment

## Ordering information

Alcatel-Lucent OmniVista® 2500 NMS follows a “Pay-as-you-Grow” flexible licensing model. The licensing model covers network infrastructure such as Alcatel-Lucent Enterprise Portfolio (Switches and Access points) and third-party devices under supervision (NM series), as well as Alcatel-Lucent OmniAccess® Stellar Access Point series for unified management (AP series). The OmniVista 2500 embedded Unified Policy Authentication Manager (UPAM) provides advanced authentication functionalities, covered by supplemental licenses, for guest access (“GA” license series) and BYOD for on-boarding devices (“BYOD” license series). The optional Virtual Machine Manager (VMM license series) provide support for datacenter virtualization support such as virtual machine inventory and tracking.

### Platform and Node management license

High Availability (HA) Platform license provides optional Software service for critical infrastructure deployment for Master/Secondary configuration. Network management (“NM”) licenses provide device management for advanced provisioning, monitoring and analytics for ALE devices, including Application Visibility and signature updates for Alcatel-Lucent OmniSwitch® 6860/6860E series. An NM license includes third-party node management capabilities, such as discovery, topology and troubleshooting for Simple Network Management protocol (SNMP) capable third-party devices. Network management licenses are available in various quantities and can be combined to match any required configuration.



Part number	Description
OV4-START-NEW	STARTER PACK- NEW Deployment - Virtual appliance for OmniVista 2500 NMS application. Configuration starter includes nodal and AP management licenses (10 for ALE nodes, 10 for third-party devices, 10 for Alcatel-Lucent Stellar AP series with additional licenses for BYOD on boarding devices (10 BYOD), 10 guest access (10 GA), and VMM application (10 VMs).
OV4-NMS-HA	HIGH AVAILABILITY license - Optional Software feature license for High Availability Service. One license required per OmniVista 2500 NMS Configuration. Provide Master/secondary failover for OmniVista 2500 platform covering all functionalities including UPAM. Minimum release 4.3R1 to operate.
OV-NM-EX-10-N	NODE MANAGEMENT EXTENSION 10 nodes - NEW Deployment. Additional node management license for 10 Alcatel- Lucent Enterprise nodes and 10 third-party devices. One license is required per physical unit for VC and stack configurations for ALE nodes. Application Visibility included for supported devices.
OV-NM-EX-20-N	NODE MANAGEMENT EXTENSION 20 nodes - NEW Deployment. Additional node management license for 20 ALE nodes and 20 third-party devices. One license required per physical unit for VC and stack configurations for ALE nodes. Application Visibility included for supported devices.
OV-NM-EX-50-N	NODE MANAGEMENT EXTENSION 50 nodes - NEW Deployment. Additional node management license for 50 ALE nodes and 50 third-party devices. One license required per physical unit for VC and stack configurations for ALE nodes. Application Visibility included for supported devices.
OV-NM-EX-100-N	NODE MANAGEMENT EXTENSION 100 nodes - NEW Deployment. Additional node management license for 100 ALE nodes and 100 third-party devices. One license required per physical unit for VC and stack configurations for ALE nodes. Application Visibility included for supported devices.
OV-NM-EX-500-N	NODE MANAGEMENT EXTENSION 500 nodes - NEW Deployment. Additional node management license for 500 Alcatel-Lucent Enterprise nodes and for 500 third-party devices. One license required per physical unit for VC and stack configurations for ALE nodes. Application Visibility included for supported devices.
OV-NM-EX-1K-N	NODE MANAGEMENT EXTENSION 1000 nodes - NEW Deployment. Additional node management license for 1000 ALE nodes and for 1000 third-party devices. One license required per physical unit for VC and stack configurations for ALE nodes. Application Visibility included for supported devices.

## Access point license

Access point (“AP”) licenses provide unified management for the Alcatel-Lucent OmniAccess Stellar series (AP1101, AP1201, AP1201H, AP1221, AP1222, AP1231, AP1232, AP1251). AP licenses include unified network management operations such as access point registration, topology, monitoring, converged lifecycle, application visibility and unified role base definition. Wireless specific functionalities like RF management, Heatmap, WiPS (Wireless Intrusion Prevention System) are included. AP licenses are available in various quantities and can be combined to match any specific count.

Part number	Description
OV-AP-NM-10-N	ACCESS POINT EXTENSION 10 APs - NEW deployment. Unified management license for 10 OmniAccess Stellar Access Point series. One license required per unit.
OV-AP-NM-20-N	ACCESS POINT EXTENSION 20 APs - NEW deployment. Unified management license for 20 OmniAccess Stellar Access Point series. One license required per unit.
OV-AP-NM-50-N	ACCESS POINT EXTENSION 50 APs - NEW deployment. Unified management license for 50 OmniAccess Stellar Access Point series. One license required per unit.
OV-AP-NM-100-N	ACCESS POINT EXTENSION 100 APs - NEW deployment. Unified management license for 100 OmniAccess Stellar Access Point series. One license required per unit.
OV-AP-NM-500-N	ACCESS POINT EXTENSION 500 APs - NEW deployment. Unified management license for 500 OmniAccess Stellar Access Point series. One license required per unit.
OV-AP-NM-1K-N	ACCESS POINT EXTENSION 1000 APs - NEW deployment. Unified management license for 1000 OmniAccess Stellar Access Point series. One license required per unit.

## Guest Access and B.Y.O.D (Bring your own device) licenses

Guest Access & B.Y.O.D Licenses. The OmniVista 2500 Unified Policy Authentication Manager (UPAM) provides advanced authentication functionalities, covered by specific licenses, for Guest Access (“GA” license series) and B.Y.O.D for on-boarding devices (“BYOD” license series)

Part number	Description
OV-GA-20-N	GUEST ACCESS EXTENSION for OmniAccess Stellar Solution - 20 Guests - NEW deployment. Unified Policy Authentication Manager (UPAM) enables access for 20 concurrent guests.
OV-GA-50-N	GUEST ACCESS EXTENSION for OmniAccess Stellar Solution - 50 Guests - NEW deployment. Unified Authentication Policy Manager (UPAM) enables access for 50 concurrent guests.
OV-GA-100-N	GUEST ACCESS EXTENSION for OmniAccess Stellar Solution - 100 Guests - NEW deployment. Unified Policy Authentication Manager (UPAM) enables access for 100 concurrent guests.
OV-GA-500-N	GUEST ACCESS EXTENSION for OmniAccess Stellar Solution - 500 Guests - NEW deployment. Unified Policy Authentication Manager (UPAM) enables access for 500 concurrent guests.
OV-GA-1000-N	GUEST ACCESS EXTENSION for OmniAccess Stellar Solution - 1000 Guests - NEW deployment. Unified Policy Authentication Manager (UPAM) enables access for 1000 concurrent guests.
OV-GA-5K-N	GUEST ACCESS EXTENSION for OmniAccess Stellar Solution - 5000 Guests - NEW deployment. Unified Policy Authentication Manager (UPAM) enables access for 5000 concurrent guests
OV-GA-25K-N	GUEST ACCESS EXTENSION for OmniAccess Stellar Solution - 25000 Guests - NEW deployment. Unified Policy Authentication Manager (UPAM) enables access for 25000 concurrent guests
OV-BYOD-20-N	BYOD EXTENSION for OmniAccess Stellar Solution-20 devices - NEW deployment. Unified Policy Authentication Manager (UPAM) enables 20 BYOD concurrent active devices on an ALE network.
OV-BYOD-50-N	BYOD EXTENSION for OmniAccess Stellar Solution - 50 devices - NEW deployment. Unified Policy Authentication Manager (UPAM) enables 50 BYOD concurrent active devices on an ALE network.
OV-BYOD-100-N	BYOD EXTENSION for OmniAccess Stellar Solution - 100 devices - NEW deployment. Unified Policy Authentication Manager (UPAM) enables 100 BYOD concurrent active devices on an ALE network.
OV-BYOD-500-N	BYOD EXTENSION for OmniAccess Stellar Solution - 500 devices - NEW deployment. Unified Policy Authentication Manager (UPAM) enables 500 BYOD concurrent active devices on an ALE network.
OV-BYOD-1000-N	BYOD EXTENSION for OmniAccess Stellar Solution - 1000 devices - NEW deployment. Unified Policy Authentication Manager (UPAM) enables 1000 concurrent active devices on an ALE network.
OV-BYOD-5k-N	BYOD EXTENSION for OmniAccess Stellar Solution - 5000 devices - NEW deployment. Unified Policy Authentication Manager (UPAM) enables 5000 concurrent active devices on an ALE network
OV-BYOD-25k-N	BYOD EXTENSION for OmniAccess Stellar Solution - 25000 devices - NEW deployment. Unified Policy Authentication Manager (UPAM) enables 25000 concurrent active devices on an ALE network

## Virtual Machine Manager license

Virtual Machine Manager licenses are optional. This license enables features set such as VM inventory, location, and state monitoring, with all the network infrastructure provisioning automation required to move VMs. VM licenses are available in various quantities and can be combined to match any specific virtual machine count.

Part number	Description
OV-VMM-200-N	VMM EXTENSION - 200 VM - NEW Deployment. License for 200 VMs. Supplemental feature license for VMM applications for VM inventory, monitoring and uNP (Universal Network Profile) provisioning automation for VMware vCenter, Microsoft Hyper-V and Citrix Hypervisor platforms.
OV-VMM-500-N	VMM EXTENSION - 500 VM - NEW Deployment. License for 500 VMs. Supplemental feature license for VMM applications for VM inventory, monitoring and uNP (Universal Network Profile) provisioning automation for VMware vCenter, Microsoft Hyper-V and Citrix Hypervisor platforms.
OV-VMM-1K-N	VMM EXTENSION - 1000 VM- NEW Deployment. License for 1000 VMs. Supplemental feature license for VMM applications for VM inventory, monitoring and uNP (Universal Network Profile) provisioning automation for VMware vCenter, Microsoft Hyper-V 2012 and 2016 and Citrix Hypervisor platforms.

ALE provides access to services and a continuous update maintenance support program for the OmniVista 2500 NMS.

Contact your ALE representative for further details. <http://enterprise.alcatel-lucent.com/?product=OmniVista2500NetworkManagementSystem&page=overview>