

Alcatel-Lucent OmniVista Cirrus

Simple, secure cloud-based network management as a service

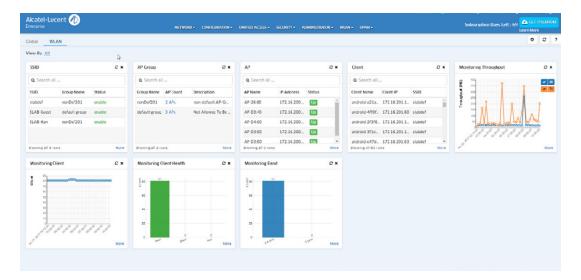
<u>Alcatel-Lucent OmniVista® Cirrus</u> is a scalable, resilient, secure cloud-based network management for unified access offered as a subscription service. OmniVista Cirrus offers an easy to deploy, effective way to manage and monitor Alcatel-Lucent Enterprise switches and Alcatel-Lucent OmniAccess® Stellar access point infrastructure. It provides advanced policy capabilities for guest access and BYOD as well as advanced analytics for smarter decision making.

OmniVista Cirrus is a subscription-based service, facilitating alignment with your new business imperatives. Ease of purchasing, provisioning and ongoing daily operations are at the core of OmniVista Cirrus. This facilitates your digital transformation, allowing you to be quick to respond to new business needs such as IoT total enablement solution and identification of network connected devices, but without high upfront costs or complex infrastructure changes or software deployments. Shifting to a cloud-based network management solution with OmniVista Cirrus simplifies digital transformation by reducing cost and administrative IT burden.

OmniVista Cirrus sets a new IT experience standard for simple yet powerful capabilities. OmniVista Cirrus can scale and adapt to your business requirements. It offers advanced visibility and control over users and applications. By focusing on core IT operations OmniVista Cirrus comprehensive management solution makes it easy to improve application performance and troubleshoot issues in deployments with distributed locations and limited IT staff. OmniVista Cirrus protects your network infrastructure investment by adapting to changing business needs without expensive "rip and replace."

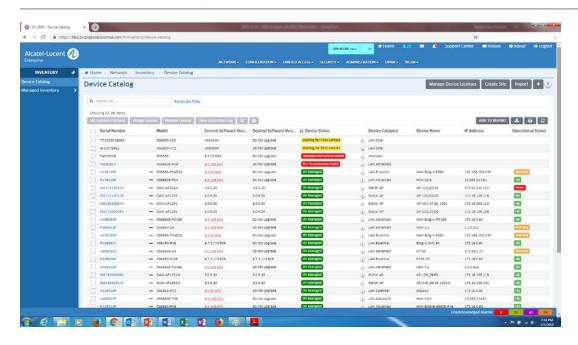
| Features | Benefits |
|---|--|
| Investment protection | Migrate Alcatel-Lucent Enterprise Wireless and wired devices from on-premises deployment to OmniVista Cirrus with minimal effort |
| Operational simplification | Continuous feature updates delivered from the cloud, reducing IT daily involvement and costs simplification Intuitive interface eliminating Costly training or added staff |
| Multi-site management | Provides centralized management of multiple virtual or physical sites Consolidates critical management information from across the entire network for a global and consistent network experience |
| Multi-tenancy services | Multi-client level with simplified network administration Easily control who has access to which client network and tenant with the appropriate administrative network administration credentials See all key management status and all-important network events and alerts from a single Dashboard |
| Highly scalable | Cloud elasticity to support small to large cloud scalability from small to large network deployments without network reconfiguration Designed to scale and adapt to your business transformation imperatives during subscription |
| Highly available | Hosted in multiple regional data centers with optimal 99.99% availability Maximum availability ensured with backup and redundant services and disaster recovery provided by each data center |
| Highly secure | ISO 27001 Security certified application hosted in SOC1 & SOC2 data centers OmniVista Cirrus with separation of out of band control plane (management traffic) and user data Secure communications with the highest level of protection using certificates ranging from a mutual cloud to device authentication Two-Factor Authentication (2FA) adding another layer of Security for user verification by using a security identifier method in addition to username and Password |
| Easy to deploy | Simplified device catalog and cloud on-boarding with OmniVista Assistant apps (iOS and Android) Faster service roll-out with Zero-touch provisioning of managed network devices Minimal network expertise required for initial enterprise network set up and daily operations, offloading IT resource |
| Auto Provisioning | Automates roll-out of consistent device configuration and translates into deployment of specific device configuration based on adapted network services Allows off-the shelf OmniSwitches to be provisioned simply by connecting to the network Policy-driven provisioning and automation allowing compliance enforcement for provisioning best practices Lower costs by enabling deployment of new devices in minutes, and without onsite support visits, eliminates repetitive tasks and onsite support visits |
| IoT enablement | Know your network with a single pane of glass for Inventory view- from traditional IT managed devices up to hard to detect endpoints Real-time wired-wireless endpoints inventory with Cloud based device fingerprinting solution for most diversified network environments with advanced contextual information IoT focus dashboard widgets facilitate the operational management for faster time to decision IoT Policy Enforcement with access role profiles automates network-wide access based on IoT classification |
| Device Lifecycle management | Optimal device firmware selection with remote update over the cloud for network element under subscription |
| Easy wireless configuration with integrated Guest access and BYOD support | Reduced administration time and effort while providing consistent network experience across Extensive guest access and BYOD support for on-boarding and management of visitor and employee personal devices LAN and WLAN services Fully customizable Captive Portal with integrated credentials management for email, SMS, social Login (Facebook, Google) |
| Application visibility and control | Ensure consistent user experience to support all business requirements across the network infrastructure and control Control usage on the network of recreational applications Optimized network application performances for professional applications and network services |
| Network Health Monitoring | Network Operating Center (NOC) style topology provides global visibility of all network equipment in a single view with real-time view of devices, clients, alarms and events Real-time monitoring and analysis of critical network performance indicators through visual widgets |

OmniVista Cirrus dashboard



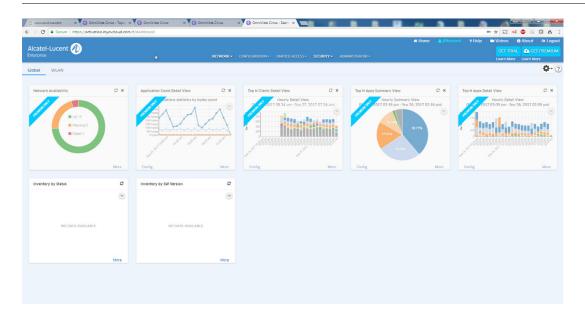
OmniVista Cirrus Dashboard offers Real-time monitoring and analysis of critical network performance indicators through intuitive visual widgets.

OmniVista Cirrus device on-boarding



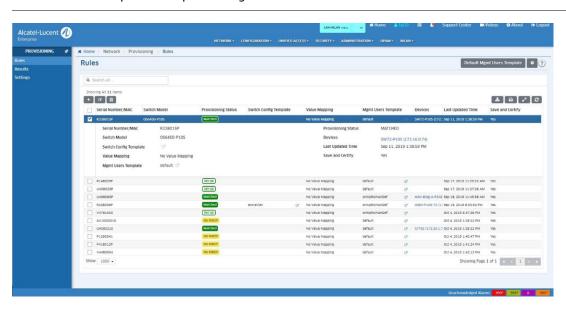
Easy, intuitive registration and activation for Alcatel-Lucent Enterprise portfolio from OmniVista Cirrus device catalog.

OmniVista Cirrus Freemium



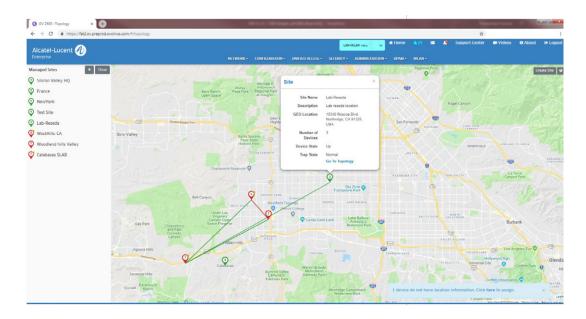
OmniVista Cirrus Freemium mode allows Alcatel-Lucent Enterprise customers easy access to the latest software and firmware versions for their network devices.

OmniVista Cirrus template-based provisioning



Policy-driven provisioning and automation reduce cost of new device deployment.

Geo-location-based topology



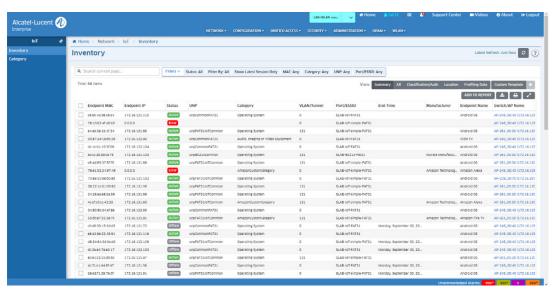
Geo-location node map shows nodes and device status in geographical context using Google map.

OmniVista Cirrus network topology



OmniVista Cirrus real-time detailed topology for each tenant across multi-site deployment.

IoT inventory



Single Pane of glass for IoT enablement - IoT endpoints inventory view

Product specifications

Simplified ordering and activation

- Portal for customer self- registration and subscription activation
- Pay-as-you-go subscription model with flexible duration (1, 3, 5 years) to accommodate business OPEX imperatives
- Flexible Service and Support bundle for device under subscription
- Easy subscription renewal process to avoid service interruption

Simplified deployment

- Network devices automatically connect to OmniVista Cirrus out of the box
- Optimal firmware update for device cloud registration
- Configuration template for devices and Access Points for auto- provisioning
- Template for devices and access points bulk provisioning and configuration modeling

Secure

- Internet traffic limited to encrypted Management data
- Layer 2 VPN IPSec encryption and tunneling services between a network device and OmniVista Cirrus
- Administrative management is secured over HTTPS/SSL with different levels of administration

- Role-based administration for mapping network administration credentials to a specific subset of customer organization
- Firewall friendly, eliminating complex local infrastructure changes
- Strong password policy, including twofactor authentication available at the Single Tenant or at the Multi-tenancy level

Multi-tenancy services

- Allow Managed Service Providers (MSP) and large organizations to
- effectively manage and monitor multiple associated customers
- User management control for easy control and devices access with rolebased access profiles
- Advanced Dashboard capabilities for Multi-Tenancy Services including devices inventory, alerts, and devices status

Geo-location topology

- Google map integration by displaying devices or network sites by its physical location address or by its GPS coordinates
- Automatically register device GPS coordinates, through OV Cirrus Mobile Assistant application (iOS and Android)
- Display device list, equipment status associated to a geographical site

Network topology

- · Detailed discovery of the
- Alcatel-Lucent Enterprise portfolio with overlay display for wired/ wireless devices and virtual chassis devices and virtual chassis

- Network visualization for logical and physical infrastructure and live device status
- Dynamic, customizable, logical map based on user-defined filters (IP subnet, location, model, user provided descriptive info)
- Hierarchical multi-site topology display
- · Wireless heatmap with RF planner

Configuration lifecycle

- Extensive lifecycle operations for device configuration change
- Create infrastructure wide, device software image update for baseline version management
- Configuration life cycle operations (backup & restore) with scheduling and remote reboot
- Optimal device firmware selection reducing IT involvement with scheduling automation

Auto-provisioning

- Automatically roll-out consistent provisioning policies and device configuration
- Allows off the-shelf OmniSwitches devices to be provisioned simply by connecting to the network
- Enforce Golden configuration and best practices by monitoring compliance and audit reporting
- Simplified Return Material Authorization (RMA) device swap via Golden Configuration support and Resource

Unified management

- Single pane of glass management for Alcatel-Lucent OmniSwitch® and Stellar Access Points for wireless services provisioning and monitoring
- Centralized role-based access policy with built-in authentication policy manager
- Advanced BYOD and guest access mobility features including configuration and monitoring (each Stellar Access Point comes bundled with 100 Guest Access and 100 BYOD licenses allowances)
- Integrated Captive Portal including Social Login Authentication (Facebook™, Google™, Rainbow™)

Dashboard

- Graphical widgets for device status with drill-down capabilities
- Real-time monitoring and analysis of critical network performance indicators through visual widgets
- Full choice of displays, data and other important network and device information with advanced reporting capabilities
- WLAN focus widgets providing extensive view for live reporting on wireless operations (SSID, AP and Clients) and Wi-Fi performances (throughput, band utilization and client health)
- IoT focus widgets helps to visualize realtime and historical graphical views of your endpoints

Network analytics

- Provides insight in the network health with advanced graphical a analytics view on most problematic switches based on device state (CPU, memory, temperature)
- Enables automatic generation of business centric, CIO-oriented graphical analytics reports for network

IoT enablement

- IoT Inventory assisted with cloud- based Endpoints fingerprinting service gives a full spectrum visibility of all connected devices across the network with complete contextual information
- Contextual information of all connected devices including key attributes such as device type, vendor, hardware version, network location and time information
- IoT Policy Enforcement with access role profiles automates network-wide access based on IoT classification

 Dashboard IoT with focus Endpoint analytics summary provide real- time and historical summary view of IoT activity for better informed analysis and reporting

Application visibility

- Provides application analytics for network wide application inventory, monitoring and use, allowing a better understanding of bandwidth consumption between business critical and non- professional applications
- Allows centralized policy enforcement and application- use policy by applying QoS policy enforcement such as rate limiting, blocking and application prioritization
- Improves user experience and business outcome with embedded analytics engine, showing in depth application use reports and key measurement indicators

Web Content Filtering

- Provide full control on web content access by enforcing Web access policies by Access Point Group or individual Access Point, through Access Role profiles management
- Enforce web content compliance requirements to keep user safe, productive and improve network performances

NaaS "Network as a Service" subscription monitoring

 Show "NaaS" subscription status for network infrastructure devices, including device mode of operation (NaaS, Capex), level of features under subscription, and subscription life cycle status

Privacy and regulatory compliance

- OmniVista Cirrus hosted in first- rate data regional data centers based on customer location
- SoC 1 & SoC 2 Compliant data centers
- · Energy-efficient data centers
- Compliant with applicable data privacy, security and regulatory framework in US, EU and abroad
- Compliant with General Data Protection Regulation (GDPR) & California Consumer Privacy Act (CCPA)
- Compliant with ISO/IEC certifications for cloud security
- · ISO 27001, 27017, 27002 certified

Technical specifications

OmniVista Cirrus-ready network devices

- Alcatel-Lucent OmniSwitch 2260 & 2360 models with minimum release AOS 5.1R1
- OmniSwitch 6350, OS6450 models with minimum release AOS 6.7.2R03 MR
- OmniSwitch 6360 models with minimum release AOS 8.7R2
- OmniSwitch OS6465 models with minimum release AOS 8.5R2
- OmniSwitch 6560, OS6860, OS6860E, OS6865, OS6900 models with minimum AOS release 8.4.1R03
- OmniSwitch 6860N models with minimum release AOS 8.7R1
- OmniSwitch 6750M models with minimum release AOS 8.9R2
- Stellar access points AP1101, AP1201, AP1201H, AP1221, AP1222, AP1231, AP1251 models with minimum AWOS release 3.0.7
- Stellar access points AP1201BG, AP1321, AP1322, AP1361, AP1362 models with minimum AWOS 4.0.0 release
- Stellar access point AP1311 model with minimum AWOS 4.0.2 release
- Stellar access point AP1351 model with a minimum AWOS 4.0.3 release
- Stellar access point AP1301H model with a minimum AWOS release 4.0.4MR1
- Stellar access point AP1400 series with a minimum AWOS release 4.0.7

Web Content Filtering

- Feature available with Premium and Business Service levels
- Supported only on Stellar access point AP 1300 Series

Minimum browser requirements

- Google Chrome minimum version 63, Mozilla Firefox minimum version 56
- · Microsoft Edge Chromium

Mobile apps

- For Device on-boarding and geolocation tagging
 - ¬ OmniVista Cirrus Assistant
- For Template based Provisioning
 - ¬ OmniVista Assistant

Feature comparison

| | Freemium | Paid subscription |
|---|--|--|
| Customer sign-on through portal | ~ | , |
| Number of devices supported | Limited to customer device inventory | Based on subscription terms |
| Duration of service | No limitation | Based on subscription duration (1, 3, 5 years) |
| Service and Support bundle included with subscription | Only Community Support | Different levels of Service and Support bundle available |
| Extended software support and device hardware maintenance (AVR) | | Based on subscribed Service and Support level bundle |
| Functionalities level | Customer device inventory One-time device software update | Complete features No restrictions |
| Guided workflows and simplified network provisioning | V | V |
| Topology services, advanced monitoring | | <i>V</i> |
| Unified management for LAN and WLAN | | <i>V</i> |
| Guest access with Captive Portal and BYOD | | v |
| Smart Analytics and reporting | | V |
| Application visibility Monitoring and enforcement | | ✓ |

Ordering information

OmniVista Cirrus is available with 3 different Service and Support bundles (Base, Business, Premium) Base Service and Support includes:

- OmniVista Cirrus Network Administration SaaS for all licensed devices
- Firmware update and Software upgrade for all licensed and managed devices
- Access to the Global Welcome center for OmniVista Cirrus SaaS Service and support

| SKU | Description |
|-----------------|---|
| OVC-AP-BAS-nY | OmniVista Cirrus – Cloud network administration for one Stellar Access Point model (covers Stellar AP1101, AP1200, AP1300 and AP1400 Series) for the selected subscription duration (options are one, three or five years). Include Base Service and Support Bundle for the device under subscription. |
| OVC-ESS-BAS-nY | OmniVista Cirrus – Cloud network administration for one Essential OmniSwitch model (covers OS2260, OS2360, OS6350, OS6360, OS6450, OS6465, OS6560 and OS6570M series) for the selected device under subscription. Subscription duration (options are one, three or five years). Include Base Service and Support Bundle for the selected device under subscription. |
| OVC-ADV-BAS-nY | OmniVista Cirrus – Cloud network administration for one Advanced OmniSwitch model (covers OS6860, OS6860E, OS6860N, OS6865 series) for the selected subscription duration (options are one, three or five years). Include Base Service and Support Bundle for the device under subscription. |
| OVC-CORE-BAS-nY | OmniVista Cirrus - Cloud network administration for one Core OmniSwitch model (covers OS6900 series) for the selected subscription duration (options are one, three or five years). Include Base Service and Support Bundle for the device under subscription. |

Replace n with 1,3,5 for duration terms (1, 3, 5 years)

Business Service and Support Bundle includes:

- OmniVista Cirrus Network Administration SaaS for all licensed devices
- · ALE Business Partner Access to the Global Welcome center for OmniVista Cirrus SaaS Service and support
- Firmware update and Software upgrade for all licensed and managed devices
- Web content and filtering functionality available for OmniAccess Stellar access point 1300 series licensed and managed
- ALE Partner TAC Access for OmniVista Cirrus SaaS and node support assistance
- ALE Partner hardware service (AVR/Advanced replacement) and support for all licensed and managed devices

| SKU | Description |
|-----------------|--|
| OVC-AP-BIZ-nY | OmniVista Cirrus - Cloud network administration for one Stellar Access Point model (covers Stellar AP 1101, AP1200, AP1300 and 1400 Series) for the selected subscription duration (options are one, three or five years. Include Business Service and Support Bundle for the device under subscription. |
| OVC-ESS-BIZ-nY | OmniVista Cirrus - Cloud network administration for one Essential OmniSwitch model (covers OS2260, OS2360, OS6350, OS6450, OS6465, OS6560 and 6570M series) for the selected subscription duration (options are one, three or five years). Include Business Service and Support Bundle for the device |
| OVC-ADV-BIZ-nY | OmniVista Cirrus - Cloud network administration for one Advanced OmniSwitch model (covers OS6860, OS6860E, OS6860N, OS6865 series) for the selected subscription duration (options are one, three or five years). Include Base Service and Support Bundle for the device under subscription. |
| OVC-CORE-BIZ-nY | OmniVista Cirrus - Cloud network administration for one Core OmniSwitch model (covers OS6900 series) for the selected subscription duration (options are one, three or five years). Include Business Service and Support Bundle for the device under subscription. |

Replace n with 1,3,5 for duration terms (1, 3, 5 years)

Premium Service and Support Bundle includes:

- OmniVista Cirrus Network Administration SaaS for all licensed devices
- End Customer Access to the Global Welcome center for OmniVista Cirrus SaaS Service and support
- · Firmware update and Software upgrade for all licensed and managed devices
- Web content and filtering functionality available for OmniAccess Stellar access point 1300 series licensed and managed
- End-user support access for OmniVista Cirrus SaaS and node support assistance
- End-user hardware service (AVR/Advanced replacement) and support for all licensed devices

| SKU | Description |
|---------------|--|
| OVC-AP-nY | OmniVista Cirrus - Cloud network administration for one Stellar access point model (covers Stellar AP 1101, AP1200, AP1300 and 1400 Series) for the selected subscription duration (options are one, three or five years). Include Premium Service and Support Bundle for the device under subscription. |
| OVC-ESSENT-nY | OmniVista Cirrus - Cloud network administration for one Essential OmniSwitch model (covers OS2260, OS2360, OS6350, OS6360, OS6450, OS6465, OS6560, and OS6570M series) for the selected subscription duration (options are one, three or five years). Include Premium Service and Support Bundle for the device under subscription |
| OVC-ADV-nY | OmniVista Cirrus - Cloud network administration for one Advanced OmniSwitch model (covers OS6860, OS6860E, OS6860N, OS6865 series) for the selected subscription duration (options are one, three or five years). Include Premium Service and Support Bundle for the device under subscription. |
| OVC-CORE-nY | OmniVista Cirrus - Cloud network administration for one Core OmniSwitch model (covers OS6900 series) for the selected subscription duration (options are one, three or five years). Include Premium Service and Support Bundle for the device under subscription. |

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Visit ALE OmniVista Cirrus.

