Alcatel-Lucent OmniAccess 4324

WIRELESS LAN SWITCH

The Alcatel-Lucent OmniAccess 4324 (OAW-4324) Wireless LAN switch offers a new approach to building, securing, and managing 802.11 networks for enterprises implementing business-critical applications. For regional headquarters or dense building deployments, the OmniAccess 4324 offers high-performance wireless LANs dynamic radio frequency (RF) management and advanced services such as application aware security, wireless intrusion protection, seamless user mobility, location tracking and bandwidth management.

The Alcatel-Lucent OmniAccess 4324 is a stackable, 1U high, fixed-configuration device that seamlessly integrates into any layer-2/layer-3 wired network without requiring the reconfiguration of the network – logically or physically. The Alcatel-Lucent OmniAccess 4324 provides 24 10/100 Mbps power over Ethernet (802.3af) ports for connecting to access points, layer-2 switches, servers, or computers. In addition, two Gigabit Ethernet uplinks allow the OmniAccess 4324 to be connected to the wired network. The Alcatel-Lucent OmniAccess 4324 supports up to 48 access points (APs), 2 Gbps of full-duplex (clear text) traffic, and 400 Mbps of encrypted throughput.

FEATURES	BENEFITS
• Policy-based network access control	• Policy based access control and business policies are translated into network controls, and violators are detected and then blocked before anything ever happens.
• Universal authentication	• A single authentication security system provides the means of knowing what/who are using the network.
• Adaptive radio management	• Removes the headaches of old-fashioned manual control of wireless devices allowing the administrator to specify performance standards.
• Rogue and interfering access point detection	• Automatically disables the devices by preventing users from associating with them and notifies administrator of their location for removal.
• Wireless intrusion protection	• Provides detection and visibility of intruders to administrators to prevent malicious wireless attacks.

FEATURES	BENEFITS
• Data encryption	• Prevents intruders from eavesdropping on sensitive data through use of modern protocols.
• Network security	• Processes traffic based on user identity and other parameters instead of just source/destination addresses.
• Availability	• Supports business critical applications that can't tolerate downtime by providing VRRP-based hot standby, modular software design with protected memory, and automatic AP failover.
• Seamless user mobility	• Users are able to move freely without the need to restart sessions or re-authenticate each time they move in the campus.
• Centralized management	• Intuitive web-based interface provides logical organization of features, while the industry-standard command line interface allows experienced network managers to be up and running quickly. Can view both wired and wireless network elements and topologies from a single screen.
• Seamless wired-wireless integration	• No reconfiguration of existing network components are necessary to integrated the OmniAccess WLAN platform into the network.
• Endpoint integrity	• Provides facilities for client remediation, allowing out-of-spec client devices to repair themselves.

- **Policy-based, network access control** – A core feature of the Alcatel-Lucent OmniAccess 4324 is the ability to separate users into individual roles, and then apply differentiated access and authorization controls to those roles based on policy. In the past, IT managers wrote business policies, requested that users comply, and then reprimanded users who violated the policies. With Alcatel-Lucent's OmniAccess policy-based access control, business policies are translated into network controls and violators are detected and then blocked before they ever happen. Access control decisions are based on configurable policy criteria, including user identity, device identity, device integrity, application used, physical location of user, time of day, authentication method, and SSID.

- **Universal authentication** – Knowing who or what devices are using the network is a cornerstone of every security system. Authentication provides a means to acquire this knowledge. The Alcatel-Lucent OmniAccess 4324 supports a wide variety of authentication methods ensuring compatibility with the multitude of end-user devices that are common in enterprise networks. With one security system, devices as disparate as industrial sensors, barcode scanners, IP phones, PDAs, and laptop computers are all provided appropriate levels of access.

  Multiple industry-standard authentication methods are supported including 802.1x, Web-based captive portal, RSA SecureID, PPP/L2TP for VPN access, IPSec/XAUTH for VPN access, RADIUS snooping for 802.1x-proxy authentication, and MAC address authentication. Standard authentication databases are supported, including RADIUS, and LDAP. An internal database can also be used.

- **Adaptive Radio Management** – The Alcatel-Lucent OmniAccess 4324 allows the network manager to deploy a wireless network as effortlessly as a wired network. The RF spectrum is constantly changing as people, furniture, and equipment are moved around, making automatic control and management of the RF space a critical requirement. Adaptive radio management removes the headaches from old-fashioned manual control of these devices, allowing the administrator to specify performance standards that the radio network will constantly seek to achieve.

The Alcatel-Lucent OmniAccess 4324 used in conjunction with Alcatel- Lucent OmniAccess APs includes the following industry-leading radio management capabilities:

- Automatic channel selection
- Automatic power selection
- 3-dimensional access point (AP) location planning tool
- Interference detection and avoidance
- Coverage hole detection
- Configurable performance thresholds
- Self-healing around failed radios
- Radio load balancing
- Wireless RMON statistics

- **Rogue access point detection** – The Alcatel-Lucent OmniAccess wireless system constantly scans all channels of the RF spectrum capturing native 802.11 traffic and learning about all wireless APs. A patent-pending classification algorithm, determines if the detected APs are legitimate APs, rogue APs or interfering APs. An interfering AP is one that has not been authenticated to the corporate network, but is not deemed to be a potential security breach. Rogue APs are those that are deemed hazardous to the network. If rogue APs are detected, the Alcatel-Lucent OmniAccess wireless system will automatically detect and disable the devices by preventing users from associating with them. Administrators are also notified of the location of rogue APs so that they may be physically removed.

- **Wireless intrusion protection** – The Alcatel-Lucent OmniAccess wireless intrusion detection capabilities eliminate the need for a separate system of RF sensors and RF security by providing extraordinary capabilities to the Alcatel-Lucent OmniAccess wireless switching system that gives administrators visibility and the power to thwart malicious wireless attacks. These attacks include wireless probing/discovery, denial of service (DoS), impersonations, man-in-the-middle, and unauthorized intrusions. As new attacks emerge, the system is flexible enough to incorporate new attack signatures while in service. In addition to attack protection, the Alcatel-Lucent OmniAccess wireless system enforces wireless security policies, which includes the ability to detect and prevent weak WEP initialization vectors (IVs), AP misconfiguration, ad-hoc networks, unauthorized NIC types, and wireless bridges.

- **Data encryption** – The Alcatel-Lucent OmniAccess WLAN system is designed to work in environments where the physical media cannot be protected against eavesdropping – such as wireless networks or the Internet. The Alcatel-Lucent OmniAccess 4324 enables a large number of tested and proven encryption protocols to prevent intruders from eavesdropping on sensitive data. These protocols include AES-CCMP (WPA2), AESCBC (up to 256 bits), DES, Triple-DES, WEP (64 or 128 bit), TKIP (WPA1), MPPE (PPTP), and SSL (up to 128 bit).

- **Network security** – The Alcatel-Lucent OmniAccess WLAN system was built from the ground up with security in mind, and includes a full ICSA-certified stateful firewall that can process traffic based on user identity as well as other parameters, rather than just simple source/destination addresses.

  A number of security features allow the Alcatel-Lucent OmniAccess 4324 to be installed in the most security-conscious environments, including ICSA-certified internal firewall, system log integrity, hardened OS resistant to known attacks and exploits, control-path encryption of communication between Alcatel-Lucent OmniAccess WLAN platforms, and access control lists (ACLs).

- **Availability** – The Alcatel-Lucent OmniAccess WLAN system enables support for business critical applications that cannot tolerate downtime. The Alcatel-Lucent OmniAccess WLAN system provides a number of features that support high-availability including VRRP-based hot standby, modular software design with protected memory, automatic AP failover.

- **Seamless user mobility** – Mobility is a key requirement in modern enterprise networks, and is more important each day as voice over WLAN (VoWLAN) demands emerge and laptop computers continue to replace stationary desktop computers. Alcatel-Lucent's mobility services enable users to move freely without the need to restart sessions or re-authenticate each time.

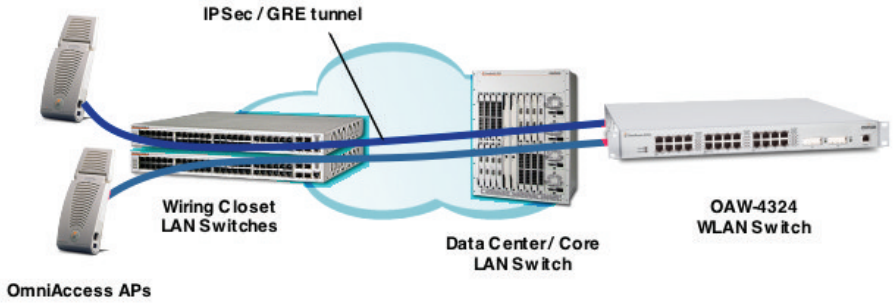
  The Alcatel-Lucent OmniAccess 4324 enables and enhances user mobility through features such as wireless fast roaming, transparent inter-subnet (L3) roaming, proxy mobile-IP support for roaming between multiple WLAN switches, and proxy DHCP.

- **Centralized management** – Manageability and configuration are top concerns when introducing any type of device to an enterprise data network. The Alcatel-Lucent OmniAccess WLAN system offers clustering capabilities that allow an OmniAccess WLAN switch to configure and manage up to 32 other WLAN switches. When a policy change is made to the master device, this change is automatically pushed to other devices in the cluster. The intuitive Web-based interface provides logical organization of features, while the industry-standard command line interface allows experienced network managers to be up and running quickly.

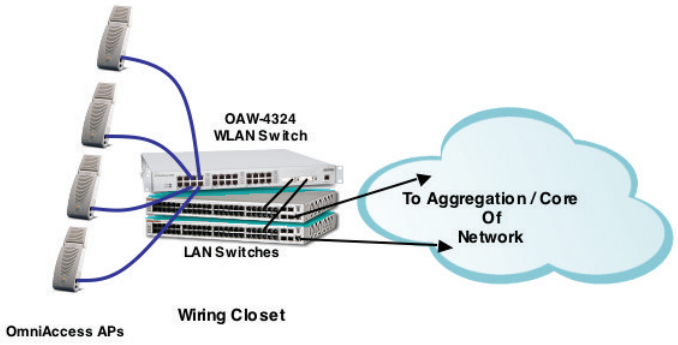
  The Alcatel-Lucent OmniAccess WLAN switches are also integrated within Alcatel-Lucent's OmniVista Enterprise network management application. OmniVista discovery and topology modules enable a network administrator to view both wired and wireless network elements and topologies from a single screen. In addition, OmniVista provides the network administrator with the ability to seamlessly initiate a Web-based management session to a specific OmniAccess WLAN switch.

- **Seamless wired-wireless integration** – The Alcatel-Lucent OmniAccess WLAN platforms must be able to integrate into wired networks without requiring reconfiguration of existing network components. The Alcatel-Lucent OmniAccess 4324 (OmniAccess 4324) is built with a number of features typically found in enterprise LAN switches. These features give the OAW- 4324 the flexibility to operate in several different modes for maximum ease of integration. These features include 802.1D spanning tree, 802.1Q VLAN tagging, 802.1p prioritization, IP DiffServ/TOS, IP tunnels using GRE or IPSec, DHCP server, and UDP forwarding (DHCP helper).

- **Endpoint integrity** – The Alcatel-Lucent OmniAccess 4324 provides the ability to limit network access based on client integrity, such as the state of the anti-virus software on the device or operating system patches. It also provides facilities for client remediation, allowing out-of-spec client devices to repair themselves. For endpoint security, industry leading solutions from Sygate Technologies, Inc. are used. They include Sygate on Demand and Sygate Secure Enterprise.



Alcatel-Lucent OmniAccess 4324 deployed as a WLAN appliance in a regional headquarter



Alcatel-Lucent OmniAccess 4324 deployed as WLAN switch in dense AP deployment

TECHNICAL SPECIFICATIONS

Capacity and performance

- 24 10/100 ports with PoE (802.3af) and serial over
- Ethernet capability
- 2 GBIC uplink ports
- Up to 512 users per switch
- Up to 48 APs per switch
- 2 Gbps of switch throughput
- 400 Mbps of encrypted traffic (3DES) throughput
- Dedicated crypto processor
- 200W total PoE power
- RS-232 serial console (RJ-45 connector) factors

Physical specifications

- Height: 1.72 in. (4.4 cm) – 1U
- Width: 17.4 in. (44.2 cm)
- Depth: 16.1 in (40.9 cm)
- Weight: 12 lbs (5.7 Kg)

Fault tolerance

- VRRP for switch failover
- Automatic AP re-homing
- Multiple uplinks with redundancy factors

802.11 Transport, authentication, and encryption

- Dimensions: 6 in x 4.4in x 1.6in (INT antenna) 6 in x 5.4 in x 1.6 in (w/ ext. antenna)
- 802.11a
- 802.11b
- 802.11g
- 802.1x
- WEP, dynamic WEP, TKIP (WPA-1), 3DES, AES-CCMP encryption
- PEAP, TLS, TTLS, LEAP
- MAC address authentication
- Upgradeable to new encryption mechanisms

RF management and control

- Up to 16 ESSIDs per AP
- 3-dimensional RF site survey
- Distributed and centralized automatic AP calibration
- Self-healing around failed APs
- Load balancing – number of users
- Load balancing – usage-based
- Coverage hole and interference detection
- Wireless RMON/packet capture
- Plug-ins for Ethereal and Airopeek
- Timer-based AP access control

Mobility

- 2–3 msec intra-switch roaming
- 10–15 msec inter-switch roaming
- Intersubnet roaming
- Mobile IP support
- Proxy mobile IP
- Proxy DHCP

VPN and firewall

- 512 concurrent IPSec tunnels
- 64,000 stateful firewall policies (per-user and per-port)
- IPSec, PPTP, XAUTH VPN termination
- VPN dialer
- Customizable captive portal
- Network address translation
- Standard and extended ACLs

Subscriber management

- Per-user or per-role assignments of firewall policies, bandwidth contracts, session prioritization, VLAN assignment
- Role derivation based on authentication, ESSID, encryption, or OUI
- Location based access control

Quality of service

- Per-user and per-role bandwidth contracts
- Application-aware traffic classification and prioritization
- 802.1p support
- TOS support
- DiffServ Control Protocol support (DSCP tagging)

Authentication servers

- Local RADIUS
- External RADIUS: Microsoft Active Directory, Microsoft IAS Radius Server, Cisco ACS Radius Server, Funk Steel Belted Radius Server, RSA ACEserver, Infoblox, Interlink
- Radius Server
- LDAP

Environment

- Operating temperature: 0 to 40°C (32 to 104°F)
- Storage temperature: 0 to 50°C (32 to 122°F)
- Humidity: 5% to 95% (non-condensing)

EMC

- FCC Part 15 Class A
- ICES-003 Class A
- VCCI- V-3/02.04 Class A
- EN 55022: 1998 Class A (CISPR 22 Class A)
- EN 61000-3-3: 1995, EN 61000-3-2: 2000, EN 61000-4-2: 1995+A1: 1998,
- EN 61000-4-3: 1996, EN 61000-4-4: 1995, EN 61000-4-5: 1995,
- EN 61000-4-6: 1996, EN 61000-4-8: 1994, EN 61000-4-11: 1994
- EN 55024: 1998
- AS/NZS 3548 Class A

Safety

- UL60950, Third Edition (2000)
- CAN/CSA C22.2 No 60950-00, Third Edition (2000)
- CB Report per IEC60950, Third Edition (1999)
- TUV GS Mark per EN60950
- Low Voltage Directive (LVD) 73/23/EEC
- 21 CFR Chapter 1, Subchapter J, Part 1040.10 (Laser Safety)
- EN 60825-1, EN 60825-2 (Laser Safety)

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
OAW-4324	OmniAccess 4324 with adaptive RF management. Provides 24 auto-sensing 10/100 interfaces with power over Ethernet (PoE) and two GBIC uplinks. Supports up to 48 OmniAccess APxx access points. Operates directly connected to the access points or remotely connected through a layer-2 or layer-3 network. Supports auto-sensing 110V/240V AC and includes one accessory kit (installation guide, 19" equipment rack mount hardware, console cable with adapter and full product documentation CD).
OAW-4324-PEF	Policy Enforcement Firewall Module for the OAW-4324 (single switch license)
OAW-4324-VPN	VPN Server Module for the OAW-4324 (single switch license)
OAW-4324-WIP	Wireless Intrusion Protection Module for the OAW-4324 (single switch license)
OAW-4324-AAA	Advanced AAA Module for the OAW-4324 (single switch license)
OAW-4324-ESI	External Services Interface Module for the OAW-4324 (single switch license)
OAW-4324-CIM	Client Integrity Module for the OAW-4324 (single switch license)

To learn more, contact your dedicated Alcatel-Lucent representative, authorized reseller, or sales agent. You can also visit our Web site at www.alcatel-lucent.com.

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