

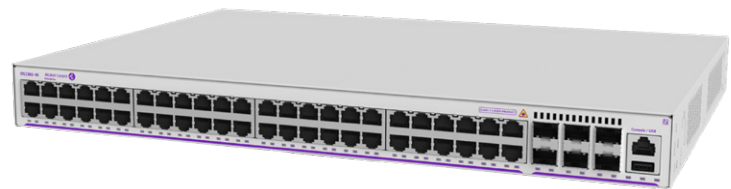
# Alcatel-Lucent OmniSwitch 2260

## WebSmart+ Gigabit Ethernet LAN Switch Family

The [Alcatel-Lucent OmniSwitch® 2260 Gigabit WebSmart](#) family of switches provides a simple, secure, and smart business network at affordable prices.

The Alcatel-Lucent OmniSwitch

2260 operates on the field-proven Alcatel-Lucent Operating System (AOS) software supporting simple device management using the in-box web browser graphical user interface (GUI), as well as a subset of the most critical command-line interface (CLI) management commands. The OmniSwitch 2260 allows you to achieve reliable business-class network performance, including security, without paying for advanced network management features. The switches are a lower price alternative compared to managed switches for wired connectivity, while maintaining performance, Quality of Service (QoS), and scalability, using a simplified web management interface.



The Alcatel-Lucent OmniSwitch 2260 family is embedded with the latest technology innovations, and offers maximum investment protection.

Deployments that benefit from the OmniSwitch 2260 family include:

- Small and medium-sized business network solutions
- High-speed desktop connectivity
- Secure wireless connectivity
- Unified communications connectivity (IP telephony, video, and converged solutions)

### Features

- 8, 24, and 48 Gigabit Ethernet data or PoE+ ports with line-rate performance
- Gigabit Ethernet SFP uplink ports
- Perpetual and fast PoE+ support across all PoE models
- Compact fan-less models for co-location work environments

### Datasheet

[Alcatel-Lucent OmniSwitch 2260](#)

## Management

- AOS field-proven software with management through web interface (WebView 2.0), command-line interface (CLI), and Simple Network Management Protocol (SNMP)
- Ethernet operations, administration and management (OA&M) support for service configuration and monitoring
- Cloud enabled with Alcatel-Lucent OmniVista® Cirrus Network Management as a Service for a secure, resilient, and scalable cloud-based network management
- Support by Alcatel-Lucent OmniVista 2500 Network Management System (NMS)

## Security

- Comprehensive 802.1X features to control access to the network
- Flexible device and user authentication with Alcatel-Lucent Access Guardian (IEEE 802.1x/MAC)
- Advanced QoS and Access Control Lists (ACLs) for IPv4 and IPv6 traffic control, including an embedded denial of service (DoS) engine to filter out unwanted traffic attacks
- Extensive support of user-oriented features such as learned port security (LPS), port mapping, Dynamic Host Configuration Protocol (DHCP) binding tables, and User Network Profile (UNP)

## Performance and redundancy

- Advanced layer-2+ features with static routing for both IPv4 and IPv6
- Triple speed (10/100/1G) user interfaces and fiber interfaces (SFPs) supporting 1000Base-X
- Wire-rate switching and routing performance

## Convergence

- Auto VoIP VLAN for Alcatel-Lucent Enterprise VoIP Phones
- Future-ready support for multimedia applications with wire-rate multicast
- IEEE 802.3af, IEEE 802.3at PoE support for IP phones, wireless LAN (WLAN) access points, PTZ video cameras, and IoT devices

## Benefits

- Meets customer configuration needs and offers excellent investment protection and flexibility, as well as ease-of-deployment, operation, and maintenance
- Provides outstanding performance when supporting real-time voice, data, and video applications for converged scalable networks
- Ensures efficient power management, reduces operating expenses (OPEX), and lowers total cost of ownership (TCO) through low power consumption and dynamic PoE allocation, which delivers only the power needed by the attached device
- A field-upgradeable solution that makes the network highly available and reduces OPEX
- Fully secures the network at the edge, at no additional cost
- Enterprise-wide cost reduction through hardware consolidation, to achieve network segmentation and security without additional hardware installation
- Supports cost-effective installation and deployment with automated switch setup and configuration and end-to-end virtual LAN (VLAN) provisioning
- Alcatel-Lucent OmniVista Cirrus powers secure, resilient and scalable, cloud-based network management. It offers hassle-free network deployment and easy service rollout with advanced analytics for smarter decision-making. It provides IT-friendly Unified Access with secure authentication and policy enforcement for users and devices.

**Table 1. Available OmniSwitch 2260 models**

24/48 Port models	User ports (1G RJ 45)	1G SFP uplink	Power supply/PoE budget	Fan status
OS2260-10	8	4	Internal	Fan-less
OS2260-P10	8	4	Internal (75W)	Fan-less
OS2260-24	24	4	Internal	Fan-less
OS2260-P24	24	4	Internal (195W)	Variable-speed
OS2260-48	48	6	Internal	Variable-speed
OS2260-P48	48	6	Internal (370W)	Variable-speed

## Technical specifications

Gigabit product matrix	OS2260-10	OS2260-P10	OS2260-24	OS2260-P24	OS2260-48	OS2260-P48
Gigabit RJ 45 ports	8	8	24	24 PoE+	48	48 PoE+
Fixed 1G SFP uplink	4	4	4	4	6	6
Console port	1	1	1	1	1	1
USB/OoB management port	1	1	1	1	1	1
Primary power	Internal	Internal	Internal	Internal	Internal	Internal
Backup power	N/A	N/A	N/A	N/A	N/A	N/A
Fans	0	0	0	1	1	1
CPU	800 MHz MIPS-34Kc	800 MHz MIPS-34Kc	1 GHz MIPS dual core	1 GHz MIPS dual core	1 GHz MIPS dual core	1 GHz MIPS dual core
File system flash	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB
RAM	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB
Packet Buffers	12 Mb/s	12 Mb/s	16 Mb/s	16 Mb/s	16 Mb/s	16 Mb/s
Performance aggregated						
Max switching ASIC capacity	128 Gb/s	128 Gb/s	128 Gb/s	128 Gb/s	216 Gb/S	216 Gb/S
Switch capacity with all ports (full duplex)	24 Gb/s	24 Gb/s	56 Gb/s	56 Gb/s	108 Gb/s	108 Gb/s
Switch frame rate @ 64 byte packet	17.9 Mpps	17.9 Mpps	41.7 Mpps	41.7 Mpps	80.4 Mpps	80.4 Mpps
System power consumption:						
• Idle	5.3 W	7.6 W	13.1 W	24.5 W	30.8 W	35.2 W
• 100% traffic all ports (max)	15.3 W	17 W	29.5 W	40.7 W	61.9 W	63.2 W
System heat dissipation	N/A (BTU/h)	58 (BTU/h)	101 (BTU/h)	139 (BTU/h)	211 (BTU/h)	216 (BTU/h)
Power consumption w/PoE	N/A	101W	N/A	262.4 W	N/A	453.3W
Heat dissipation w/PoE	N/A (BTU/h)	345 (BTU/h)	N/A (BTU/h)	896 (BTU/h)	N/A (BTU/h)	1547 (BTU/h)
Power supply efficiency (max load)	81.66%	87.53%	83.50%	87.30%	83.90%	88.80%
Acoustics (dB) @25C*	0 db(A)	0 db(A)	0 db(A)	<40 db(A)	<40 db(A)	<40 db(A)
Number of fans	0	0	0	1	1	1

Gigabit product matrix	OS2260-10	OS2260-P10	OS2260-24	OS2260-P24	OS2260-48	OS2260-P48
MTBF (hours) @ 25C	2,174 k	1,042 k	1,632 k	693 k	1,181 k	625 k
Height	4.4 cm (1.73 in)	4.4 cm (1.73 in)	4.4 cm (1.73 in)	4.4 cm (1.73 in)	4.4 cm (1.73 in)	4.4 cm (1.73 in)
Width	21.7 cm (8.55in)	21.7 cm (8.55in)	44 cm (17.32 in)	44 cm (17.32 in)	44 cm (17.32 in)	44 cm (17.32 in)
Depth	28 cm (11.05 in)	28 cm (11.05 in)	30 cm (11.81 in)	30 cm (11.81 in)	30 cm (11.81 in)	30 cm (11.81 in)
Weight	1.8 kg (3.9 lbs)	1.9 kg (4.2 lbs)	3.39 kg (7.47 lbs)	3.62 kg (7.98 lbs)	3.8 kg (8.3 lbs)	4.2 kg (9.3 lbs)
Operating temperature	0°C to 45°C (32°F to 113°F)	0°C to 45°C (32°F to 113°F)	0°C to 45°C (32°F to 113°F)	0°C to 45°C (32°F to 113°F)	0°C to 45°C (32°F to 113°F)	0°C to 45°C (32°F to 113°F)
Storage temperature	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
Humidity (operating)	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing

## Commercial references

OmniSwitch 2260 models	
OS2260-10	Fixed 1RU ½ rack chassis 8 RJ 45 10/100/1G BaseT, 4 SFP (1G) uplink ports, Fan-less
OS2260-P10	Fixed 1RU ½ rack chassis 8 RJ 45 PoE 10/100/1G BaseT, 4 SFP (1G) uplink ports, 75W power budget, fan-less
OS2260-24	Fixed 1RU chassis 24 RJ 45 10/100/1G BaseT, 4 SFP (1G) uplink ports. Fan-less
OS2260-P24	Fixed 1RU chassis 24 RJ 45 PoE 10/100/1G BaseT, 4 SFP (1G) uplink ports, 195W power budget
OS2260-48	Fixed 1RU chassis 48 RJ 45 10/100/1G BaseT, 6 SFP (1G) uplink ports
OS2260-P48	Fixed 1RU chassis 48 RJ 45 PoE 10/100/1G BaseT, 6 SFP (1G) uplink ports. 370W power budget
OmniSwitch 2260 Gigabit transceivers and cables	
SFP-GIG-T	1000Base T Gigabit Ethernet Transceiver (SFP MSA). SFP works at 1000 Mb/s speed and full duplex mode
SFP-GIG-SX	1000Base SX Gigabit Ethernet optical transceiver (SFP MSA)
SFP-GIG-LX	1000Base LX Gigabit Ethernet optical transceiver (SFP MSA)
SFP-GIG-LH40	1000Base LH Gigabit Ethernet optical transceiver (SFP MSA). Typical reach of 40 km on 9/125 µm SMF.
SFP-GIG-LH70	1000Base LH Gigabit Ethernet optical transceiver (SFP MSA). Typical reach of 70 km on 9/125 µm SMF.
OS2x60-CBL-60CM	1/10G direct attached uplink copper cable (60 cm, SFP+)
OS2x60-CBL-1M	1/10G direct attached uplink copper cable (1 m, SFP+)
OS2x60-CBL-3M	1/10G direct attached uplink copper cable (3 m, SFP+)
OmniSwitch 2260 10 port mounting options	
OS2260-RM-19-L	Simple L-bracket for mounting a single OS2260-10/-P10 switch in a 19 rack
OS2260-WALL-MNT	Wall mounting kit for OS2260 products, contains universal mounting brackets and screws for wall mounting a OS2260 switch

## Detailed product features

### Simplified management

- Intuitive CLI in a scriptable BASH environment via console, Telnet or Secure Shell (SSH) v2 over IPv4/IPv6
- Powerful WebView Graphical Web Interface via HTTP and HTTPS over IPv4/ IPv6+
- Fully-programmable RESTful web services interface with XML and JSON support. API enables access to CLI and individual mib objects
- Integrated with Alcatel-Lucent OmniVista products for network management
- Full configuration and reporting using SNMPv1/2 to facilitate third-party network management over IPv4/IPv6
- File upload using USB, TFTP, FTP, SFTP, or SCP using IPv4/IPv6
- Human-readable ASCII-based configuration files for off-line editing, bulk configuration, and out-of-the-box auto-provisioning
- Multiple microcode image support with fallback recovery
- Dynamic Host Configuration Protocol (DHCP) relay for IPv4/IPv6
- IEEE 802.1AB Link Layer Discover Protocol (LLDP) with Media Endpoint Discover (MED) extensions
- Network Time Protocol (NTP)

### Monitoring and troubleshooting

- Local (on the flash memory) and remote server logging (Syslog): event and command logging
- IP tools: Ping and trace route
- Loopback IP address support for management per service
- Policy- and port-based mirroring
- Remote port mirroring
- sFlow v5 and Remote Monitoring (RMON)
- Unidirectional Link Detection (UDLD) and Digital Diagnostic Monitoring (DDM)

### Network configuration

- Zero-touch provisioning and provisioning based on templates using OV2500/OV Cirrus
- Auto-negotiating 10/100/1000 ports automatically configure port speed and duplex setting

- Auto MDI/MDIX automatically configures transmit and receive signals to support straight-through and crossover cabling
- BOOTP/DHCP client allows auto-configuration of switch IP information for simplified deployment
- DHCP relay to forward client requests to a DHCP server
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP) with MED extensions for automated device discovery
- Multiple VLAN Registration Protocol (MVRP) for IEEE 802.1Q-compliant VLAN pruning and dynamic VLAN creation
- Auto QoS for switch management traffic as well as traffic from Alcatel-Lucent IP phones
- Network Time Protocol (NTP) for network- wide time synchronisation

### Resiliency and high-availability

- Unified management and control
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) encompasses IEEE 802.1D Spanning Tree Protocol (STP) and IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- Per-VLAN spanning tree (PVST+) and 1x1 STP model
- IEEE 802.3ad/802.1AX Link Aggregation Control Protocol (LACP) and static LAG groups across modules
- Built-in CPU protection against malicious attacks

### Advanced security

#### Access control

- Alcatel-Lucent Access Guardian framework for comprehensive user-policy-based NAC
- Autosensing IEEE 802.1X multi-client, multi-VLAN support
- MAC-based authentication for non-IEEE 802.1X hosts
- User Network Profile (UNP) simplifies NAC by dynamically providing pre-defined policy configuration to authenticated clients – VLAN, BW
- Secure Shell (SSH) with public key infrastructure (PKI) support
- Terminal Access Controller Access-Control System Plus (TACACS+) client

- Centralised Remote Access Dial-In User Service (RADIUS) and Lightweight Directory Access Protocol (LDAP) administrator authentication
- Centralised RADIUS for device authentication and network access control authorisation
- Learned Port Security (LPS) or MAC address lockdown
- Access Control Lists (ACLs); flow-based field in hardware (Layer 1 to Layer 4)
- ARP poisoning detection
- IP Source Filtering as a protective and effective mechanism against ARP attacks

### Converged networks

#### Power over Ethernet (PoE)

- PoE models support Alcatel-Lucent IP phones and WLAN access points, as well as any IEEE 802.3af, IEEE 802.3at compliant end device
- Configurable per-port PoE priority and max power for power allocation
- Dynamic PoE allocation: Delivers only the power needed by the powered devices (PD) up to the total power budget for most efficient power consumption

#### Quality of Service (QoS)

- Priority queues: Eight hardware-based queues per port for flexible QoS management
- Traffic prioritisation: Flow-based QoS with internal and external (also known as, remarking) prioritisation
- Bandwidth management: Flow-based bandwidth management
- Queue management: Configurable scheduling algorithms – Strict Priority Queuing (SPQ), Weighted Round Robin (WRR)
- Auto QoS for switch management traffic as well as traffic from Alcatel-Lucent IP phones

### Layer-2, Static Routing, and Multicast

#### Layer-2 switching

- Up to 16k MAC addresses
- Up to 62 VLANs
- Up to 1.5k total system policies
- Latency: < 4 µs
- Max Frame: 12KB (jumbo)

## IPv4 and IPv6

- Static routing for IPv4 and IPv6
- Up to 2 IPv4 and 2 IPv6 static routes
- Up to 8 IPv4 and 2 IPv6 interfaces

## Multicast

- IGMPv1/v2/v3 snooping to optimise multicast traffic
- Multicast Listener Discovery (MLD) v1/v2 snooping
- Up to 1000 multicast groups

## Network protocols

- DHCP relay (including generic UDP relay)
- Address Resolution Protocol (ARP)
- Generic User Datagram Protocol (UDP) relay per VLAN
- DHCP Option 82 – configurable relay agent information

## Indicators

### System LEDs

- System (OK) (chassis HW/SW status)
- PWR (primary power supply status)
- VC (virtual chassis primary)

### Per-port LEDs

- 10/100/1000: PoE, link/activity
- SFP: Link/activity

## Compliance and certifications

### Commercial EMI/EMC

- 47 CRF FCC Part 15: 2015 Subpart B (Class A)
- VCCI (Class A limits. Note: Class A with UTP cables)
- ICES-003:2012 Issue 5, Class A
- AS/NZS 3548 (Class A) - C-Tick
- AS/NZS 3548 (Class A limits. Note: Class A with UTP cables)
- CE-Mark: Marking for European countries (Class A limits. Note: Class A with UTP cables)
- CE Emission consists of:
  - EN 50581: Standard for technical documentation for RoHS recast
  - EN 55022 (EMI and EMC requirement)
  - EN 55024: 2010 (ITE Immunity characteristics)
  - EN 61000-3-2 (Limits for harmonic current emissions)
  - EN 61000-3-3
  - EN 61000-4-2
  - EN 61000-4-3
  - EN 61000-4-4
  - EN 61000-4-5
  - EN 61000-4-6

- EN 61000-4-8
- EN 61000-4-11
- IEEE802.3: Hi-Pot Test (2250 V DC on all Ethernet ports)
- IEC 62368-1

### Safety agency certifications

- CDRH Laser
- Compliant with Restriction on Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment (WEEE) directives
- EN 60825-1 Laser
- EN 60825-2 Laser
- IEC 62368-1
- UL 60950-1, 2nd Edition, Information Technology Equipment
- CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, Information Technology Equipment
- IEC 62368-1:2018, ICT and AV equipment safety, with all National Deviations
- IEC 60950-1, with all National Deviations
  - AS/NZ TS-001 and 60950, Australia
  - ANATEL, Brazil
  - CCC, China
  - UL-GS Mark, Germany
  - NOM-019 SCFI, Mexico
  - RETIE, Colombia
  - SNI, Indonesia
  - ECAS, UAE

## Supported standards

### IEEE standards

- IEEE 802.1D (STP)
- IEEE 802.1p (CoS)
- IEEE 802.1Q (VLANs)
- IEEE 802.1s (MSTP)
- IEEE 802.1w (RSTP)
- IEEE 802.1X (Port-based Network Access Protocol)
- IEEE 802.3i (10Base-T)
- IEEE 802.3u (Fast Ethernet)
- IEEE 802.3x (Flow Control)
- IEEE 802.3z (Gigabit Ethernet)
- IEEE 802.3ab (1000Base-T)
- IEEE 802.3ac (VLAN Tagging)
- IEEE 802.3ad (Link Aggregation)
- IEEE 802.3af (Power over Ethernet)
- IEEE 802.3at (Power over Ethernet)
- IEEE 802.3ak (Multiple Registration Protocol)
- IEEE 802.3ax (Link Aggregation)
- IEEE 802.3az (Energy Efficient Ethernet)

## IETF RFCs

## IP Multicast

- RFC 1112 IGMP v1
- RFC 2236/2933 IGMP v2 and MIB
- RFC 2365 Multicast
- RFC 3376 IGMPv3 for IPv6

## IPv6

- RFC 1886 DNS for IPv6
- RFC 2292/2373/2374/2460/2462
- RFC 2461 NDP
- RFC 2463/2466 ICMP v6 and MIB
- RFC 2452/2454 IPv6 TCP/UDP MIB
- RFC 2464/2553/2893/3493/3513
- RFC 3056 IPv6 Tunneling
- RFC 3542/3587 IPv6
- RFC 4007 IPv6 Scoped Address Architecture
- RFC 4193 Unique Local IPv6 Unicast Addresses

## Manageability

- RFC 854/855 Telnet and Telnet options
- RFC 959/2640 FTP
- RFC 1350 TFTP Protocol
- RFC 1155/2578-2580 SMI v1 and SMI v2
- RFC 1157/2271 SNMP
- RFC 1212/2737 MIB and MIB-II
- RFC 1213/2011-2013 SNMP v2 MIB
- RFC 1215 Convention for SNMP Traps
- RFC 1573/2233/2863 Private Interface MIB
- RFC 1643/2665 Ethernet MIB
- RFC 1867 Form-based File Upload in HTML
- RFC 1901-1908/3416-3418 SNMP v2c
- RFC 2096 IP MIB
- RFC 2131 DHCP Server/Client
- RFC 2388 Returning Values from Forms: Multipart/form-data
- RFC 2396 Uniform Resource Identifiers (URI): Generic Syntax
- RFC 2616 /2854 HTTP and HTML
- RFC 2667 IP Tunneling MIB
- RFC 2668/3636 IEEE 802.3 MAU MIB
- RFC 2674 VLAN MIB
- RFC 3023 XML Media Types
- RFC 4122 A Universally Unique Identifier (UUID) URN Namespace
- RFC 4234 Augmented BNF for Syntax Specifications: ABNF
- RFC 4251 Secure Shell Protocol Architecture
- RFC 4252 The Secure Shell (SSH) Authentication Protocol

- RFC 4627 JavaScript Object Notation (JSON)
- RFC 5424 The Syslog protocol
- RFC 6585 Additional HTTP Status Codes

### Security

- RFC 1321 MD5
- RFC 1826/1827/4303/4305 Encapsulating Payload (ESP) and crypto algorithms
- RFC 2104 HMAC Message Authentication
- RFC 2138/2865/2868/3575/2618 RADIUS Authentication and Client MIB
- RFC 2139/2866/2867/2620 RADIUS Accounting and Client MIB
- RFC 2228 FTP Security Extensions
- RFC 2284 PPP EAP
- RFC 2869/2869bis RADIUS Extension

- RFC 4301 Security Architecture for IP

### Quality of service

- RFC 896 Congestion control
- RFC 1122 Internet Hosts
- RFC 2474/2475/2597/3168/3246 DiffServ
- RFC 3635 Pause Control

### Others

- RFC 791 /894/1024/1349 IP and IP/Ethernet
- RFC 792 ICMP
- RFC 768 UDP
- RFC 793/1156 TCP/IP and MIB
- RFC 826 ARP
- RFC 919/922 Broadcasting Internet Datagram
- RFC 925/1027 Multi-LAN ARP/Proxy ARP
- RFC 950 Subnetting
- RFC 951 BOOTP

- RFC 1151 RDP
- RFC 1191 Path MTU Discovery
- RFC 1256 ICMP Router Discovery
- RFC 1305/2030 NTP v3 and Simple NTP
- RFC 1493 Bridge MIB
- RFC 1518/1519 CIDR
- RFC 1541/1542/2131/3396/3442 DHCP
- RFC 1757/2819 RMON and MIB
- RFC 2131/3046 DHCP/BootP Relay
- RFC 2132 DHCP Options
- RFC 2251 LDAP v3
- RFC 3021 Using 31-bit Prefixes
- RFC 3060 Policy Core
- RFC 3176 sFlow

## Warranty

The OmniSwitch 2260 family comes with a Limited Lifetime Warranty.

## Services and support

For more information about our Professional services, Support services, and Managed services, please go to <https://www.al-enterprise.com/en/services/support-services>