Alcatel-Lucent OmniSwitch 6560

Famille de Commutateurs LAN Ethernet Multi-Gigabit Stackables

La famille des commutateurs stackables Ethernet Multi-Gigabit Alcatel-Lucent OmniSwitch 6560 est une solution industrielle d'accès de pointe pour les réseaux d'entreprise. Disposant de ports multi-gigabit pour connecter des terminaux à haute vitesse de la norme wifi IEEE 802.1ac, de ports uplinks 10GigE et de ports de stack à 20 GigE, l'OmniSwitch 6560 propose la meilleure solution pour les réseaux de dernière génération.

OmniSwitch 6560-P48Z16

OmniSwitch 6560-P24Z8/P24Z24

OmniSwitch 6560-P48Z16

Proposant une architecture optimisée pour de la flexibilité, de l'évolutivité ainsi que la diminution de la consommation d'énergie, l'OmniSwitch 6560 est une solution exceptionnelle d'accès. Il utilise le système opérationnel Alcatel-Lucent Operating System (AOS) qui a fait ses preuves sur le terrain afin de déployer des réseaux hautement disponibles, sécurisés, auto-protecteur, facilement exploitables et respectueux de l'environnement.

La famille Alcatel-Lucent OmniSwitch 6560 embarque les dernières innovations technologiques et offre la meilleure protection des investissements.

Les types de déploiement bénéficiant au mieux de la famille des OmniSwitch 6560 sont les suivants :

- Couche d'accès de réseaux de taille petite à moyenne
- Réseaux de succursales et utilisateurs de réseaux campus
- Réseaux résidentiels et réseaux commerciaux d'applications hébergées

Caractéristiques

- Modèles 24 ou 48 ports avec ou sans PoE (Power over Ethernet), 2 ou 4 ports uplinks fixes 10GbE SFP+ (small form factor pluggable)
- Support du stacking 10 GigE ou 20 GigE
- Support dues standards IEEE 802.3af, IEEE 802.3at et IEEE802.3bt pour la gestion du PoE
- Module interne d'alimentation AC redondante

Gestion

- Système d'exploitation éprouvé AOS, avec configuration par ligne de commande (CLI), interface Web (WebView) ou SNMP (Simple Network Management Protocol)
- Support du framework AOS OpenFlow programmable pour la creation de services spécialisés
- Support des standards Ethernet OA&M (Opération, Administration et Maintenance) pour la gestion dans le cadre d'un réseau métropolitain
- Supporté par le logiciel Alcatel-Lucent Omnivista™ 2500 Network Management System

Sécurité

- Authentification flexible des utilisateurs et des terminaux, grâce au module Alcatel-Lucent Access Guardian (IEEE 802.1x/MAC/Portail Captif), avec contrôle d'intégrité (HIC)
- Déploiement de service d'entreprise sécurisés BYOD tels que : la gestion des utilisateurs invités, l'intégration de terminaux et provisionnement 802.1x automatique, le contrôle de l'intégrité / état de santé des terminaux, le changement dynamique d'authentification (CoA).
- Qualité de service avancée (QoS) et listes de contrôle d'accès (ACL) pour la gestion du trafic, incluant un moteur de détection des attaques par déni de service
- Fonctionnalités étendues AOS de contrôle du réseau d'accès, telles que la gestion de l'apprentissage des adresses MAC (LPS), le port mapping, le verrouillage des tables DHCP (Dynamic Host Configuration Protocol) et la gestion de profils utilisateurs (UNP)

Performances et résilience

- Niveau 2 avancé avec des fonctionnalités basiques de routage niveau 3, pour IPv4 comme pour IPv6*
- Interfaces utilisateurs quadruple vitesse 10/100/1G/2,5G) et interfaces fibre SFPs

supportent les modules optiques 1000Base-X ou 10GBase-X
- Liaisons montantes 10GbE
- Commutateur à fond de panier non bloquant switching et routing
- Haute disponibilité en mode chassis virtuel, avec liaisons d'empilement redondantes, commutateur primaire/secondaire, insertion/retrait à chaud des alimentations et gestion d'une configuration de secours

Convergence

- Gestion améliorée de la voix sur IP (VoIP) et de la vidéo par politiques de QoS dédiées
- Prêt pour gérer les applications multimédias futures grâce au support matériel du multicast
- Services Réseaux AirgroupTM pour terminaux utilisant le protocole "Bonjour"
- Support des standards IEEE 802.3 af, at, bt PoE pour la connexion de téléphones IP, de points d'accès sans fil (WLAN) ou de caméras vidéo

Avantages clés

- Répond à tous les besoins clients et offre une protection maximum de l'investissement, la flexibilité, ainsi que des facilités en termes de déploiement, maintenance et opération

- Fourni des performances exceptionelles pour les applications voix temps reel, les flux data et video pour des Réseaux convergés évolutifs
- Assure une gestion efficace de puissance électrique réduisant les couts opérationnels (OPEX) et diminuant le cout total de possession (TCO) à travers une consommation électrique faible et une allocatoion dynamique du PoE qui fournit seulement la puissance nécessaire au terminal attaché
- Sécurise complètement le réseau d'accès, sans coût additionnel
- Réduction drastique des coûts d'exploitation de l'entreprise grâce à une uniformisation du matériel, permettant de réaliser la segmentation réseau sans rajout d'autre matériel
- Supporte une installation à faible cout avec un système de configuration automatique ainsi que le provisionnement de Vlans de bout en bout

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Table 1. Modèles disponibles OmniSwitch 6560

Multi-Gigabit PoE models	10/100/1000 RJ-45 Ports	Multi-Gigabit Ports	1 GE/10 GE SFP+ Uplink/Stacking Ports	20 GE Stacking Module Ports	Aliment ation	Backup Power
OS6560-P24Z8	16	8	2	N/A	Internal AC	Internal AC
OS6560-P24Z24	24	24	4	Included	Internal AC	Internal AC
OS6560-P48Z16	48	16	4	Included	Internal AC	Internal AC

Notes:
- Tous les ports PoE Multi-Gigabit respectent les standard IEEE 802.3bt et IEEE 802.3bz
- Les modèles Z16 et Z24 disposent d'uplinks 10GE et de ports de stacking 20GE

Spécifications Techniques

PRODUCT MATRIX	OS6560-P24Z24	OS6560-P48Z16	OS6560-P24Z8
Gigabit PoE port count	24	48	24
Multi-Gigabit port count	24	16	8
1G/10G SFP+	4	4	2
20G QSFP+ stacking ports	2	2	0
USB port	1	1	1
Console port	1	1	1
Primary slide-in PSU slot	1	1	1
Backup slide-in PSU slot	1	1	1
Fans	2	2	2
File system flash	2 GB	2 GB	2 GB
RAM	2 GB	2 GB	2 GB
Max raw switch capacity	168 Gb/s	168 Gb/s	56 Gb/s
System power consumption	126W	110W	85
System heat dissipation	393 (BTU/h)	426 (BTU/h)	393 (BTU/h)
Power consumption w/PoE	390W	780W	240W
Heat dissipation w/PoE	1330 (BTU/h)	2660 (BTU/h)	1340(BTU/h)
Acoustics (dB) @25C	45 (dBA)	45 (dBA)	45 (dBA)

Height	4.4 cm (1.73 in)	4.4 cm (1.73 in)	4.4 cm (1.73 in)
Width	44 cm (17.33 in)	44 cm (17.33 in)	44 cm (17.33 in)
Depth	35 cm (13.78 in)	35 cm (13.78 in)	35 cm (13.78 in)
Weight	4.58 kg (10.1 lb)	4.67 kg (10.3 lb)	4.58 kg (10.1 lb)
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)
Storage temperature	-40˚C to 85˚C (-40˚F to 185˚F)	-40˚C to 85˚C (-40˚F to 185˚F)	-40˚C to 85˚C (-40˚F to 185˚F)
Humidity (operating)	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing

Alimentations de secours

6560 alimentations de secours et specifications

Les modèles OmniSwitch 6560 24 & 48 port proposent une alimentation de secours interne 1RU ou l'alimentation redondante est installée dans un emplacement libre à l'arrière du châssis.

PS Models	OS6560-BP-P	OS6560-BP-PH	OS6560-BP-PX
Description	Modular 300-W AC power supply. Provides system and PoE power to one 24-port PoE switch	Modular 600-W AC PoE power supply. Provides system and PoE power to one 24-port PoE switch	Modular 920-W AC PoE power supply. Provides system and PoE power to one 48-port PoE switch
Dimensions (H x W x L)	3.9 cm x 5.05 cm x 18.5 cm (1.54 in x 1.99 in x7.28 in)	4.0 cm x 7.3 cm x 18.5 cm (1.57 in x 2.87 in x 7.28 in)	4.0 cm x 7.3 cm x 18.5 cm (1.57 in x 2.87 in x 7.28 in)
Weight	1.00 kg (2.2 lb)	1.04 kg (2.25 lb)	1.05 kg(2.32 lb)
Max with 1 PSU	215 W of PoE	474 W of PoE	810 W of PoE
Max with 2 PSUs	515 W of PoE	1074 W of PoE	1730 W of PoE
Input voltage/current	90 V to 136 V AC /2.65 A 180 V to 264 VAC /1.5 A	90 V to 136 V AC /8.5 A 180 V to 264 V AC/4.25 A	90 V to 136 V AC/13 A 180 V to 264 V AC/6.5 A
Max output power/ current	300 W /51.32 A	600 W/11 A	920 W/16.88 A
Power Supply Efficiency	92%	92%	89%
Fans	1	1	1

Références commerciales

OmniSwitch 6560 Models	
OS6560-P24Z8	Multi-0igE fixed chassis in 1RU size. Includes 8 RJ-45 100/10/2.50 BaseT HPoE, 16 RJ-45 10/100/10 BaseT PoE and 2xSFP+ (10/100) ports, 300W AC supply, power cord, user guides, and 19" rack mount hardware.
OS6560-P24Z24	Multi-0igE fixed chassis in 1RU size. Includes 24 RJ-45 100/10/2.50 BaseT HPoE, 4xSFP+ (10/100) and 2x200 stacking ports, 600W AC supply, power cord, user guides, and 19" rack mount hardware.
OS6560-P48Z16	Multi-0igE fixed chassis in 1RU size. Includes 16 RJ-45 100/10/2.50 BaseT HPoE, 32 RJ-45 10/100/10 BaseT PoE, 4xSFP+(10/100) and 2x200 stacking ports, 900W AC supply, power cord, user guides and 19" rack mount hardware.
OmniSwitch 6560 Power Supplies	
OS6560-BP-P	OS6560-BP-P modular 300W AC PoE backup power supply. Provides system and PoE backup power to one OS6560 PoE switch. Ships with power cord.
OS6560-BP-PH	OS6560-BP-PH modular 600W AC PoE backup power supply. Provides system and PoE backup power to one OS6560 PoE switch. Ships with power cord.
OS6560-BP-PX	OS6560-BP-PX modular 900W AC PoE backup power supply. Provides system and PoE backup power to one OS6560 PoE switch. Ships with power cord.
OmniSwitch 6560 Accessories	
OS6560-CBL-40	OS6560 20 0igabit direct attached stacking copper cable (40 cm, QSFP+)
OS6560-CBL-100	OS6560 20 0igabit direct attached stacking copper cable (100 cm, QSFP+)
OS6560-CBL-300	OS6560 20 0igabit direct attached stacking copper cable (300 cm, QSFP+)
SFP-100-C1M	10 0igabit direct attached copper cable (1m, SFP+)
SFP-100-C3M	10 0igabit direct attached copper cable (3m, SFP+)
SFP-100-C7M	10 0igabit direct attached copper cable (1m, SFP+)

Garantie

La gamme OmniSwitch 6560 est livrée avec une garantie à vie limitée (LLW).

Fonctionnalités détaillées (en Anglais)

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 SNMPv1/2/3 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
- Fully programmable OpenFlow 1.3.1 and 1.0 agent for control of native OpenFlow and hybrid ports
- 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)
- DHCPv4 and DHCPv6 server managed

by Alcatel-Lucent VitalQIP® DNS/DHCP IP Address Management

Monitoring and troubleshooting

- Local (on the flash memory) and remote server logging (Syslog): event and command logging
- IP tools: ping and trace route
- Dying Gasp support via SNMP and syslog messages
- Loopback IP address support for management per service
- Management virtual routing and forwarding (VRF) support
- Policy- and port-based mirroring
- Remote port mirroring
- sFlow v5 and Remote Monitoring (RMON)

- Unidirectional Link Detection (UDLD), Digital Diagnostic Monitoring (DDM), and Time Domain Reflectometry (TDR)

Network configuration
- Remote auto-configuration download feature
- 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 synchronization
- Virtual chassis up to 2 unit

Resiliency and high availability
- Unified management, control and virtual chassis technology
- Virtual Chassis 1+N redundant supervisor manager
- Virtual Chassis In-Service Software Upgrade (ISSU)
- Smart continuous switching technology
- ITU-T G.8032/Y1344 2010: Ethernet Ring Protection
- 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 mode
- IEEE 802.3ad/802.1AX Link Aggregation Control Protocol (LACP) and static LAG groups across modules
- Virtual Router Redundancy Protocol (VRRP) with tracking capabilities
- IEEE protocol auto-discovery
- Bidirectional Forwarding Detection (BFD) for fast failure detection and reduced re-convergence times in a routed environment
- Redundant and hot-swappable power supplies

- Built-in CPU protection against malicious attacks
- Split Virtual Chassis protection: Auto-detection and recovery of Virtual Chassis splitting due to one or more VFL or stack element failures

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
- Web based authentication (captive portal): a customizable web portal residing on the switch
- User Network Profile (UNP) simplifies NAC by dynamically providing pre-defined policy configuration to authenticated clients — VLAN, ACL, BW
- Secure Shell (SSH) with public key infrastructure (PKI) support
- Terminal Access Controller Access-Control System Plus (TACACS+) client
- Centralized Remote Access Dial-In User Service (RADIUS) and Lightweight Directory Access Protocol (LDAP) administrator authentication
- Centralized RADIUS for device authentication and network access control authorization
- Learned Port Security (LPS) or MAC address lockdown
- Access Control Lists (ACLs); flow-based filtering in hardware (Layer 1 to Layer 4)
- DHCP Snooping, DHCP IP and Address Resolution Protocol (ARP) spoof protection
- ARP poisoning detection
- IP Source Filtering as a protective and effective mechanism against ARP attacks
- Bring Your Own Device (BYoD) provides on-boarding of Guest, IT/non-IT issued and silent devices. Restriction/Remediation of traffic from non-compliant devices. Uses RADIUS CoA to dynamically enforce User Network Profiles based on Authentication, Profiling, Posture check of devices.* * with Aruba ClearPass

Converged networks
PoE
- PoE models support Alcatel-Lucent IP phones and WLAN access points, as well as any IEEE 802.3af, IEEE 802.3at or 802.3bt 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

QoS
- Priority queues: Eight hardware-based queues per port for flexible QoS management
- Traffic prioritization: Flow-based QoS with internal and external (a.k.a., remarking) prioritization
- Bandwidth management: Flow-based bandwidth management, ingress rate limiting; egress rate shaping per port
- Queue management: Configurable scheduling algorithms — Strict Priority Queuing (SPQ), Weighted Round Robin (WRR) and Deficit Round Robin (DRR)
- Congestion avoidance: Support for End-to-End Head-Of-Line (E2E-HOL) Blocking Protection
- Auto QoS for switch management traffic as well as traffic from Alcatel-Lucent IP phones
- Three-color marker: Single/Dual Rate — policing with commit BW, excess BW, burst size

Software Defined Networking (SDN)
- Programmable AOS RESTful API
- Fully programmable OpenFlow 1.3.1 and 1.0 agent for control of native OpenFlow and hybrid ports
- OpenStack networking plug-in

Layer-2, Layer-3 Routing and Multicast
Layer-2 switching
- Up to 16k MAC Addresses
- Up to 4000 VLANs
- Up to 2000 ACLs
- Latency: < 4 µs
- Max Frame: 9216 bytes (jumbo)

IPv4 and IPv6
- Static routing for IPv4 and IPv6*
- RIP v1 and v2 for IPv4; RIPng for IPv6*
- Up to 256 IPv4 and 128 IPv6* static and RIP routes
- Up to 128 IPv4 and 16 IPv6* interfaces

Multicast
- IGMPv1/v2/v3 snooping to optimize multicast traffic
- Multicast Listener Discovery (MLD) v1/v2 snooping*

- Up to 1000 multicast groups
- IP Multicast VLAN (IPMVLAN) for optimized multicast replication at the edge, saving network core resources

Network protocols
- DHCP relay (including generic UDP relay)

- ARP
- Dynamic Host Configuration Protocol (DHCP) relay
- DHCP relay to forward client requests to a DHCP server
- Generic User Datagram Protocol (UDP) relay per VLAN

- DHCP Option 82 — configurable relay agent information

*Future software development

Indicators

System LEDs
- System (OK) (chassis HW/SW status)
- PWR (primary power supply status)
- VC (virtual chassis primary)
- LED segment display indicates the Virtual Chassis ID of the unit in the stack: 1 to 2 (24/48 port models)

Per-port LEDs
- 10/100/1000: PoE, link/activity
- 100/1000/2.5GE: link/activity
- 100/1000/2.5GE: PoE status
- SFP: Link/activity
- Virtual Chassis (VFL): 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)

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
- UL 60950-1, 2nd Edition, Information Technology Equipment

- CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, Information Technology Equipment
- IEC 60950-1, with all National Deviations
  UL-AR, Argentina
  AS/NZ TS-001 and 60950, Australia
  ANATEL, Brazil
  CCC, China
  UL-GS Mark, Germany
  KCC, Korea
  NOM-019 SCFI, Mexico
  CU, EAC, Russia
  BSMI, Taiwan

Supported standards

IEEE standards
- IEEE 802.1D (STP)
- IEEE 802.1p (CoS)
- IEEE 802.1Q (VLANs)
- IEEE 802.1ad (Provider Bridge)Q-in-Q (VLAN stacking)*
- 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 802.3ae (10 Gigabit Ethernet)
- IEEE 802.3af (Power-over-Ethernet)
- IEEE 802.3at (Power-over-Ethernet)
- IEEE 802.3bt (Power-over-Ethernet)
- IEEE 802.3az (Energy Efficient Ethernet)
- IEEE 802.3bz (Multi-Gigabit Ethernet)

ITU-T recommendations
- TU-T G.8032/Y.1344 2010: Ethernet Ring Protection (ERPv2)

IETF RFCs

RIP
- RFC 1058 RIP v1
- RFC 1722/1723/1724/2453 RIP v2 and MIB
- RFC 1812/2644 IPv4 Router Requirement
- RFC 2080 RIPng for IPv6*

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 2570-2576/3410-3415/3584 SNMP v3
- 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 3414 User-based Security Model
- RFC 3826 (AES) Cipher Algorithm in the SNMP User-based Security Model
- 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
- RFC 2697 srTCM
- RFC 2698 trTCM

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 2338/3768/2787 VRRP and MIB
- RFC 3021 Using 31-bit Prefixes
- RFC 3060 Policy Core
- RFC 3176 sFlow

*Future AOS software feature

Services et Support

Pour en savoir plus sur les Services professionnels, les Services support et les Services gérés, consultez le site Web : http ://enterprise.alcatel-lucent.com/?services=EnterpriseServices&page=directory.

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