The OmniSwitch 8800 is a powerful, intelligent multi-layer switch that provides the ultimate solution for network performance and availability. The premier platform in Alcatel’s next generation OmniSwitch 6600/7000/8000 product family, the OmniSwitch 8800 delivers carrier-class features and functionality with unprecedented port density and throughput for IP Communications, core implementations, and mission-critical environments. It is an industry leading high-density, high-capacity platform that supports up to 384 ports of Gigabit Ethernet in less than 40 inches of rack space. The OmniSwitch 8800 provides non-blocking 10 Gigabit Ethernet connectivity, carrier-class availability, multi-layer security, and intelligent switching and routing services - all at wire speed.

The OmniSwitch 8800 provides numerous high-speed switching features and seamless connectivity between buildings, campuses, and POPs. The OmniSwitch 8800 is well suited for many environments, including:

- Enterprise core and backbone applications
- High-density Gigabit Ethernet aggregation
- Large data centers and server farms
- Gigabit Ethernet MANs

**OmniSwitch 8800**

The OmniSwitch 8800 is an 18 slot high-density chassis with a fabric capacity of 512 Gbps and throughput of 240 Mpps. It is designed to handle the toughest traffic requirements, delivering true 10 Gigabit Ethernet switching by providing over 10 Gbps of throughput per slot. It offers:

- High density, high-capacity platform
- True 10 Gigabit Ethernet architecture
- Wire-speed intelligent switching/routing
- Smart continuous switching
- Wire-speed server load balancing
- Multi-layer security
Carrier-Class Availability

Today's successful business needs a network that can deliver continuous operation and provide carrier-class availability to support the demands of IP Communications and mission-critical applications. Carrier-class availability ensures users have constant access to resources and services at all times. To ensure the highest levels of reliability, the OmniSwitch 8800 has been designed with a distributed architecture to enable carrier-class features including full redundancy and resiliency. And, to ensure availability, the OmniSwitch 8800 has been designed with a distributed architecture enabling carrier-class features including full redundancy and resiliency.

A unique feature of the OmniSwitch 8800 is smart continuous switching, which provides continuous operation in the event of a failure. With smart continuous switching, all source learning, Spanning Tree functions, and established routes are distributed throughout the network interface modules instead of a central engine. In the event of a management or fabric module failure, the system automatically switches over to the hot standby module with no loss of connections or fabric capacity. Existing L2/L3 traffic, including voice conversations, will continue seamlessly without interruption. Plus, the Alcatel OmniSwitch 8800 is capable of creating new connections during this failover - an industry first.

Network resiliency is a critical part of network availability. The OmniSwitch 8800 provides extensive support including advanced routing redundancy protocols, load sharing, and mechanisms for fast reconfiguration of links between switches, servers, and other network devices.

The OmniSwitch 8800 provides fully redundant and resilient system components to ensure continuous operation. This includes:

- **Redundant chassis subsystems**
- **Hot swappable modules**
- **Load-sharing components**
- "Hitless loading" of optional advanced security software allowing live upgrades without re-booting
- **Downloadable bootstrap**
- **Image rollback to automatically re-load previous configurations and software versions**

Alcatel's OmniSwitch 8800 system delivers carrier-class availability and functionality - all at an enterprise price.
Multi-layer Security

Enterprises are becoming borderless as they open their networks to e-business and external users. This requires a network to provide easy access to users yet implement extensive security that can be managed across a global enterprise. The OmniSwitch 8800 provides multi-layer security with a vast arsenal of security features that can be implemented at the edge, the core, and throughout the network.

These include:

- User authentication
- VLANs
- Access control lists (ACLs)
- Authenticated switch access
- Encryption
- NAT/PAT
- Denial of service protection

Multi-layer security enables the building of sophisticated hardware and software-based solutions that can be integrated with policy-based management and other technologies such as smart cards, PKI, and biometrics for enhanced security implementations. For secure management, there are many features integrated into the architecture including authenticated user access, SNMPv3 and SSL for encrypted sessions, and partitioned management for multi-tiered access and granular network administration.

Distributed Intelligence

Distributed intelligence ensures that users and applications get the priority and performance they need with ease-of-use management that extends across the enterprise. The OmniSwitch 8800 features state-of-the-art ASIC-based technology for intelligent, wire-speed everything including switching, routing, ACLs, QoS, and load balancing.

The OmniSwitch 8800 provides application-aware switching for layers 2, 3, and 4 and the most advanced classification, prioritization, and queuing schemes. It also supports industry classification standards including 802.1Q/p, TOS, and DiffServ, and is enhanced with complementary features such as extensive QoS mappings and re-tagging of prioritization. The OmniSwitch 8800 is well adapted to server farm applications with embedded server load balancing. It requires no specialized hardware or software and operates at wire-speed – another industry first.
Alcatel OmniSwitch 8800

OneTouch Manageability

OmniVista, the Alcatel voice and data network management platform, features OneTouch manageability. With OneTouch manageability, network managers are able to quickly configure and manage the switches in their network. For example, OneTouch QoS, a feature of the Alcatel policy management software, allows network managers to quickly assign QoS priorities to network traffic based on the characteristics of different applications. With "one-click," every Alcatel switch in the network is automatically configured.

The OmniSwitch 8800 offers service-level and policy-based configurations with support for LDAP directories enabling flexible integration with existing platforms and allowing extended offerings. RMON support is also included with a choice of interfaces for administrators - a command line interface (CLI), SNMP, a fully editable text-based configuration file, and a standard Web-browser interface.

Dynamic Mobility

Users are becoming increasingly mobile creating challenges for administrators. The OmniSwitch 8800 features dynamic mobility, which simplifies the task of managing remote and mobile users. Users can move anywhere in the network without having to reconfigure each time. They can change locations, connect to a new network port, and have access to all their resources without administrator intervention. Dynamic mobility can be fully integrated with authentication to provide secure mobility across an entire network. The OmniSwitch 8800 provides the industry’s most extensive VLAN capabilities enabling flexible support for mobile user environments.

Features

- True 10 Gigabit Ethernet platform with full 10 Gbps throughput per slot
- 10/100/1000/10 Gigabit Ethernet non-blocking, full-duplex
- Carrier-class availability with smart continuous switching
- Multi-layer security (ACLs, authenticated services, DoS protection, and SSL)
- Authenticated VLANs and authentication services
- Enhanced ACLs
- NAT and PAT
- Distributed intelligence
- Wire-speed everything
- Application-aware switching (L2/L3/L4 QoS classification)
- Embedded wire-speed server load balancing
- IP/IPX routing (RIP v1/v2, OSPF, BGP-4, DVMRP, PIM-SM, RIP/SAP)
- IP multicast switching (multicast isolation within VLANs)
- MPLS and IPv6 support*
- Dynamic mobility with extensive VLAN support

* Contact for availability
**Chassis**

The OmniSwitch 8800 is a high-density system with an 18-slot chassis. The chassis management module has two interface slots dedicated to it for resiliency. The switch fabric can accommodate up to five fabric modules for complete N+1 resiliency. A minimum of four switch fabric modules is required to operate.

**Interface Modules**

The OmniSwitch 8800 switches support an extensive array of 10/100 Mbps, Gigabit, and 10 Gigabit Ethernet interface modules and port densities.

10 Gigabit Ethernet Network Interface module (10GNI)*

One port 10 Gigabit Ethernet module with removable OM (optical module) interface

- Compliant with IEEE 802.3ae standard
- Can accommodate various OM interfaces for different applications and various fiber infrastructure

Gigabit network interface modules (GNI)

Eight port 1000BaseX Ethernet module with eight Mini-GBIC ports

24 port 1000BaseX Ethernet module with 24 Mini-GBIC ports*

Both modules support Mini-GBIC connectivity with
- SX – 1000BaseSX over multimode fiber
- LX – 1000BaseLX over single mode fiber
- LH – 1000BaseLH Long reach over single mode fiber up to a maximum distance of 70 km

Eight port 1000BaseT Ethernet module with RJ-45 connectors
- 1000BaseT supported

24 port 10/100/1000BaseT Ethernet module with RJ-45 connectors*
- Supports auto-negotiation and auto-sensing on 10/100/1000 Mbps
- Requires four pairs of Cat5/ Cat5e grade cabling minimum, for1000BaseT

Ethernet Network Interface module (ENI)
- 24 port 10/100 Mbps RJ-45 Ethernet module

**Technical Summary**

**OmniSwitch 8800 Switch Architecture**

* Fabric capacity: 512 Gbps
* Throughput: 240 Mpps

**Number of slots**

- Interface module: 18 slots; two for management modules and 16 for interface modules
- Switch fabric: five slots with N+1 resiliency, requires a minimum of 4

**Redundant, hot-swappable/ hot insertable**

- Chassis management module (CMM)
- Fan tray
- Power supplies
- Switching fabric module

**Hot-swappable/ hot insertable**

- Network interface (NI) modules

**Passive midplane**

**NEBS certification***

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* Contact for availability
Alcatel OmniSwitch 8800

**Number of power supplies supported**
- OmniSwitch 8800 - up to four; three minimum required for power; one optional for N+1 resiliency in some configurations

**Input voltage and current ratings**
- 180-270 VAC input voltage
- 7.3 amps at 220 VAC
- 47-63 Hz
- -48 VDC input power*

**System Features**
- Distributed layer 2 and layer 3 services and processing
- Provides non-blocking store-and-forward switching fabric
- Wire speed layer 2
- Wire speed layer 3 IP and IPX
- Wire speed ACL (access control lists)
- Multicast multi-layer switching
- Wire-speed server load balancing

## OmniSwitch 8800 interface modules

<table>
<thead>
<tr>
<th>Module Port Count</th>
<th>OS 8800 Port Capacity (max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Gigabit Ethernet with flexible Optical Module (OM) interface*</td>
<td>1</td>
</tr>
<tr>
<td>Wire speed Gigabit Ethernet with Mini-Gbic (SX, LX, LH)</td>
<td>8</td>
</tr>
<tr>
<td>Wire speed Gigabit Ethernet over twisted pairs with RJ-45 connector</td>
<td>8</td>
</tr>
<tr>
<td>High-density Gigabit Ethernet with Mini-Gbic (SX, LX, LH)*</td>
<td>24</td>
</tr>
<tr>
<td>High-density Gigabit Ethernet over twisted pairs with 10/100/1000BaseT support over RJ-45 connector *</td>
<td>24</td>
</tr>
<tr>
<td>10/100 Mbps Ethernet over twisted pairs with RJ-45 connector</td>
<td>24</td>
</tr>
</tbody>
</table>

**Hardware Features**
- 10 Gigabit Ethernet 802.3ae standard compliant
- 10/100/1000 Ethernet auto-sensing and auto-negotiation
- Port mirroring with reverse-path data
- 802.3ad and Alcatel’s OmniChannel port aggregation with port failure recovery and load balancing based on MAC addresses
- Up to 32 aggregates per switch
- Up to 16 links per aggregate
- Per-port flood limiting
- Provides hardware support for IP multicast switching

* Contact for availability
**VLAN Support**
- Up to 4,096 802.1Q tag value support
- Configuration per port, MAC address, layer 3-based, port binding, protocol type, and custom
- Authenticated and policy-based VLANs
- Hardware support for 802.1p-tagged frames, including "hybrid" and "transparent" ports

**Advanced QoS Features**
- Hardware priority queuing with four priority levels per port
- Up to 8,000 queues per interface module
- Setting of 802.1p, IP TOS, and/or DiffServ control points on output
- Classification based upon MAC DA, IP protocol, IP SA/DA, TCP/UDP SA/DA, destination slot/interface, destination interface type, destination VLAN, multicast
- Output bandwidth shaping using hardware-controlled queue scheduling based on deficit round robin
- Trusted and not trusted ports
- W RED*

**QoS mapping and prioritization re-tagging for:**
- 802.1p to 802.1p, TOS and DiffServ
- TOS to TOS, 802.1p and DiffServ
- DiffServ to DiffServ, 802.1p and TOS

**Layer 3 Server Load Balancing**
- Supports any combination of servers in a cluster with a maximum of 15 clusters and up to 75 total servers per system
- Wire rate on all network interfaces

**Routing Protocol Support**
- RIP v1/v2
- OSPF v1/v2
- OSPF ECMP
- BGP-4*
- DVMRP
- PIM-SM
- IGMP v1/v2
- VRRP

**Physical Dimensions**
- **Width:** 17.40" (44 cm)
- **Height:** 38.40" (97 cm)
- **Depth:** 17.30" (44 cm)
- **Weight:** 220 lbs (100 kg) fully loaded
- **Total slots:** 18

Can be rack mounted in 19" and 23" racks

**Operating Environment**
- **Storage temperature:** 14 ~ 158 °F (-10 ~ 70 °C)
- **Operating temperature:** 32 ~ 113 °F (0 ~ 45 °C)
- **Humidity:** 0% to 95% (non-condensing)
- **Operating altitude:** Sea level to 10,000 feet (3 km)

* Contact for availability
Standards and Certifications

Standards (abridged)

IEEE 802.1D Spanning Tree Protocol
IEEE 802.1p
IEEE 802.1Q VLAN Tagging
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.3 10BaseT Ethernet
IEEE 802.3u 100BaseTX, 100BaseFX Fast Ethernet
IEEE 802.3x Full-Duplex with Flow Control
IEEE 802.3z 1000BaseX Gigabit Ethernet
IEEE 802.3ad Link Aggregation
IEEE 802.3ae 10 Gigabit Ethernet standard
RFC 768 UDP
RFC 791 ICMP
RFC 792 ARP
RFC 826 ICMP
RFC 854 Telnet
RFC 925 Multi-LAN ARP/Proxy ARP
RFC 1058 RIPv1
RFC 1075 DVMRPv2
RFC 1191 Path MTU Discovery
RFC 1519 Classless Inter-Domain Routing (CIDR)
RFC 1587 OSPF NSSA Option
RFC 1757 RMON (groups 1, 2, 3, and 9)
RFC 1765 OSPF Database Overflow
RFC 1771 BGP P4*
RFC 1812 IP Router Requirements
RFC 1997 BGP Communities Attribute*
RFC 2236 IGMPv2
RFC 2328 OSPFv2
RFC 2338 VRRP
RFC 2362 PIM-DM
RFC 2385 Protection of BGP Sessions via the TCP MD-5 Signature Option
RFC 2439 BGP Route Flap Damping
RFC 2453 RIPv2
RFC 2644 IP Router Requirements
RFC 2715 Interoperability Rules for Multicast Routing Protocols*
RFC 2796 BGP Route Reflection: An Alternative to Full Mesh IGP *
RFC 2842 Capabilities Advertisement with BGP P4*
RFC 2918 Route Refresh Capability for BGP P4*
RFC 3065 Autonomous System Confederations for BGP*

* Contact for availability
**Ordering Information**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS8800-CBA</td>
<td>OmniSwitch 8800 Chassis Bundle; (OS8800 chassis, one OS8800-CMM, four switch fabric modules, three AC power supplies, chassis and fabric fan trays) with Advanced Routing Software</td>
</tr>
<tr>
<td>OS8800-RCBA</td>
<td>OmniSwitch 8800 Redundant Chassis Bundle; (OS8800 chassis, two OS8800-CMM, five switch fabric modules, three AC power supplies, chassis and fabric fan trays) with Advanced Routing Software</td>
</tr>
<tr>
<td>OS8800-RP</td>
<td>OmniSwitch 8800 Redundancy Package; (one OS8800-CMM, one OS8800-SFM)</td>
</tr>
<tr>
<td>OS8800-CMM</td>
<td>OmniSwitch 8800 Chassis Management Module</td>
</tr>
<tr>
<td>OS8800-SFM</td>
<td>OmniSwitch 8800 Switch Fabric Module</td>
</tr>
<tr>
<td>OS8-PS-1375A</td>
<td>OmniSwitch 8800 1375 Watt AC Power Supply - 180-270 VAC input voltage only</td>
</tr>
<tr>
<td>OS8-GNIC8</td>
<td>Eight port 1000BaseT Gigabit Ethernet Module with eight RJ-45 connectors - Supports only 1,000 Mbps</td>
</tr>
<tr>
<td>OS8-GNIC24</td>
<td>24 port 1000BaseT Gigabit Ethernet Module with 24 RJ-45 connectors - Supports auto-negotiation &amp; auto-sensing 10/100/1000 Mbps</td>
</tr>
</tbody>
</table>

**Certifications/ Safety**

**EMC Compliance:** EN 55024: 1998; EN 55022 Class A/B; FCC Part 15, Subpart B, Class A/B; VCCI V3/97.04 Class A/B; EN 61000-3-2; 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; AS/ NZS 3548, Class A/B; CE Marking per EMC Directive

**Safety Compliance:** 21 CFR 1040; AS/ NZS 3260; CB with all national deviations (IEC 950); CE Marking per Low Voltage Directive; CSA-C22.2 no.60950; TS 001; UL 60950; EN 60825-1; EN 60825-2; TUV GS Mark (EN 60950); ULAR: Argentina Certification
## Ordering Information (continued)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS8-GNI-U8</td>
<td>Eight port Gigabit Ethernet Module with eight unpopulated 1000BaseX Mini-Gbic ports</td>
</tr>
<tr>
<td>OS8-GNI-U24</td>
<td>24 port Gigabit Ethernet Module with 24 unpopulated 1000BaseX Mini-Gbic ports</td>
</tr>
<tr>
<td>MiniGBIC-SX</td>
<td>1000BaseSX Mini-Gbic (SFP MSA) for multi-mode fiber - LC connector</td>
</tr>
<tr>
<td>MiniGBIC-LX</td>
<td>1000BaseLX Mini-Gbic (SFP MSA) for single mode fiber - LC connector</td>
</tr>
<tr>
<td>MiniGBIC-LH-70</td>
<td>1000BaseLH Mini-Gbic (SFP MSA) for single mode fiber up to a maximum distance of 70 km – LC connector</td>
</tr>
<tr>
<td>OS8-ENIC24</td>
<td>24 port 10/100BaseT Ethernet Module with RJ-45 connectors - Supports auto-negotiation and auto-sensing on 10/100Mbps</td>
</tr>
<tr>
<td>OS8-SW-AS</td>
<td>Optional Advanced Security Software</td>
</tr>
</tbody>
</table>