



OmniSwitch 6600 Series

Carrier Class for the Enterprise

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OmniSwitch 6600 series, consisting of the OmniSwitch 6624 and 6648, are stackable, multi-layer workgroup switches that provide high availability and intelligence with features designed especially for IP Communications and mission-critical environments. These switches are part of the Alcatel next generation OmniSwitch family, optimized for voice and data integration in the wiring closet and at the edge of the network.

The OmniSwitch 6600s, featuring an innovative virtual chassis technology, allows administrators to configure and manage a stack of up to eight switches as if it were an eight-slot chassis switch. The OmniSwitch 6600s provide non-blocking multi-Gigabit Ethernet capacity, multi-layer security, carrier-class availability, intelligent switching and routing services – all at wire speed.

The OmniSwitch 6600 series offers an extensive set of features making them ideal for a variety of network environments such as:

- Enterprise workgroups/LAN wiring closets
- Edge deployments and branch offices
- Converged voice and data environments
- IP telephony/LAN aggregation



OmniSwitch 6624

OmniSwitch 6624 and 6648

The OmniSwitch 6600 series is a product family consisting of two switching platforms, the OmniSwitch 6624 and the OmniSwitch 6648. The OmniSwitch 6624 is a 24-port switch with a switching capacity of 12.8 Gbps, and the OmniSwitch 6648 is a 48-port with a switching capacity of 17.6 Gbps. They both feature two expansion slots, and also provide one slot in the back of the chassis for an optional redundant power supply, a key availability feature not found in most stackable switching platforms. Availability is further enhanced with the ability to hot swap any switch in a stack, expansion modules, and redundant power supplies.



OmniSwitch 6648

Key functionality includes:

- High capacity, multi-Gigabit Ethernet architecture
- Smart continuous switching
- Virtual chassis technology
- Wire-speed intelligent switching/routing
- Multi-layer security
- Dynamic mobility
- In-line power distribution*

*Contact for availability

Alcatel OmniSwitch 6600 Series



Carrier-Class Availability

There is a strong focus today on business continuity and the need for carrier-class availability in enterprise networks. To ensure the highest levels of reliability, the OmniSwitch 6600s have been designed with a distributed architecture to enable carrier-class features, including full redundancy and resiliency. Carrier-class availability ensures that users have constant access to all resources and that services are available at all times.

A unique feature of the OmniSwitch 6600 series 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. In the event of a management module failure, the switches automatically failover to the backup switch. Existing L2/L3 traffic, including voice conversations, can continue seamlessly without interruption. Plus, Alcatel's OmniSwitch 6600s are capable of creating new connections during this failover – an industry first.

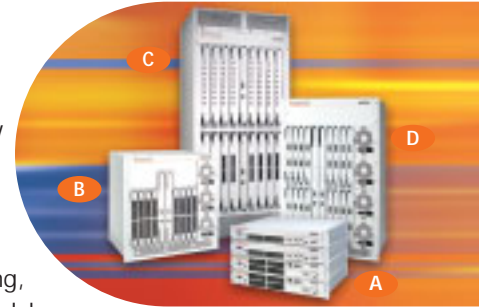
Network resiliency is a critical part of network availability and the OmniSwitch 6600s provide extensive support including advanced routing redundancy protocols and mechanisms for fast reconfiguration of links between switches, servers, and other network devices. The OmniSwitch 6600s provide fully redundant and resilient system components to ensure continuous operation. This includes:

- Redundant power supplies, stacking loop and management
- Hot-swappable units and gigabit expansion modules
- "Hitless loading" of optional software without rebooting
- Downloadable bootstrap
- Image rollback to automatically re-load previous configurations and software versions

Virtual Chassis

A unique feature of the OmniSwitch 6600s is the concept of a *virtual chassis*, which provides the availability, functionality, and manageability features of an eight-slot chassis to a stack of OmniSwitch 6600s. The virtual chassis concept enables administrators to configure a complete stack of OmniSwitch 6600s through a single IP address and to treat each unit as a slot in a chassis. This simplifies and reduces configuration time through the command line interface (CLI) and the embedded web-based management application, which the OmniSwitch 7000 and 8000 next generation chassis-based switches also offer. Additionally, software images and configuration files can be very easily synchronized across an entire stack of OmniSwitch 6600s.

The virtual chassis feature enables high availability because each element added to a stack provides a fully redundant management capability should the primary management module fail. An OmniSwitch 6600 stack automatically elects, on a recurrent basis, a primary and backup chassis manager. Network resiliency and availability is further enhanced with the ability to hot swap any switch in a stack, expansion modules, and redundant power supplies. Along with all the features of a virtual chassis, the OmniSwitch 6600s provide the same high availability features as the OmniSwitch 7000s and 8000 – all at an enterprise price.



- A **OmniSwitch 6600 series**
- B **OmniSwitch 7700**
- C **OmniSwitch 8800**
- D **OmniSwitch 7800**



Multi-layer Security

As organizations open up their networks for e-business and external users, a secure infrastructure architecture needs to be designed and managed. **Multi-layer security** enables 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. As part of the Alcatel CrystalSec security framework, OmniSwitch 6600s provide an arsenal of security features that can be implemented at the edge and throughout the network. This includes extensive features such as security-by-default design, user authentication, VLANs, access control lists (ACLs), authenticated switch access, encryption, and denial of service protection.

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, enabled by local processing for traffic on each switch, ensures users and applications get the priority and performance they need with ease-of-use management that extends across the enterprise. The OmniSwitch 6600s feature state-of-the-art ASIC-based technology for intelligent, wire-speed processing, which includes switching, routing, ACLs, and QoS. It also provides intelligent switching for layers 2 and 3, and the most advanced classification, prioritization, and queuing schemes based on L2, L3, and L4. The OmniSwitch 6600s classifications support industry standards including 802.1Q/p, TOS, DiffServ, and are enhanced with complementary features such as QoS mappings and QoS marking.

OneTouch Manageability

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

The OmniSwitch 6600s also offer service-level and policy-based configurations with support for LDAP directories, enabling flexible integration with existing platforms and extended offerings. It includes RMON support with a choice of interfaces for administrators – a command line interface (CLI), SNMP, fully edit-able text-based configuration file, and a standard Web-browser interface.

Dynamic Mobility

Users are becoming increasingly mobile, creating challenges for administrators. The OmniSwitch 6600s feature **dynamic mobility**, which simplifies the task of managing remote and mobile users. This allows users to move anywhere in the network without having to reconfigure each time. Users 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 6600s provide the highest flexibility and the most extensive VLAN capabilities in the industry to support mobile user environments.

Alcatel OmniSwitch 6600 Series



System Features

- Virtual chassis- stack of up to eight elements managed like an eight-slot chassis
- Distributed L2/L3/L4 services and processing
- Provides non-blocking store-and-forward switching fabric
- Wire-speed layer 2 frame forwarding
- Wire-speed layer 3 IP packet forwarding
- Wire-speed access control lists (ACL)
- Wire-speed multicast switching
- Port mirroring
- 802.3ad and Alcatel's OmniChannel port aggregation with port failure recovery and load balancing based on MAC addresses
- Per-port flood limiting
- Redundant stacking link
- Automatic over-temperature shutdown
- DHCP/BootP relay support
- Port mapping*
- SSH
- WRED support*

Hardware Features

- 10/100 Ethernet auto-sensing and auto-negotiation, non-blocking, full duplex
- 1000BaseX (fiber) and 1000BaseT (copper) expansion modules
- Stacking expansion module

Chassis

- Fixed 24 or 48 port units with two expansion slots
- One slot in back of chassis for optional redundant AC power supply

Interface Expansion Modules

- The OmniSwitch 6600 supports 1,000 Mbps Ethernet fiber and 1000BaseT (copper) interface expansion modules.

Technical Summary

Switch Architecture

Switching capacity

OmniSwitch 6624: 12.8 Gbps

OmniSwitch 6648: 17.6 Gbps

Redundant, hot-swappable/hot insertable

- Expansion modules
- Redundant power supplies
- Individual switches within the stack

In-line power for IP phones*

Number of power supplies supported

- OmniSwitch 6600 supports one for primary power and one optional power supply for redundancy

Input voltage and current ratings

- 85 – 270 VAC
- 1.21 Amps (max.) at 110 VAC
- 0.60 Amps (max.) at 220 VAC
- 47-63 Hz
- -24 VDC input power

VLAN Support

- Up to 4,096 802.1Q tag value support
- Configuration per port, MAC address, layer 3-based, port binding and protocol type, DHCP and custom
- Authenticated and policy-based VLANs
- Hardware support for 802.1p-tagged frames
- Network mobility

Advanced QoS Features

- Strict priority queuing with four queues per port
- L2, L3, and L4 priority classification based upon MAC SA/DA, MAC group, IP SA/DA, IP subnet, Internet Protocol, IP multicast address, IP multicast address group, TCP/UDP, VLAN, port, interface type

Routing Protocol Support

- RIP v1/v2
- OSPF
- VRRP

*Contact for availability



Physical Dimensions

OmniSwitch 6624 and 6648

19 in. rack mount (kit included)
23 in. rack mount (kit available)

Width: 17.20 in. (43.69 cm)

Height: 2.65 in. (6.73 cm)

Depth: 14.00 in. (35.56 cm)

Weight

OmniSwitch 6624: 13 lbs. (6 kg)

OmniSwitch 6648: 14 lbs. (7 kg)

RPS: 2 lbs. (1 kg)

Operating Environment

Total heat dissipation

OmniSwitch 6624: 205 BTU ave/hr,
340 BTU max/hr

OmniSwitch 6648: 296 BTU ave/hr,
340 BTU max/hr

Storage temperature: 14 to 158 °F
(-10 to 70 °C)

Operating temperature: 32 to 113 °F
(0 to 45 °C)

Humidity: 5% to 95% (Non-condensing)

Operating altitude: Sea level to 10,000 feet (3 km)

Standards and Certifications

Standards (abridged)

IEEE 802.1D Spanning Tree Protocol
IEEE 802.1D-1998 Priority and Dynamic Multicast Filtering
IEEE 802.1p
IEEE 802.1Q VLAN Tagging
IEEE 802.1s Multiple Spanning Tree*
IEEE 802.1w Rapid Reconfiguration (Fast Spanning Tree)
IEEE 802.1x Portbased network access control
IEEE 802.3 10BaseT Ethernet
IEEE 802.3ab 1000Base-T twisted-pair Gigabit Ethernet
IEEE 802.3ad Dynamic link aggregates
IEEE 802.3af*
IEEE 802.3u 100BaseTX, 100BaseFX Fast Ethernet
IEEE 802.3x Full Duplex with Flow Control
IEEE 802.3z 1000BaseX fiber optic Gigabit Ethernet
RFC 768 UDP
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 Telnet
RFC 903 Reverse ARP
RFC 925 MultiLAN ARP/Proxy ARP
RFC 1058 RIPv1
RFC 1191 Path MTU Discovery
RFC 1493 Bridge MIB
RFC 1519 Classless Inter-Domain Routing (CIDR)

RFC 1542 BOOTP
RFC 1587 OSPF NSSA Option
RFC 1724 RIP v2 MIB
RFC 1757 RMON (groups 1, 2, 3, and 9)
RFC 1765 OSPF Database Overflow
RFC 1812 IP router requirements
RFC 1850 OSPF2 MIB
RFC 1907 MIB-II
RFC 2011 SNMPv2 MIB for the IP using SMIv2
RFC 2012 SNMPv2 MIB for the TCP using SMIv2
RFC 2013 SNMPv2 MIB for the UDP using SMIv2
RFC 2096 IP Forwarding MIB
RFC 2138 RADIUS
RFC 2233 Interfaces MIB
RFC 2236 IGMP & IGMPv2
RFC 2328 OSPFv2
RFC 2338 VRRP
RFC 2453 RIPv2
RFC 2644 IP router requirements
RFC 2665 Ethernet MIB
RFC 2674 VLAN Management MIB
RFC 2737 (Entity MIB using SMIv2) Version2
RFC 2819 Remote Network Monitoring MIB
RFC 2863 Interfaces Group MIB
RFC 2933 IGMP v2 MIB

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Certifications/Safety

EMC Compliance: EN55024 1998; EN55022 Class A/B; FCC Part 15, Subpart B, Class A/B; VCCI-V3/97.04 Class A/B; EN61000-3-2; EN61000-3-3; EN61000-4-2; EN61000-4-3; EN61000-4-4; EN61000-4-5; EN61000-4-6; EN61000-4-8; EN61000-4-11; 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; EN60825-1; EN60825-2; TUV GS Mark (EN60950); UL-AR: Argentina Certification

Ordering Information

Model Number	Description
OS6600-24	OmniSwitch 6600 chassis w/DES, 3DES, RC2 & RC4. [ECCN 5A002] 24 port 10/100 chassis with 2 open slots for optional uplinks or stacking module and one slot in back for an optional redundant and hot swappable backup AC power supply. Advanced Routing and/or Authentication software is sold separately. Country specific power cord required.
OS6600-48	OmniSwitch 6600 chassis w/DES, 3DES, RC2 & RC4. [ECCN 5A002] 48 port 10/100 chassis with 2 open slots for optional uplinks or stacking module and one slot in back for an optional redundant and hot swappable backup AC power supply. Advanced Routing and/or Authentication software is sold separately. Country specific power cord required.
OS6600-BPS	Hot Swappable AC Backup Power Supply for the OmniSwitch 6600 series switch. Backup power supply is optional. Country specific power cord required.
OS6600-STK-KIT	Stacking Kit for the OmniSwitch 6600 switches, includes one 2 port stacking module and one 30cm in length stacking cable. Same stacking module as the OS6600-RST-KIT, but with a short cable.
OS6600-RST-KIT	Redundant stacking Kit for the OmniSwitch 6600 switches, includes one 2 port stacking module and one 1 meter in length stacking cable. Same stacking module as the OS6600-STK-KIT, but with a longer cable.
OS6600-3M-KIT	Extended length stacking kit for the OmniSwitch 6600, includes one 2 port stacking module and one 3 meter in length stacking cable. Same stacking module as the OS6600-STK-KIT, but with a longer cable.
OS6600-GNI-C2	2 port Copper Gigabit Ethernet expansion module with 2 RJ-45 connectors.
OS6600-GNI-U2	2 port mini-GBIC universal Gigabit Ethernet expansion module. Requires mini-GBIC transceiver.
OS6600-SW-AR	OS6600 Advanced Routing Software. Includes support for OSPF.
OS6600-SW-AS	OS6600 Authenticated Software w/MD5. [ECCN 5D002] OmniSwitch 7000 Authentication Services software is for Authenticated VLANs and administrative access (user or user partitioned commands) utilizing a remote AAA server. Support is provided for standards-based RADIUS and standards-based LDAP v3 for authorization, authorization and accounting, and RSA ACE/Server direct for authentication based on one-time password tokens (SecurID).
OS6600-SW-SBR-N	Authenticated SBR-MS sw w/MD5, RC4, MD4, DES. [ECCN 5D002] OmniSwitch 6600 Authentication Services software bundled with Funk Software's Steel-Belted Radius Enterprise Edition for Microsoft Windows.
OS6600-SW-SBR-S	Authenticated SBR-Sun sw w/MD5, RC4, MD4, DES. [ECCN 5D002] OmniSwitch 6600 Authentication Services software bundled with Funk Software's Steel-Belted Radius Enterprise Edition for Sun Solaris.
MiniGBIC-SX	MiniGBIC Transceiver (SFP MSA) – 1000Base-SX for Multimode fiber.
MiniGBIC-LX	MiniGBIC Transceiver (SFP MSA) – 1000Base-LX for singlemode fiber.
MiniGBIC-LH-70	MiniGBIC Transceiver (SFP MSA) – 1000Base-LH for singlemode fiber.

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