

Alcatel-Lucent OmniAccess 5510

UNIFIED SERVICES GATEWAY ROUTER

The OmniAccess 5510 Unified Services Gateway (USG) router is a compact and affordable, purpose-built platform for secure, wire-speed delivery of voice and data services to small offices. The OmniAccess 5510 has been specifically designed to meet the requirements of SMBs, small enterprise branch offices, and carrier provided managed services applications for simultaneous delivery of secure voice and data services. It is easier to install, configure, and operate compared to discrete devices currently present in branch offices.

The OmniAccess 5510 comprises a range of fixed configuration routers which provide secure data connectivity for T1/E1, serial and xDSL WAN interfaces. The OmniAccess 5510 is an integrated access solution that combines a best-in-class router with firewall, high-speed encryption, virtual private network (VPN) tunneling, integrated voice, DSU/CSU functions in a single platform. These cost-effective platforms provide consistent wire-speed throughput with no degradation in performance, even when multiple services are enabled.

Typical deployment solutions that will benefit from the versatile OmniAccess 5510 are:

- All-in-one secure WAN connectivity/access for SMBs
- Unified networking services for small enterprise branch offices
- Carrier provided managed services applications
- Basic Internet connectivity or secure VPN communications.



5510-TE USG

Key features

- Unmatched flexibility: Choice of T1/E1, Serial, xDSL and Ethernet WAN interface models.
- Streamlined hardware form factor: Half-rack width or desktop deployment options with fan-less design.

Key benefits

- Different models with its respective WAN connectivity options enables customer to meet various deployment scenarios.
- Simple and easy deployment, with option of deploying in rack-friendly or desktop-friendly environments.

Key features

- **Services and Features Flexibility:** Despite the streamlined form factor, same services and features richness is present as of high-end USG routers.
- **OnePass packet processing:** Global classification of packets for all services, down to an application's payload level, in a single pass.
- **Remote-Office Voice Resiliency (ROVR):** Local and PSTN call routing during WAN link outage.
- **Multi-VRF CE over single WAN link:** MPLS IP-VPN extension to the remote branch offices.

Key benefits

- Eliminates multiple devices and provides the same services and features on one unified, resilient, low-cost, small footprint platform with consistent management interface across the network.
- Provides true service unification and saves CPU resources while minimizing latency through the system.
- Remote-Office Voice Resiliency (ROVR) enables redundancy at multiple levels (call server, WAN links, VRRP) and hence provides always on voice functionality for small branches.
- Maintains separate routing and forwarding tables to extend the privacy and security of an MPLS VPN down to CE i.e. small branches, and thus enabling cheaper, future proof, secure Multi-VRF CE solution.

OmniAccess 5510 Unified Services Gateway Models

The OmniAccess 5510 USG router series offers fixed configuration models having different WAN connectivity options. Figure 1 indicates the different OmniAccess 5510 models available with their respective WAN connectivity options.

Figure 1: OmniAccess 5510 USG router models²

Models	Integrated WAN Interface	Integrated LAN Interface	Integrated Ethernet WAN or LAN Expansion Interface	Other Interfaces	Power Supply
5510-TE	1 T1/E1	4 port 10/100 VLAN switch	1-port 10/100	1 USB 2.0, 1 Console	External (AC/DC)
5510-SR	1 Universal Serial (X.21, V.35, RS-232)	4 port 10/100 VLAN switch	1-port 10/100	1 USB 2.0, 1 Console	External (AC/DC)
5510-AA ¹	1 ADSL2+ Annex A (ADSL over POTS)	4 port 10/100 VLAN switch	1-port 10/100	1 USB 2.0, 1 Console	External (AC/DC)
5510-AB ¹	1 ADSL2+ Annex B (ADSL over ISDN)	4 port 10/100 VLAN switch	1-port 10/100	1 USB 2.0, 1 Console	External (AC/DC)

¹ Contact for availability.

² Additional models may be available in future.

Technical specifications

Routing

- Static routes
- RIP v1/v2 dynamic routing
- OSPF/BGP dynamic routing
- Multicast routing – PIM
- IGMP (v1, v2)
- GRE tunnels
- VRRP
- Policy-based routing
- IPv6 routing ready hardware

Multi-VRF CE³

- 32 VRF instances per system
- Number of routes per instance: No limit, only total number of routes limit in system applies
- RFC 3021 support – 31 bit mask

Firewall

- Stateful packet inspection and filtering (ACL)
- NAT (Source and Destination NAT)
- DoS and DDoS protection
- Protocol anomaly: IP, TCP, UDP
- ALGs: TFTP, FTP, NFS, DNS, RTSP, SIP, DHCP, UA/NOE
- Common classification for all services

Quality of service

- QoS on bundled interfaces (MLFR, MLPPP)³
- QoS on sub-interfaces (Per PVC QoS)³
- Auto QoS config for 802.1p L3/4 traffic policy definition, voice³
- L3/4 traffic policy definition
- Interface egress queues: 16 queues per interface
- Priority scheduling
- Weighted fair queuing
- Class-based queuing
- Hierarchical queuing: Up to four levels
- Ingress policing
- Egress shaping
- DSCP/TOS marking
- WRED
- DiffServ: RFC 3246, 2597, 2445
- 802.1p classification and marking³
- 802.1Q classification³

VPN (IPSec)

- Site-to-site VPN tunnels
- Tunnel interfaces
- DES (56 bit), 3DES (168 bit), and AES (128, 192, 256 bit) encryptions
- MD-5 and SHA-1 authentication
- IKE with pre-shared key or PKI
- Perfect forward secrecy (DH groups): 1, 2, 5
- IPSec NAT traversal

Intrusion detection/intrusion prevention

- Detection mode
- Prevention mode
- Automatic signature updates
- Group-based IDS/IPS: Priority/protocol/intrusion type

WAN protocols

- PPP
- Frame relay with FRF.12 fragmentation
- LFI – Link Frame Interleaving (FR and MLPPP)³
- HDLC
- PAP/CHAP authentication
- PPPoE client support³

LAN protocols

- STP
- Bridging
- IEEE 802.1Q VLANs
- IRB (Integrated routing and bridging)

Network services

- DHCP relay/server
- DNS client
- TFTP server/client
- FTP client
- ssh server/client
- HTTP server
- Transparent firewall

VoIP support

- SIP / NOE ALGs
- Priority scheduling
- Dynamic Pinholing in firewall
- DSCP classification and marking
- TFTP Server for booting IP phones
- DHCP options for phones provisioning

VoIP security³

- NAT traversal support for NOE ALG
- ALG support for voice signaling and supporting protocols
- Protection against attacks - DDoS, IP spoofing, stateful inspection, PAD

Call admission control (CAC) support for VoIP calls³

- Busy signal to over-the-limit call attempt
- Static configuration of number of calls limit per interface/link
- Automatic management of allowed number of calls based on dynamic bandwidth utilization measurement and link capacity.

Remote office voice resiliency³

- SIP proxy: Local and PSTN call routing during WAN link outage
- PSTN Fallback via external Media Gateway (Mediatrrix, AudioCodes)

System management

- CLI (console, USB, backup modem, Telnet, SSH)
- Web user interface (HTTP, HTTPS)
- SNMP (v1, v2, v3³)
- Local administrator database
- AAA – RADIUS, TACACS+
- Syslog forwarding: External, up to 4 servers
- Standard and custom MIBs
- Ping, traceroute
- Hitless component upgrades via ModuLive software platform
- Management plane for Alcatel-Lucent Lifeline framework
- License Manager³
- GUI wizards for complex configurations³
 - Advanced QoS configuration GUI wizard
 - Firewall configuration wizard
 - IPSec configuration wizard
 - Universal serial interface configuration GUI
 - Multi-link PPP/FR configuration GUI
 - VRF configuration GUI

Dimensions and power

- Weight: 2 lb (1 Kg)
- Dimensions (H x W x D)
 - 1.5 in. x 8.35 in. x 7.88 in.
 - (3.85 cm x 21.22 cm x 20.04 cm) Half-rack width
- Rack-mountable: 19-in. standard
- Power supplies:
 - AC: 100 V AC to 240 V AC
 - DC: 20V AC to 60V DC

Certifications

- Safety: UL, CUL, CSA, CB
- EMC: FCC Class A

Environment

- Operating temperature: 32° F to 113° F (0° C to 50° C)
- Non-operating temperature: -13° F to +158° F (-25° C to +70° C)
- Operating altitude: 10,000 ft (3048 m)
- Non-operating altitude: 15,000 ft (4572 m)
- Operating humidity: 10% to 90% (non-condensing)
- Convection cooled, no fan

³ Feature available with R2.3 onwards.

Ordering information

PART NUMBER	DESCRIPTION
OAR5510-TE	OmniAccess 5510 with 1 port T1E1, 1 port 10/100 RJ-45, 4 ports 10/100 switch. Fixed configuration chassis, 1U high, half-rack wide. Base software package includes routing, switching, QoS and firewall services. Includes external AC power supply. DC power supply available separately. Rack mount kit available separately, also used as power supply tray.
OAR5510-SR	OmniAccess 5510 with 1 port universal serial (V.35, X.21, RS232 cable ordered separately), 1 port 10/100 RJ-45, 4 ports 10/100 switch. Fixed configuration chassis, 1U high, half-rack wide. Base software package includes routing, switching, QoS and firewall services. Includes external AC power supply. DC power supply available separately. Rack mount kit available separately, also used as power supply tray.
OAR5510-AA	OmniAccess 5510 with 1 port ADSL2+ Annex A (ADSL over POTs), 1 port 10/100 RJ-45, 4 port 10/100 switch. Fixed configuration chassis, 1U high, half rack wide. Base software package includes routing, switching, QoS and firewall services. Includes external AC power supply. DC power supply available separately. Rack mount kit available separately, also used as power supply tray.
OAR5510-AB	OmniAccess 5510 with 1 port ADSL2+ Annex B (ADSL over ISDN), 1 port 10/100 RJ-45, 4 port 10/100 switch. Fixed configuration chassis, 1U high, half-rack wide. Base software package includes routing, switching, QoS and firewall services. Includes external AC power supply. DC power supply available separately. Rack mount kit available separately, also used as power supply tray.

OmniAccess 5510 Cables and Accessories

PART NUMBER	DESCRIPTION
OAR5510-RM-19	Rack Mount Tray Kit for OmniAccess 5510. Includes tray and mounting ears. Mounts to the side of the system to fit in a 19" rack. The tray is also used as a platform for the external power supply. Two systems fit side by side in a rack with the trays in the back.
OAR5510-PSAC	Spare AC Power Supply 40W for OmniAccess 5510 (included with system chassis). Ships with country specific power cord.
OAR5510-PSDC	Optional DC Power Supply for the OmniAccess 5510
OAR-SS-V35-MT	V.35 DTE Cable 10 feet (3 meter) for OAR5510-SR
OAR-SS-V35-FC	V.35 DCE Cable 10 feet (3 meter) for OAR5510-SR
OAR-SS-X21-MT	X.21 DTE Cable 10 feet (3 meter) for OAR5510-SR
OAR-SS-X21-FC	X.21 DCE Cable 10 feet (3 meter) for OAR5510-SR
OAR-SS-232-MT	RS-232 DTE Cable 10 feet (3 meter) for OAR5510-SR
OAR-SS-232-FC	RS-232 DCE Cable 10 feet (3 meter) for OAR5510-SR

OmniAccess 5510 Software Upgrades

PART NUMBER	DESCRIPTION
OAR5510-ADSEC	Software license for advanced security, includes VPN and IDS/IPS
OAR5510-IPVOC	Software license for voice services, includes SIP call server and external media gateway support

www.alcatel-lucent.com

Alcatel, Lucent, Alcatel-Lucent and the Alcatel-Lucent logo are trademarks of Alcatel-Lucent. All other trademarks are the property of their respective owners. Alcatel-Lucent assumes no responsibility for the accuracy of the information presented, which is subject to change without notice.
© 2009 Alcatel-Lucent. All rights reserved. PN 32128-A 2/09