

Features

- Advanced modular architecture delivers enhanced, integrated data, voice and security services. The 3460 ASG with its modular, flexible chassis supports a full portfolio of WAN, Data, and voice Daughter Cards. The unit is fully backward compatible with existing DC interfaces which enhances investment protection and provides maximum configuration flexibility for future growth.
- Embedded voice processing functionality delivers advanced, toll-quality analog and digital voice capabilities for connections to centralized SIP server or IP PBX and the public switched telephone network (PSTN).
- Integrated routing, switching, and remote management capabilities allows deployment of simplified managed services for remote locations and branch offices.
- Advanced, embedded security functions, with stateful packet inspection firewall and multiple encryption options ensure the highest levels of security without sacrificing throughput performance.
- Application Protocol Conversion enables support of existing serial transactional applications in an IP network.
- Standards-based design ensures complete interoperability in multi-vendor environments, including Cisco. With Vanguard Networks, customers can choose best-of-breed devices offering numerous benefits over monolithic, proprietary solutions provided by a single vendor.
- Robust routing includes full IP support, BGP4 and Multicast capabilities. The Vanguard 3460 is optimized to deliver the



low-latency, advanced QoS and high throughput required for VoIP and multimedia applications.

- Advanced Quality of Service/Traffic Management, granular class definition and multiple enforcement mechanisms provide the highest performance and low latency for VoIP and other high priority traffic.
- Multi-link capability allows for dynamic load balancing across multiple WAN connections
- Secure Management interfaces include console port, SSHv2, Telnet, and SNMP.
- The Vanguard 3460 Access Server Gateway complements the data-only Vanguard 3410 and the multiservice Vanguard 3480. Deployed in combination with the larger capacity Vanguard 6800 Series and the Vanguard 7300 series, the Vanguard product portfolio can support various sizes of branch office, regional sites, and Data Center deployments.
- Enhanced performance, security, and reliability make the Vanguard 3460 Series an affordable platform for delivering converged networks, including data, voice, and video.

3460 ASG Technical Specifications

Software Features

Voice Features

Analog PBX and PSTN connections
Automatic fax/modem detection
Fax over IP (T.38), fax over Frame Relay
SIP gateway
H.323 v2 gateway
Basic Calling Features
Caller ID
Call transfer
Call on- hold
Call waiting
Call forwarding
3 Party Calling
Up to 8 analog voice channels
Voice Activity Detection (VAD)
Silence Suppression
Voice compression: cRTP
Codecs: G.711, G.723.1, G.729a, G.729b

WAN Capabilities

Async and Sync PPP
Multi-Link PPP
PPPoE (RFC 2516), PPPoA (RFC 1483)
Frame Relay Annex A, Annex D, Annex G

Frame Relay DTE and DCE (Switching)
Frame Relay RFC 1490, FRF.8
T1/E1 (data), Fractional T1/E1
Permanent B, D Channel Packet
X25 RFC 877/1356 (IP), CUG, NUI,
Translation, D Channel Support

LAN Connectivity

VLAN 802.1Q & 802.1P
Inter-VLAN routing (802.1Q)

Routing and IP address services

IPv4, RIP1/RIP2, OSPF, BGP4, BGP
Communities (RFC 1997 & 1998)
BGP Multipath
Policy Based Routing
Classless Inter-domain Routing (CIDR)
Network Address Translation (NAT)
Port Address Translation (PAT)
Real-Time Transport Protocol (RTP)
Header Compression (RFC 2508)
Multiple IP Addresses per Physical Interface
DHCP Client, DHCP Server

Other Bridging/Routing Protocols

IPX/Novell IPX WAN, AppleTalk

Transparent Bridging (Spanning Tree 802.1d),
SLIP, SoTCP

Multicast

DVMRP, PIM-SM (Sparse Multicast), ICMP
Router Discovery (RFC 1256)

High Availability

Virtual Router Redundancy Protocol (VRRP)
OnNet Proxy (Router Standby Protocol)
Bandwidth on Demand (BOD)
Dial on Demand (DOD), Link Backup
(V.25bis)
Data Connection Protection
(X.25, SDLC, LLC2)

Advanced QoS and Bandwidth Management

IP Type of Service (TOS)
Differentiated Services (DiffServ)
Priority Queuing (PQ), Class Based Queuing
(CBQ), Weighted Fair Queuing (WFQ),
Weighted Random Early Discard (WRED)
Packet Classification
Policy Based Routing
Generic Traffic Shaping (GTS)
Frame Relay Traffic Shaping (FRTS)

Software Features (cont.)

VoIP aware QoS

Priority Scheduling of Encrypted Voice Packets
Fast Path Switching for Voice
Compressed Real-Time Protocol (cRTP)
MLPPP Link Fragmentation and Inter-leaving
Segmentation (RFC 1990 & 2686),
FRF.12

Firewall

SPI Firewall

VPN

IPSec (IP traffic), GRE (non-IP traffic)
IPSec Authentication Header (AH) and IPSec
Encapsulating Security Payload (ESP)
IPSec Encryption: IPSec DES (56 bit), 3DES
(128 bit) and 3DES (168 bit)
Dead Peer Detection
Authentication (MD5/SHA-1)
Dynamic IP Address (Dynamic VPN Tunnels)

Optional Encryption Accelerator Card

Advanced Encryption Standard (AES): 128,
192, and 256 bit key lengths
Device Authentication and Key Management:
Public Key Infrastructure (PKI) and X.509v3
Digital Certificates

Access Control and User Authentication

RADIUS
PAP/CHAP

Protocol Conversion

SDLC to Frame Relay (RFC1490)
SDLC to LLC2
BSC3270 to SNA (LU Type 0) LLC2/Ethernet
BSC2780/3780 to SNA (LU Type 0)
LLC2/Ethernet
BSC3270 to TCP/IP (VBIP)
TPDU (Async to IP)

Serial Protocol Support

APAD
Transparent COP (TCOP)
Transparent BOP (TBOP)
ATPAD, SLIP
X.42 Lottery Protocol
SNA/SDLC for Serial Connections
BSC 2780, 3780, 3270 (HPAD, TPAD)
QLLC X.25 (IBM NPSI)
AS/400 5494 Communication Server
TN 3270 Remote Server

Service Provisioning

SNMP v1, v3
Telnet
TFTP
CLI
Embedded Web HTTPD
SSH2 Server
OS Image Management
Configuration Management

Hardware Features

Space saving desktop base unit with two expansion slots for cards and 2 internal slots.

1 CTP Management Port (up to 115.2 kbps)
1 Universal High Speed Serial Port
2 Auto-sensing 10/100BaseT Ethernet Ports
MPC8270 PowerPC Processor
64 MB SDRAM
16MB of non-volatile flash
High MTBF universal external power supply

WAN and Data Cards

T1/FT1 Channelized Data Card
E1/FE1 Channelized, 75 Ohm Data Card
E1/FE1 Channelized 120 Ohm Data Card
56K DSU Card
1 Port Serial (DIM-based) Card
2 Port Serial Card
1 Port (2 B-channels) ISDN BRI Data Card

Voice Cards

4 Port FXS Voice Card
2 Port FXS Voice Card
4 Port FXO Voice Card
2 Port E&M Voice Card
1 Port (2 B-channels) ISDN BRI Voice Card

Option cards

V.90 Modem Card
Encryption Acceleration Card

Physical Dimensions

Height: 2.6 in. (6.6 cm)
Width: 8.4 in. (21.3 cm)
Depth: 12.3 in (31.2 cm)
Weight: 7.4 lb (3.36kg) unloaded, 8 lb
(3.63kg) fully loaded

Power Requirements

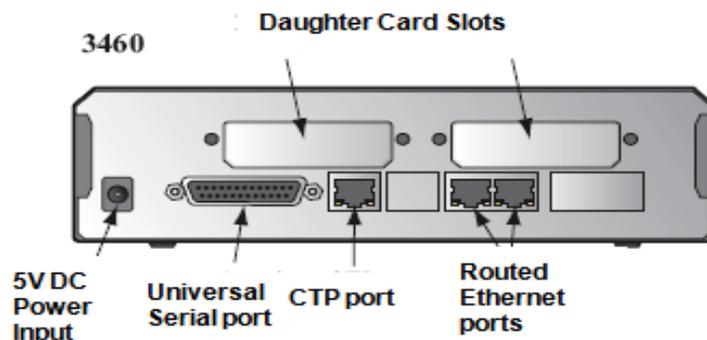
100 - 240 VAC, 60/50 Hz, 1.1 - 0.6 Amps,
30 watts external

Environmental

Operating Temperature: 32 ° to 104°F
(0° to 40 °C)
Storage Temperature: -40 to 158 °F
(-40 °to 70 °C)
Relative Humidity: 5% to 90%,
non-condensing

Regulatory Compliance

Safety Certifications: UL1950 3rd Edition,
CUL/CSA No.950-95 3rd Edition, IEC 950
2nd Edition Amendment 1, 2, 3, & 4 (CB
Scheme), EN60950 Amendment 1, 2 & 3
EMC Certifications: FCC Part 15 Class
A, Canadian IC Class A, CISPR 22 Class
A, EN55022: 1997 Class A, EN50082-1
(EN55024)
Telecom Certifications: FCC Part 68,
Industry Canada CS-03, CTR-2, CTR-4,
CTR-12, CTR-13, Country Specific
(contact your local sales representative)



Vanguard Networks offers a full range of network lifecycle services. Service may differ from country to country.
Contact your local Vanguard Networks representative for details or access our web site at: www.vanguardnetworks.com