Data Sheet

Cisco VG248 Analog Phone Gateway

Overview

The Cisco VG248 Analog Phone Gateway is a mixed-environment solution, enabled by Cisco AVVID (Architecture for Voice, Video and Integrated Data), which allows organizations to support their legacy analog devices while taking advantage of the new opportunities afforded through the use of IP telephony. The Cisco VG248 is a high-density gateway for using analog phones, fax machines, modems, voice mail systems, and speakerphones within an enterprise voice system based on Cisco CallManager. It is advantageous to have these devices tightly integrated with the rest of the IP-based phone system, for increased manageability, scalability, and cost-effectiveness (see Figure 2).

The Cisco VG248 offers 48 fully featured analog phone lines to be used as extensions to the Cisco CallManager system in a very compact 19-inch rack-mount chassis.

Figure 1
Cisco VG248 Analog Phone Gateway

Key Features and Benefits

Analog phones—Full-feature analog phone connectivity is needed when the infrastructure (wiring) or application does not support or require IP phones. Full-featured analog phone lines allow organizations to deploy IP telephony without having to purchase IP phones for all the users.

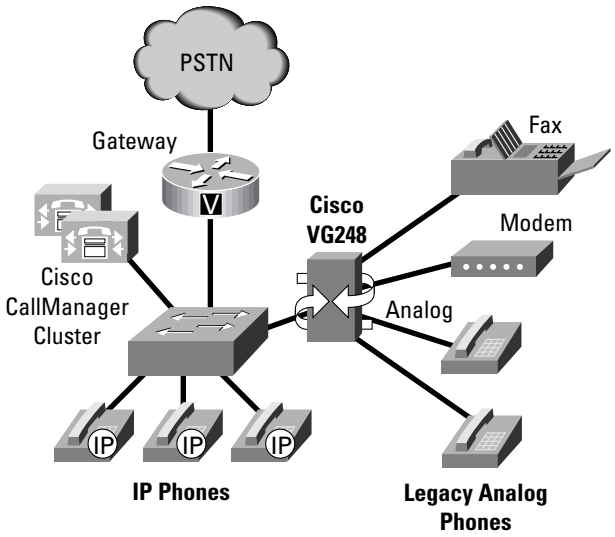
Fax and modem—Fax machine and modem connectivity are required in many locations for business needs, and the Cisco VG248 is the ideal device to provide the lines for them. Fax machine and modem connectivity allows organizations to support these legacy devices alongside the New World IP telephones.

Voice mail—Many legacy voice mail systems require analog and Simple Messaging Desktop Interface (SMDI) connectivity. Voice mail support allows support for legacy voice mail systems with Cisco CallManager in more configurations and with higher reliability than was previously possible.

Investment protection—Customers can continue to use existing phones, fax machines, and voice mail systems while taking advantage of IP telephony.

Reduced barrier to entry—Providing a low-cost alternative for low-end analog phones, organizations can take advantage of IP telephony with a lower overall investment in this new technology.

Figure 2
Analog Device Integration with Cisco VG248



Analog Phone Connectivity

The Cisco VG248 is ideal for implementations in which it is necessary to use analog phones because it provides a high level of functionality at those locations, including:

- Caller ID—The Cisco VG248 supports caller ID (both name and number), so users can tell who is calling before answering the phone.
- Message-waiting light—The Cisco VG248 supports two methods of analog light activation: high-DC voltage (message-waiting indicator light) and frequency-shift-key (FSK) messaging, as well as stuttered dial tone for phones without a visual indicator. These schemes are used by private branch exchange (PBX) systems and central offices, respectively.
- Call waiting—When on a call, if a new call comes in the user hears an audible tone and can "click over" to the new caller.
- Caller ID on call waiting—The user can see who is calling before deciding whether to take the new call.
- Transfer—Both blind and supervised transfers are supported, using the standard Bellcore flash hook method.
- Conference—Conference calls can be initiated from an analog phone using flash hook or feature access codes, and the Cisco CallManager will direct the devices to a media resource for the conference call. Up to six parties can participate.
- Feature access codes—More advanced features can be activated using feature access codes.
- Speed dial—A user can set up commonly dialed numbers using the Cisco CallManager Web interface and then dial these numbers directly from an analog phone.
- Call forward all—Calls can be forwarded to a number within the dial plan.
- Redial—A simple last-number redial can be activated from analog phones connected to the Cisco VG248.
- Cisco SoftPhone support—Cisco SoftPhone functionality is supported with analog phones.

Fax and Modem Connectivity

The Cisco VG248 supports legacy fax machines and modems. When using fax machines, the Cisco VG248 uses the Cisco fax-relay technology to transfer faxes across the network with high reliability using less bandwidth than a voice call. Any modems can be connected to the Cisco VG248.

Voice Mail Connectivity

The Cisco VG248 generates call information in an SMDI format for all calls ringing on any of the 48 analog lines connected to it. It will also pass on SMDI from other Cisco VG248s, or from a legacy PBX to the voice mail system. Any commands for message-waiting indicators will be sent to the Cisco CallManager and to any other attached SMDI hosts.

This mechanism allows for many new configurations when using SMDI-based voice mail systems, including:

- A single voice mail system to be shared between Cisco CallManager and a legacy PBX (see Figure 3)
- Voice mail and Cisco VG248 to function remotely in a centralized call-processing model
- A single voice mail system to be used by multiple clusters, by using one Cisco VG248 per cluster
- Multiple voice mail systems to be used by a single cluster, because SMDI is being generated by Cisco VG248 rather than Cisco CallManager
- Reliability for SMDI links using Cisco CallManager failover
- Scalability via linking Cisco VG248s (see Figure 4)

Figure 3
Integration of Legacy Voice Mail and Legacy PBX Using SMDI

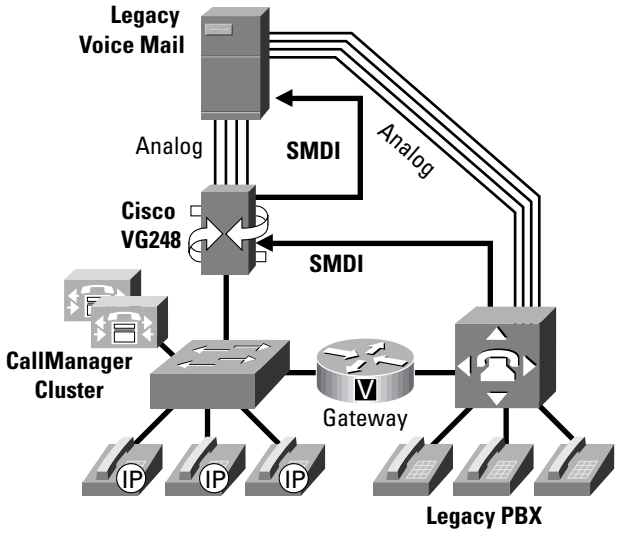
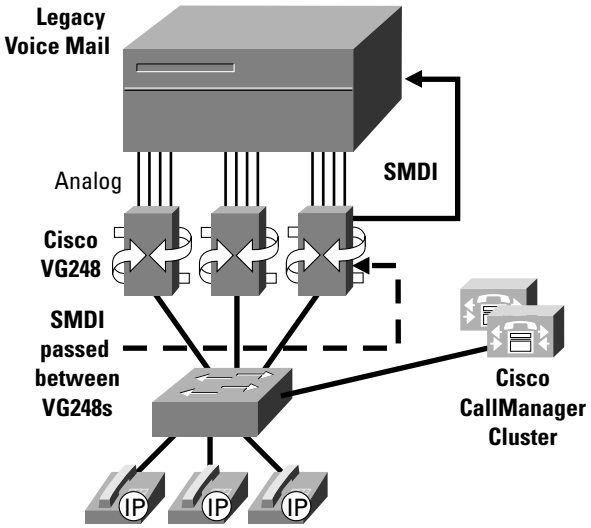


Figure 4
Analog Voice Mail Scalability



Protocols Supported

- Skinny Client Control Protocol (SCCP)
- Real-Time Transport Protocol (RTP)
- Trivial File Transfer Protocol (TFTP)
- File Transfer Protocol (FTP) (for firmware upgrades)
- Hypertext Transfer Protocol (HTTP) server (status information only)
- Simple Network Management Protocol (SNMP)
- Telnet
- Dynamic Host Configuration Protocol (DHCP)
- Domain Name System (DNS)
- Cisco CallManager 3.1
- Cisco CallManager redundancy support
- Call survivability
- Music on hold
- Coder/decoder (codec) support, G.711 or G.729a

Technical Specifications

Power	100–240 VAC, 50–60 Hz
Talk battery	–35V
Ringing voltage	46V rms with a 14V DC offset
Loop current	21 mA
Message-waiting voltage	93V DC (one second on, one second off)
Maximum line length	5000 feet or 415 ohms (on-premise only)
REN equivalence	3 (maximum 2 off hook)
Connectors	Two RJ-21 female
Off-hook detect	Loop start only
Dialing	Dual tone multifrequency (DTMF) only

Ordering Information

Product Number: VG248

Product Description: Cisco VG248 Analog Phone Gateway

Regulatory Compliance

Product bears CE Marking indicating compliance with the 89/366/EEC and 73/23/EEC directives, including the following safety and EMC standards:

Safety Compliance	EMC Compliance
UL 1950	FCC Part 15 (CFR 47) Class A
CSA C22.2 No. 950	ICES 003 Class A
EN 60950	CISPR22 Class A
IEC 60950	AS/NZS 3548 Class A
AS/NZS 3260	VCCI Class A
TS 001	EN55022 Class A
	EN 55024
	EN 50082-1
	ETS 300 386
	EN 61000-3-2
	EN 61000-3-3

Physical Specifications

Dimensions (H x W x D)	1.75 x 17.25 x 16.75 inches
Weight	14 lb 9 oz

Network Management

Basic MIB II (RFC 1213)

Interface MIB (RFC 1573)

RMON (Ethernet statistics group)

Cisco Discovery Protocol Management Information Base (CDP MIB)

Cisco Process MIB

Cisco Memory Pool MIB

Cisco Voice Interface MIB

Cisco Analog Voice Interface MIB

Cisco EnvMon MIB

Customized Regional Support

United States

United Kingdom

France

Germany

Austria

Switzerland

Italy

Environmental

Operating environment:	0° to 40°C (32° to 104°F), 10% to 95% noncondensing
Nonoperating environment:	–10° to 60°C (14° to 140°F)

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