

Cisco VGD 1 T3 Voice Gateway

Q. What is the Cisco® VGD 1 T3 Voice Gateway?

A. The Cisco VGD 1 T3 is a high-density voice gateway with a channelized T3 (CT3) voice-over-IP (VoIP) interface with support for Cisco Unified Communications Manager (UCM) and Cisco Unified Customer Voice Portal (CVP) applications with Media Gateway Control Protocol (MGCP). The Cisco VGD 1 T3 offers exceptional capacity in just two rack units (2RUs) and provides best-of-class voice and fax services. It supports the following features:

- Cisco UCM MGCP support (Cisco UCM 6.1(2) and later)
- Session Initiation Protocol (SIP) and H.323 support
- Cisco UCM media termination point (MTP), transcoder support, and Resource Reservation Protocol (RSVP) agent
- Support for three Cisco VGD 1 T3 systems per Cisco UCM server
- Future support for Cisco UCM conference bridge

Q. What is a channelized T3 interface?

A. A CT3 interface provides 672 equivalent DS-0 level channels (44.736 Mbps) or 28 T1 cables within the CT3 payload.

Q. Why is a channelized T3 interface important?

A. A T3 interface reduces the physical footprint for voice gateways at the customer's site and allows a single cable connection to replace multiple T1 cables, simplifying configuration and management and reducing recurring costs for public switched telephone network (PSTN) connectivity. Without a T3 interface, customers use a digital access and cross-connect system (DACS) to groom and aggregate individual T1 lines. (Note: Cisco does not offer any DACS products.) Cisco VGD 1 T3 is the only Cisco voice platform to include a T3 interface with Cisco UCM and MGCP support.

Q. How many VGD-FC feature cards does the Cisco VGD 1 T3 support?

A. The Cisco VGD 1 T3 supports six feature cards with a CT3 trunking application and seven feature cards when using DSP farm applications.

Q. How many PVDM2 packet voice DSP modules does the feature card support?

A. Each feature card can be populated with six PVDM2s.

Q. How many channels does each DSP support?

A. Each AS5X-PVDM2-64 DSP module supports 64 voice and fax channels.

Q. What voice codecs are supported by Cisco VGD 1 T3?

A. The Cisco VGD 1 T3 supports various codec types. The use of each affects the available voice channels as shown in Table 1.

Table 1. Supported Voice Codecs

Codec Type		AS5X-PVDM2-64 Channel Capacity per Module	VGD-FC Channel Capacity per Feature Card
Low Complexity	G.711 (μ-law, a-law)	64	384
	Fax and modem pass-through		

	Clear channel		
Medium Complexity	G.726 (32K, 24K, and 16K)	32	192
	T.38 and Cisco Fax Relay		
	G.729A and G.729AB		
High Complexity	G.723.1 (5.3K and 6.3K), G.723.1A (5.3K and 6.3K)	24	144
	G.728		
	GSM-AMR NB (all 8 rates)		
	Modem relay		

Q. How big is the Cisco VGD 1 T3?

A. The Cisco VGD 1 T3 occupies 2RUs, or 3.5 inches of rack space.

- H x W x D: 3.5 x 17.5 x 18.25 in. (18.9 x 44.5 x 46.4 cm)
- 38 lb (fully loaded with redundant power supply)

Q. Are AC and DC power options available for the Cisco VGD 1 T3?

A. The Cisco VGD 1 T3 supports redundant power supplies (RPS) for 110/220 VAC and –48V DC power inputs. AC power is the default, and DC power can be configured as an option.

Q. What is maximum power consumption of the Cisco VGD 1 T3?

A. The Cisco VGD 1 T3 uses green technology, with a maximum power consumption of 345 watts (W) per unit in the CT3 configuration with 672 active calls.

Q. What Cisco IOS® Software features are available?

A. The following Cisco IOS Software features are available for the Cisco VGD 1 T3:

- Basic Cisco IOS Software features are present in the IP Plus feature set.
- Applications requiring Triple Data Encryption Standard (3DES) encryption, such as Secure Shell (SSH) Protocol Version 2, need the IP Plus 3DES feature set.
- X.25, AppleTalk, and other non-IP protocols are supported on the Enterprise Plus feature set.
- Enterprise applications requiring 3DES encryption need the Enterprise Plus 3DES feature set.

Q. What additional feature licenses are required?

A. Basic feature licenses for voice features on the Cisco VGD 1 T3 are included in the price of the DSP cards. A feature license is required to use enhanced features as follows:

- Feature license for the Adaptive Multirate Narrow Band (AMR-NB) codec on the Cisco VGD 1 T3 (part number FRVGD-AMR-LIC): This feature enables connectivity between GSM, US-TDMA, and PDC networks. AMR is the Third-Generation Partnership Project (3GPP) mandatory standard codec for narrow-band speech and multimedia messaging services over GSM networks.
- Feature license for Cisco Unified Border Element support on the Cisco VGD 1 T3 (part number FR-INTVVSrv-5X): This feature provides Cisco Unified Border Element support for the Cisco VGD 1 T3 system.
- Feature license for VoiceXML on the Cisco VGD 1 T3 (part number FR-VXML-12): This feature provides 12 VoiceXML licenses: up to 240 per system.

Q. What does “VGD” stand for, and what is the actual name of the product?

A. “VGD” stands for digital voice gateway; the full name of the product is Cisco VGD 1 T3 Voice

Gateway.



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