

Voice Hardware Compatibility Matrix (Cisco 17/26/28/36/37/38xx, VG200, Catalyst 4500/4000, Catalyst 6xxx)

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Introduction

This document describes the relationship between routers, gateways, Cisco Catalyst switches, and voice network modules and cards.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

- To compare many of the network modules and interface cards, refer to the document [Release Notes for the Cisco 3700 Series Modular Access Routers for Cisco IOS Release 12.3\(4\)XD](#).
- Make certain that the version of Cisco IOS® System Software that you run supports the network module and interface card combination that you want to use. You can check Cisco IOS Software compatibility with the [Software Advisor](#) ([registered](#) customers only) tool.

Conventions

For more information on document conventions, refer to the [Cisco Technical Tips Conventions](#).

Voice Hardware Compatibility Overview

This table shows the relationship between routers, gateways, Catalyst switches, and voice network modules and cards:

Router Model

Voice Network Module (right)	1721	1750	1751/1760	VG200	261x, 2x, 5x	2600XM	2691	2801	2811, 2821, 2851	ICS 7750	3620	3640/40A	3660	37xx	3825, 3845
Voice Interface Card (VIC) (below)				6											
NM-1V ⁵ , NM-2V ⁵	No	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	No
NM-HDV	No	No	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
NM-HDA-4FXS , EM-HDA-4FXO , EM-HDA-8FXS	No	No	No	No	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes
MRP	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No
NM-HDV-FARM	No	No	No	Yes	Yes ¹	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes
NM-HDV2	No	No	No	No	No	Yes	Yes	No	Yes	No	No	No	No	Yes	Yes
NM-HD-1V , NM-HD-2V , NM-HD-2VE ⁴	No	No	No	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes
EVM-HD-8FXS/DID , EM-4BRI-NT/TE , EM-HDA-8FXS , EM-HDA-6FXO , EM-HDA-3FXS/4FXO	No	No	No	No	No	No	No	No	Yes ⁷	No	No	No	No	No	Yes
Voice Advanced Integration Module (AIM-VOICE)	No	No	No	No	Yes	Yes	Yes	No	No	No	No	No	Yes ³	Yes	No
Voice WAN Interface Cards (VWICs) without Network Modules	Yes	No	Yes	No	Yes ²	Yes ²	Yes ²	Yes	Yes	Yes	No	No	No	Yes ²	Yes
VICs without Network Modules	No	Yes	Yes	No	No	No	No	Yes	Yes	Yes	No	No	No	No	Yes
Switch Model	Support Features														
Catalyst 4500/4000 Access Gateway Module	WAN Interface Cards (WIC), VICs, Digital Signal Processors (DSP) and IP phone inline power cards														
Catalyst 6500/6000	T1/E1 trunk modules, Foreign Exchange Station (FXS) modules, IP phone inline power cards, and the Communications Media Module														

Note:

- ¹There is support on the Cisco 2650 and 2651, but not on the 261x and 262x.
- ²VWICs without network modules have support on these platforms only if you have installed [AIM-VOICE-30](#) or [AIM-ATM-VOICE-30](#).
- ³On the Cisco 3660, the AIM-VOICE-30 and AIM-ATM-VOICE-30 products only have support when there is also a [multiservice interchange \(MIX\) daughter card](#) installed.
- ⁴The NM-HD-2VE interfaces have feature parity with the NM-HDV. However, there is currently no support on the NM-HD-xx for:
 - Modem relay

There is support for the G.168 echo cancellation (ECAN) in Cisco IOS Software Release 12.3(4)XD, Cisco IOS Software Release 12.3(7)T, and later. There is support for transcoding and conferencing

services in Cisco IOS Software Release 12.3(8)T and later.

- ⁵The NM-HD-1V and NM-HD-2V have feature parity with the NM-1V and NM-2V. However, there is currently no support on NM-1V and NM-2V for:
 - Trunked ATM Adaptation Layer 2 (AAL2) on analog ports
 - Universal Foreign Exchange Office (FXO) (VIC2-xFXO) voice cards with software-selectable Centralized Automated Message Accounting (CAMA)
 - Any VIC2 cards, such as VIC2-2BRI-NT/TE, VIC2-2FXS, VIC2-2E/M, and VIC-4FXS/Direct Inward Dial (DID) cards
 - The drop of DSPs on a Plain Old Telephone Service (POTS)-to-POTS call that stays within the network module
- ⁶These products have reached end of sale. Refer to the [End-of-Sale Announcement for the Cisco VG200 Access Gateway](#).
- ⁷Only the Cisco 2821 and 2851 models support the EVM-HD-8FXS/DID.

The tables below show the router or gateway models that support the voice network modules and the VICs. For more information on the modules and cards, which includes Cisco IOS Software support, click the link for the appropriate module or card.

Cisco 17xx, VG200, 26xx, and 2800 Platforms Matrix

Routers/Gateways																		
Model	1721	1750	1751, 1760	VG200 ⁵		261x, 2x, 5x		2600XM, 2691					2801	2811, 2821, 2851				
Voice Network Module (right)	Not Used	Not Used	Not Used	NM-1V 4	NM-HDV	NM-1V 4	NM-HDV	NM-1V 4	NM-HD-1V 4	NM-HD-2VE 3	NM-HDV	NM-HDV2	Not Used		NM-HD-2VE 3	NM-HDV	NM-HDV2	Chassis slot
VIC (below)				NM-2V 4		NM-2V 4		NM-2V 4	NM-HD-2V 4									
VIC-2FXO, EU	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2FXO-M1/M2/M3	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2FXS	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2E/M	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2BRI-S/T-TE	No	No	No	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2BRI-NT/TE	No	No	Yes	No	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2DID	No	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
VIC-2CAMA	No	No	No	No	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-1J1	No	No	No	No	No	No	Yes	No	No	No	Yes	Yes	No	No	No	Yes	Yes	No
VIC-4FXO-M1	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
VIC-4FXS/DID	No	No	Yes	No	No	No	No	No	Yes ⁷	Yes ⁷	No	Yes ⁷	Yes	Yes ⁷	Yes ⁷	Yes ⁷	No	Yes ⁷
VIC2-4FXO (FXO/CAMA)	No	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
VIC2-2FXO (FXO/CAMA)	No	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
VIC2-2FXS	No	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
VIC2-2E/M	No	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
VIC2-2BRI- NT/TE	No	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes

VVIC-xMFT-E1 (with or without drop and insert [DI])	Yes ⁶	No	Yes	No	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
VVIC-1MFT-G703	Yes ⁶	No	Yes	No	No	No	No	No	No	No	No	Yes	Yes	No	No	No	Yes	Yes
VVIC-2MFT-G703	Yes ⁶	No	Yes	No	Yes	No	Yes	No	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
VVIC-xMFT-T1 (with or without DI)	Yes ⁶	No	Yes	No	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

Note:

- ³The NM-HD-2VE interfaces have feature parity with the NM-HDV. However, there is currently no support on the NM-HD-xx for:
 - Modem relay

There is support for the G.168 ECAN in Cisco IOS Software Release 12.3(4)XD, Cisco IOS Software Release 12.3(7)T, and later. There is support for transcoding and conferencing services in Cisco IOS Software Release 12.3(8)T and later.

- ⁴The NM-HD-1V and NM-HD-2V have feature parity with the NM-1V and NM-2V. However, there is currently no support on NM-1V and NM-2V for:
 - Trunked AAL2 on analog ports
 - Universal FXO (VIC2-xFXO) voice cards with software-selectable CAMA
 - Any VIC2 cards, such as VIC2-2BRI-NT/TE, VIC2-2FXS, VIC2-2E/M, and VIC-4FXS/DID cards
 - The drop of DSPs on a POTS-to-POTS call that stays within the network module
- ⁵These products have reached end of sale. Refer to the [End-of-Sale Announcement for the Cisco VG200 Access Gateway](#).
- ⁶This configuration supports data applications only.
- ⁷On this platform series and network module type, the VIC-4FXS/DID card currently does not support the DID mode of operation. The voice ports only operate as FXS interfaces. Support for both modes of operation will be available in Cisco IOS Software Release 12.3(14)T. If analog DID is necessary at this time, use the VIC-2DID product instead.

Cisco ICS 7750, 36xx, 37xx, and 38xx Platforms Matrix

Routers/Gateways																		
Model	ICS 7750	3620		3640/40A, 3660				37xx					3825, 3845					
Voice Network Module (right)	MRP	NM-1V 4	NM-HDV	NM-1V 4	NM-HD-1V 4	NM-HD-2VE 3	NM-HDV	NM-1V 4	NM-HD-1V 4	NM-HD-2VE 3	NM-HDV	NM-HDV2	NM-HD-1V 4	NM-HD-2VE 3	NM-HDV	NM-HDV2	Chassis slot	
VIC (below)		NM-2V 4		NM-2V 4	NM-HD-2V 4			NM-2V 4	NM-HD-2V 4				NM-HD-2V 4					
VIC-2FXO, EU	No	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2FXO-M1/M2/M3	Yes	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2FXS	Yes	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2E/M	Yes	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2BRI-S/T-TE	No	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2BRI-NT/TE	Yes	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No
VIC-2DID	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
VIC-2CAMA	No	Yes	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No

VIC-1J1	No	No	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No	Yes	Yes	No
VIC-4FXO-M1	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
VIC-4FXS/DID	Yes	No	No	No	Yes ⁷	Yes ⁷	No	No	Yes ⁷	Yes ⁷	No	Yes ⁷	Yes ⁷	Yes ⁷	No	Yes ⁷	Yes ⁷
VIC2-4FXO (FXO/CAMA)	Yes	No	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
VIC2-2FXO (FXO/CAMA)	No	No	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
VIC2-2FXS	No	No	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
VIC2-2E/M	Yes	No	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
VIC2-2BRI- NT/TE	Yes	No	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
VVIC-xMFT-E1 (with or without DI)	Yes ⁹	No	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
VVIC-1MFT-G703	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	Yes	Yes
VVIC-2MFT-G703	No	No	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes
VVIC-xMFT-T1 (with or without DI)	Yes ⁹	No	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

Note:

- ³The NM-HD-2VE interfaces have feature parity with the NM-HDV. However, there is currently no support on the NM-HD-xx for:

- o Modem relay

There is support for the G.168 ECAN in Cisco IOS Software Release 12.3(4)XD, Cisco IOS Software Release 12.3(7)T, and later. There is support for transcoding and conferencing services in Cisco IOS Software Release 12.3(8)T and later.

- ⁴The NM-HD-1V and NM-HD-2V have feature parity with the NM-1V and NM-2V. However, there is currently no support on NM-1V and NM-2V for:

- o Trunked AAL2 on analog ports
- o Universal FXO (VIC2-xFXO) voice cards with software-selectable CAMA
- o Any VIC2 cards, such as VIC2-2BRI-NT/TE, VIC2-2FXS, VIC2-2E/M, and VIC-4FXS/DID cards
- o The drop of DSPs on a POTS-to-POTS call that stays within the network module

- ⁷On this platform series and network module type, the VIC-4FXS/DID card currently does not support the DID mode of operation. The voice ports only operate as FXS interfaces. Support for both modes of operation will be available in Cisco IOS Software Release 12.3(14)T. If analog DID is necessary at this time, use the VIC-2DID product instead.

- ⁹The ICS 7750 *does not* support VVIC-2MFT-T1-DI and VVIC-2MFT-E1-DI cards with DI.

DSP Module Support Matrix

Routers/Gateways													
Model (right)	1750	1751/1760	VG200 5	261x, 2x, 5x	2600XM, 2691	2801	2811, 2821, 2851	ICS 7750	3620	3640/40A	3660	37xx	3825, 3845
DSP Module (below)													
AIM-VOICE-30			No	Yes	Yes	No	No		No	No	Yes ³	Yes	No
AIM-ATM-VOICE-30			No	Yes	Yes	No	No		No	No	Yes ³	Yes	No
NM-HDV-FARM			Yes	Yes ¹	Yes	No	Yes		No	Yes	Yes	Yes	Yes

PVDM-12	No	No	Yes	Yes	Yes	No	Yes ⁶	No	Yes	Yes	Yes	Yes	Yes ⁶
DSP-HDA-16	No	No	No	Yes	Yes	No	Yes ⁷	No	No	Yes	Yes	Yes	Yes ⁷
PVDM-4⁵	Yes	No	No	No	No	No	No	Yes	No	No	No	No	No
PVDM-8⁵	Yes	No	No	No	No	No	No	Yes	No	No	No	No	No
PVDM-256K-4	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
PVDM-256K-8	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
PVDM-256K-16	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
PVDM-256K-20	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
PVDM-256K-16HD	No	Yes	No	No	No	No	No	No	No	No	No	No	No
PVDM-256K-20HD	No	Yes	No	No	No	No	No	No	No	No	No	No	No
PVDM2-8	No	No	No	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes
PVDM2-16	No	No	No	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes
PVDM2-32	No	No	No	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes
PVDM2-48	No	No	No	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes
PVDM2-64	No	No	No	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes

Note:

- ¹There is support on the 2650 and 2651, but not on the 261x and 262x.
- ³On the Cisco 3660, the AIM-VOICE-30 and AIM-ATM-VOICE-30 products only have support when there is also a [multiservice interchange \(MIX\) daughter card](#) installed.
- ⁵These products have reached end of sale. Refer to the [End-of-Sale Announcement for the Cisco VG200 Access Gateway](#).
- ⁶The PVDM-12 only has support on the Cisco 2811, 2821, 2851, 3825, and 3845 when the PVDM-12 is installed on a NM-HDV-FARM or NM-HDV network module. The voice router itself only supports the PVDM2 series of DSP cards.
- ⁷The DSP-HDA-16 only has support on the Cisco 2811, 2821, 2851, 3825, and 3845 when DSP-HDA-16 is installed on a [NM-HDA-4FXS](#) network module. The voice router itself only supports the PVDM2 series of DSP cards.

Catalyst Support Matrix

This table shows the relationship between Catalyst switches, voice blades, and VICs.

Note: The VICs not listed in this matrix do *not* receive support from the Catalyst switches.

Product Name	Catalyst Switches	
	Catalyst 4500/4000 Access Gateway Module	Catalyst 6500/6000 (that runs Catalyst OS [CatOS])
WS-X6608-T1/E1 Provides a high-end T1 gateway to the Public Switched Telephone Network (PSTN) or legacy Private Branch Exchanges (PBXs) and network-based voice services	No	CatOS 5.5(1)

Cisco - Voice Hardware Compatibility Matrix (Cisco 17/26/28/36/37/38xx, VG200, Catalyst 4500/4000, Catalyst 6xxx)

WS-X6624-FXS Connects legacy analog telephony equipment such as phones, speaker phones, and faxes	No	CatOS 5.5(3)
WS-X6348-RJ45V Inline power 10/100BASE-T Ethernet switching modules. Equivalent to a WS-X6348-RJ45 10/100BASE-T Ethernet switching module with inline power daughter module WS-F6K-VPWR=	No	CatOS 5.5(1)
WS-SVC-CMM Provides up to 18 T1/E1 gateways to the PSTN or legacy PBXs and network-based voice services	No	CatOS 7.3(1)
WS-X4148-RJ45V Inline power 10/100BASE-T Ethernet switching modules	CatOS 6.1(1)	No
VIC-2FXS Two-port FXS VIC	Cisco IOS Software Release 12.1(3a)XI	No
VIC-2FXO Two-port FXO VIC	Cisco IOS Software Release 12.1(3a)XI	No
VIC-2FXO-EU Two-port FXO for Europe	Cisco IOS Software Release 12.1(3a)XI	No
VIC-2BRI-S/T-TE Two-port ISDN BRI VIC, S/T interface, terminal equipment	Yes	No
VWIC-1MFT-T1 One-port RJ-48 multiflex trunk T1	Cisco IOS Software Release 12.1(3a)XI	No
VWIC-2MFT-T1 Two-port RJ-48 multiflex trunk T1	Cisco IOS Software Release 12.1(3a)XI	No

VWIC-2MFT-T1-DI Two-port RJ-48 multiflex trunk E1 with DI	Cisco IOS Software Release 12.1(3a)XI	No
VWIC-1MFT-E1 One-port RJ-48 multiflex trunk E1	Cisco IOS Software Release 12.1(3a)XI	No
VWIC-2MFT-E1 Two-port RJ-48 multiflex trunk E1	Cisco IOS Software Release 12.1(3a)XI	No
VWIC-2MFT-E1-DI Two-port RJ-48 multiflex trunk E1 with DI	Cisco IOS Software Release 12.1(3a)XI	No


Note: The Cisco IOS Software releases provided are typically the minimum version necessary to support the platform, module, or feature in question. For a complete list of Cisco IOS Software releases that support a feature, module, interface card, or chassis, use the [Software Advisor](#) ([registered](#) customers only) tool.

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Related Information

- [White Paper: Cisco IOS Reference Guide](#)
- [Product Bulletin - No. 537, Types of Cisco IOS Software Releases](#)
- [Voice Features for Cisco 3600 Series Routers](#)
- [Voice Network Module and Voice Interface Card Configuration Note](#)
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