

# Understanding NM-1V and NM-2V Voice Network Modules

Document ID: 8016

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## Introduction

Cisco Voice Network Modules provide enterprises, managed service providers, and service providers the ability to directly connect the public switched telephone network (PSTN) and legacy telephony equipment to existing Cisco 2600, Cisco 3600, and Cisco 3700 routers. The NM-1V and NM-2V carrier modules support Voice Interface Cards (VICs) to provide this connectivity.

**Note:** The NM-1V and NM-2V carrier modules do not support WAN Interface Cards (WICs), which are data-only interface cards. The "V" in the product name indicates that these are voice carrier modules. The WIC carrier module product numbers are NM-1W and NM-2W.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

The information in this document is based on the following hardware versions:

- Cisco NM-1V One Voice/Fax Interface Card Slot Network Module (supports two voice calls)
- Cisco NM-2V Two Voice/Fax Interface Card Slot Network Module (supports four voice calls)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

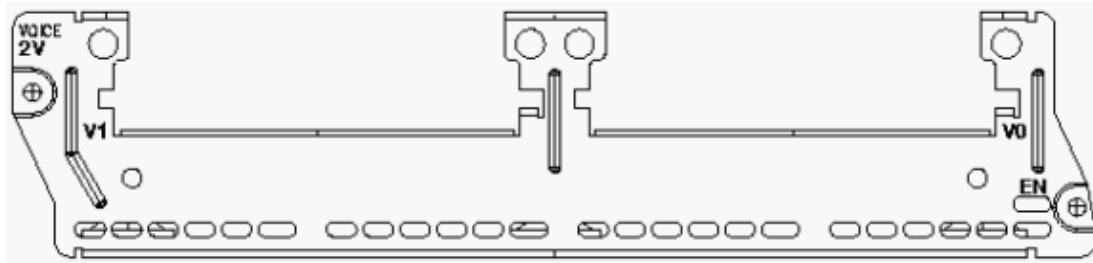
### Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

# Network Diagram

The following diagram illustrates the NM-2V carrier module.

## NM-2V Voice Network Module



## Features

The following features are available with the components listed in this document:

- Voice/fax over IP
- Router-based, modular design
- High-performance digital signal processing (DSP) architecture
- Cisco IOS® quality of service (QoS) features: Resource Reservation Protocol (RSVP), weighted fair queuing (WFQ), fragmentation, and interleave
- Compliant with the H.323 standard for audio and videoconferencing
- Works with existing phone and fax equipment
- Voice features require a Cisco IOS Plus feature set

Feature support across the 2600, 3600, and 3700 VIC NM-1V and NM-2V includes the following:

- Foreign Exchange Office (FXO) answer supervision
- FXO disconnect supervision
- Cisco Echo Cancellation (ECAN)
- Connection trunk
- Connection private line, automatic ringdown (PLAR)
- Cisco Hoot and Holler
- Cisco Tool Command Language (TCL) Interactive Voice Response (IVR) Version 2.0
- Transparent Common Channel Signaling (T-CCS)
- Busyout (local voice busyout [LVBO] and advanced voice busyout [AVBO])
- Pulse dialing
- Inbound hookflash (Foreign Exchange Station [FXS])
- Outbound hookflash (FXO)
- Caller ID (FXS)
- Caller ID (FXO)<sup>1</sup>
- Cisco Fax Relay
- T.38 Fax Relay
- T.37 fax store and forward (S&F)
- Fax passthrough
- Modem passthrough
- Dual tone multifrequency (DTMF) relay

**Note:** <sup>1</sup>This is supported on VIC-2FXO-Mx cards only.

# Platform Support

The following table details the NM-1V and NM-2V platform support.

Cisco IOS Support	VG200	2600	2600XM/ 2650XM	2691	3620, 3640	3660	3725/3745
NM-1V	12.1(1)XE, 12.1(3)T, 12.1(5)XM, 12.2(1), 12.2(2)T, 12.3(1)	11.3(2)XA, 11.3(3)T, 12.0(1)T, 12.0(1), 12.0(3)T, 12.0(5)XK, 12.0(7)T, 12.1(1)T, 12.1(1), 12.1(5)YB, 12.1(5)YD, 12.2(1), 12.2(2)T, 12.2(2)XT, 12.2(11)YT, 12.3(1)	12.1(14), 12.2(8)T1, 12.2(11)T, 12.2(11)YT, 12.2(12), 12.2(15)ZJ, 12.3(1), 12.3(2)T	12.2(8)T1, 12.2(11)YT, 12.2(15)ZJ, 12.3(1), 12.3(2)T	11.3(1)T, 12.0(1)T, 12.0(1), 12.0(2)T, 12.0(2)XC, 12.0(2)XD, 12.0(3)T, 12.0(5)XK, 12.0(7)T, 12.0(7)XK, 12.1(1)T, 12.1(1), 12.1(5)YB, 12.1(5)YD, 12.2(1), 12.2(2)T, 12.1(1), 12.1(5)YB, 12.1(5)YD, 12.2(1), 12.2(2)T, 12.2(2)XT, 12.2(8)T, 12.2(11)YT, 12.2(15)ZJ, 12.3(1), 12.3(2)T	12.0(5)T, 12.0(5)XK, 12.0(7)XK, 12.1(1)T, 12.1(1), 12.1(5)YB, 12.1(5)YD, 12.2(1), 12.2(2)T, 12.2(2)XT, 12.2(8)T, 12.2(11)YT, 12.2(15)ZJ, 12.3(1), 12.3(2)T	12.2(8)T1, 12.2(11)YT, 12.2(15)ZJ, 12.3(1), 12.3(2)T
NM-2V	12.1(3)T 12.1(5)XM, 12.2(1), 12.2(2)T, 12.3(1)	11.3(2)XA, 11.3(3)T, 12.0(1)T, 12.0(1), 12.0(3)T, 12.1(1)T, 12.1(1), 12.1(5)YB, 12.1(5)YD, 12.2(1), 12.2(2)T, 12.2(2)XT, 12.2(11)YT, 12.3(1)	12.1(14), 12.2(8)T1, 12.2(11)T, 12.2(11)YT, 12.2(12), 12.2(15)ZJ, 12.3(1), 12.3(2)T	12.2(8)T1, 12.2(11)YT, 12.2(15)ZJ, 12.3(1), 12.3(2)T	12.3(1) 11.3(1)T, 12.0(1)T, 12.0(1), 12.0(2)T, 12.0(2)XC, 12.0(2)XD, 12.0(3)T, 12.0(5)XK, 12.0(7)T, 12.0(7)XK, 12.1(1)T, 12.1(1), 12.1(5)YB, 12.1(5)YD, 12.2(1), 12.2(2)T, 12.2(2)XT, 12.2(11)YT, 12.2(15)ZJ, 12.3(1)	12.0(5)T, 12.0(5)XK, 12.0(7)XK, 12.1(1)T, 12.1(1), 12.1(5)YB, 12.1(5)YD, 12.2(1), 12.2(2)T, 12.3(1), 12.3(2)T	12.2(8)T1, 12.2(11)YT, 12.2(15)ZJ, 12.3(1), 12.3(2)T

**Note:** The Cisco IOS versions provided are typically the minimum versions required to support the platform, module, or feature in question. To find a complete list of Cisco IOS Software versions that support each feature, module, interface card, or chassis, refer to the Software Advisor (registered customers only) .

## Related Information

- **Voice Hardware Compatibility Matrix (Cisco 175x, 1760, 2600, 3600, 3700, VG200, Catalyst 4000, Catalyst 6500/6000)**
  - **Voice over IP for the Cisco 3600 Series Configuration Guide**
  - **Voice Technology Support**
  - **Voice and Unified Communications Product Support**
  - **Troubleshooting Cisco IP Telephony**
  - **Technical Support – Cisco Systems**
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Updated: Feb 02, 2006

Document ID: 8016

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