



SMDI Voice Mail Integration

Simplified Message Desk Interface (SMDI) defines a way for a phone system to provide voice-mail systems with the information needed to intelligently process incoming calls. Each time the phone system routes a call, it sends an EIA/TIA-232 message to the voice-mail system that tells it the line it is using, the type of call it is forwarding, and information about the source and destination of the call.

The SMDI-compliant voice-mail system connects to Cisco CallManager in two ways:

- Using a standard serial connection to the Cisco CallManager
- Using POTS line connections to a Cisco Access Analog Station gateway

This section covers the following topics:

- [SMDI Voice Mail Integration Requirements, page 22-1](#)
- [Port Configuration for SMDI, page 22-2](#)

SMDI Voice Mail Integration Requirements

The Cisco Messaging Interface service allows you to use an external voice-mail system with the Cisco CallManager 3.0 and later.

The voice-mail system must meet the following requirements:

- The voice-mail system must have a simplified message desk interface (SMDI) accessible with a null-modem EIA/TIA-232 cable (and an available serial port).
- The voice-mail system must use analog ports for connecting voice lines.

- The Cisco CallManager server must have an available serial port for the SMDI connection.
- A Cisco Access Analog Station Gateway, Cisco Catalyst 6000 24-port FXS Gateway, or Cisco VG200 Gateway must be installed and configured.
- Gateways are configured in a route pattern. See the “[Route Pattern Configuration](#)” chapter in the *Cisco CallManager Administration Guide* for more information.

Port Configuration for SMDI

Previous releases of Cisco CallManager required a specific configuration for voice-mail integration using the SMDI and the Cisco Messaging Interface. This older configuration method for FXS ports required each individual port of an analog access gateway (Cisco AS-2, Cisco AS-4, Cisco AS-8, or Cisco Catalyst 6000 24 Port FXS gateway) to be explicitly configured as a separate entry in a route group. The relative position within the route list/route group of each analog access port determined the SMDI port number reported by the Cisco Messaging Interface.

Beginning with Cisco CallManager Release 3.0(5), you can configure the SMDI port number through Cisco CallManager Administration.



Note

You can still use the older style of configuration for FXS ports for voice mail, as long as the new SMDIPortNumber fields in the port configuration window for analog access ports is not configured. If the SMDIPortNumber field is not configured, the default is 0. This default value applies for these fields for any upgrade of the current database configuration, and existing functionality is not affected.

To use the new SMDIPortNumber configuration, perform the following steps:

1. Modify each analog access port that connects to the voice-mail system and set the SMDIPortNumber equal to the actual port number on the voice-mail system to which the analog access port connects.

With this first step, you do not need to change any route lists/route groups. The newly configured SMDIPortNumber(s) override any existing route list/route group configuration that was set up for the devices that connect to the voice-mail system.

2. To take advantage of reduced Cisco CallManager signaling requirements with this new configuration, change each of the analog access devices that are in a route group set up for the older method of configuration from multiple entries that identify individual ports on the device to a single entry in the route group that identifies “All Ports” as the port selection.

The selection order of each of these device entries can be the same or different.

ReorderRouteList Service Parameter

An added mechanism allows selecting devices in a route group in a “round-robin” fashion. To take advantage of this feature, configure the devices as follows:

1. Configure all the analog access that connect to the voice-mail system in a single route group, with each device in the route group using “All Ports” and having the same selection order (that is, selection order 1).
2. Set the Cisco CallManager service parameter ReorderRouteList to T (True).

When a call is extended via the route list, Cisco CallManager offers it to the devices in the route group in sequential order. Then, Cisco CallManager re-orders the device list (route group) by taking the first device in the list and moving it to the end of the list.

The next call extended via the route list receives the re-ordered list, and thus extends the call to a different device (compared to the previous call). Each call attempt communicates with a subsequent device first. With this mechanism, use all devices in the group in a “round-robin” fashion instead of the current “top-down” only mechanism.

Enabling the ReorderRouteList service parameter does not affect route list/route configurations that have explicitly set different selection orders for devices in a route group for setting up an ordered device selection (that is, the older method of voice-mail configuration).

CMI Redundancy

Most voice-mail systems relying on an EIA/TIA-232 serial cable (previously known as a RS-232 cable) to communicate with phone systems only have one serial port. You can achieve CMI redundancy by running two or more copies of the Cisco Messaging Interface service on different servers in a Cisco CallManager cluster and using additional hardware including a data splitter described later in this section.

Each copy of CMI connects to a primary and backup Cisco CallManager and registers to the Cisco CallManager using the same VoiceMailDn and VoiceMailPartition service parameter values. The CMI with the higher service priority (the active CMI service) handles the SMDI responsibilities. If this CMI encounters problems, another one can take over. [Figure 22-1](#) illustrates one of many layouts that provides CMI redundancy.

Figure 22-1 CMI Redundancy



**Note**

In order to achieve CMI redundancy, you must have a device such as the data splitter as shown in [Figure 22-1](#) to isolate the SMDI messaging from the various CMI services. You cannot use an ordinary Y-shaped serial cable to combine the EIA/TIA-232 streams together.

The data splitter you connect to your voice-mail system, such as the B&B Electronics modem data splitter (models 232MDS and 9PMDS), must have the following characteristics:

- High reliability
- Bi-directional communication
- Minimal transmission delay
- No external software support (desired)
- No extra RS-232 control line operations (desired)

The 232MDS has two DB25 male ports and one DB25 female port. The 9PMDS is a DB9 version of this modem data splitter. These switches enable CMI redundancy with the following limitations when you set the `ValidateDNs` CMI service parameter to *Off*:

- SMDI messages (MWI messages) from voice-mail systems are broadcast to both CMIs. Both CMIs send MWI messages to the Cisco CallManager to which they are connected. This produces an extra load on the database and network traffic (if the CMI and Cisco CallManager are on different servers.)
- Two CMIs cannot transmit SMDI messages simultaneously. Under extreme circumstances, you may experience network failures that break your Cisco CallManager cluster into two unconnected pieces. In the unlikely event that this occurs, both copies of CMI may become active, leading to the possibility that they may simultaneously transmit SMDI messages to the voice-mail system. If this happens, the collision could result in an erroneous message to the voice-mail system, which may cause a call to be mishandled.

SMDI Configuration Checklist

Table 22-1 provides an overview of the steps required to integrate voice-mail systems using SMDI:

Table 22-1 SMDI Configuration Checklist

Configuration Steps	Related Procedures and Topics
<p>Step 1 Add and configure gateway ports.</p> <p>If you are configuring an Octel system and you are using a Cisco Catalyst 6000 24 Port FXS Analog Interface Module or AST ports, make sure to set the Call Restart Timer field on each port to 1234.</p>	<p>Adding Gateways to Cisco CallManager, <i>Cisco CallManager Administration Guide</i></p>
<p>Step 2 Create a route group, and add the gateway ports you configured in Step 1 to the route group.</p>	<p>Adding a Route Group, <i>Cisco CallManager Administration Guide</i></p>
<p>Step 3 Create a route list containing the route group configured in Step 2.</p>	<p>Adding a Route List, <i>Cisco CallManager Administration Guide</i></p>
<p>Step 4 Create a route pattern.</p>	<p>Adding a Route Pattern, <i>Cisco CallManager Administration Guide</i></p>
<p>Step 5 Install and configure the Cisco Messaging Interface service.</p>	<p>Service Parameters Configuration, <i>Cisco CallManager Administration Guide</i></p>
<p>Step 6 Configure CMI trace parameters.</p>	<p><i>Cisco CallManager Serviceability Administration Guide</i></p>
<p>Step 7 Configure your voice-mail system, and connect the voice-mail system to Cisco CallManager with an EIA/TIA-232 cable.</p>	<p>Refer to the documentation provided with your system.</p>

Where To Find More Information

Additional Cisco Documentation

- [Cisco Messaging Interface Configuration](#), *Cisco CallManager Administration Guide*
- [Service Parameters Configuration](#), *Cisco CallManager Administration Guide*
- *Cisco CallManager Serviceability Administration Guide*
- *Cisco IP Telephony Network Design Guide*