Setting Up a Serial (SMDI, MCI, or MD-110) TIMG Integration with Cisco Unity Connection

For detailed instructions for setting up a serial (SMDI, MCI, or MD-110) TIMG integration with Cisco Unity Connection, see the following sections in this chapter:

Task List to Create a Serial (SMDI, MCI, or MD-110) TIMG

Before doing the following tasks to integrate Unity Connection with the phone system using the T1 media gateway (TIMG), confirm that the Unity Connection server is ready for the integration after completing the installation following the steps as mentioned in the "Installing Cisco Unity Connection" chapter of the *Install, Upgrade, and Maintenance Guide for Cisco Unity Connection Release 15*, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/15/unified_messaging/guide/b_15cucumgx.html.

1. Review the system and equipment requirements to confirm that all phone system and Unity Connection server requirements have been met. See the Requirements section.

2. Plan how the voice messaging ports are used by Unity Connection. See the Planning the Usage of Voice Messaging Ports in Cisco Unity Connection chapter.

3. Program the phone system and extensions. See the Programming Phone System for a Serial TIMG Integration section.

4. Set up the TIMG units. See the Setting Up the TIMG Units scetion.

5. Create the integration. See the Creating an Integration with the Phone System section.

6. Test the integration. See the Testing the Integration chapter.

7. If this integration is a second or subsequent integration, add the applicable new user templates for the new phone system. See the Adding New User Templates for Multiple Integrations chapter.

Requirements

The serial (SMDI, MCI, or MD-110) TIMG integration supports configurations of the following components:

Phone System

- A phone system that supports the SMDI, MCI, or MD-110 serial protocols.

- T1 digital trunk interface card.
- The firmware must be configured to support T1 line-side signaling.

- T1 CAS connections to the TIMG units using the FXS/FSO or E&M protocol.

- One or more TIMG units (media gateways).

- The serial data port on the phone system connected to the serial port on the master TIMG unit with an RS-232 serial cable (which is available from Cisco).

Specifications for the serial cable are in *Connecting PBX-IP Media Gateway (PIMG) to the Serial Port of a PBX* at http://www.dialogic.com/support/helpweb/mg/tn117.htm.

We recommend that the serial cable have the following construction:

- A maximum of 50 feet (15.24 m) in length

- 24 AWG stranded conductors

- Low capacitance—for example, no more than 12 pF/ft (39.4 pF/m) between conductors

- At least 65 percent braided shield over aluminized polymer sleeve around conductors

- UL-recognized overall cable jacket insulation with low dielectric constant

- Braided shield fully terminated to and enclosed by a metal connector backshell

- Gold-plated connector contacts

- The voice messaging ports in the phone system connected by T1 digital lines (DS1 or "dry T1" digital lines only) to the ports on the TIMG units.

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Caution   T1 (or "wet T1") connections to the PSTN must be through an MTU, CSU, or other device that provides line isolation. Otherwise, the TIMG units may be damaged.

- The TIMG units connected to the same LAN or WAN that Unity Connection is connected to.

- If the TIMG units connect to a WAN, the requirements for the WAN network connections are:
    - For G.729a codec formatting, a minimum of 32.76 Kbps guaranteed bandwidth for each voice messaging port.

    - For G.711 codec formatting, a minimum of 91.56 Kbps guaranteed bandwidth for each voice messaging port.

• No network devices that implement network address translation (NAT).

• A maximum 200 ms one-way network latency.

• The phone system ready for the integration, as described in the documentation for the phone system.

Unity Connection Server

• Unity Connection installed and ready for the integration after completing the installation following the steps as mentioned in the "Installing Cisco Unity Connection" chapter of the *Install, Upgrade, and Maintenance Guide for Cisco Unity Connection Release 15*, available at https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/connection/15/unified_messaging/guide/b_15cucumgx.html.

• A license that enables the applicable number of voice messaging ports.

Centralized Voice Messaging

Unity Connection supports centralized voice messaging through the phone system, which supports various inter-phone system networking protocols including proprietary protocols such as Avaya DCS, Nortel MCDN, or Siemens CorNet, and standards-based protocols such as QSIG or DPNSS. Note that centralized voice messaging is a function of the phone system and its inter-phone system networking, not voicemail. Unity Connection supports centralized voice messaging as long as the phone system and its inter-phone system networking are properly configured.

Programming Phone System for a Serial TIMG Integration

If you use programming options other than those supplied in the following procedure, the performance of the integration may be affected.

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Caution   In programming the phone system, do not send calls to voice messaging ports in Unity Connection that cannot answer calls (voice messaging ports that are not set to Answer Calls). For example, if a voice messaging port is set only to Perform Message Notification, do not send calls to it.

Instruct the phone system technician to set up the phone system in the manner as directed in the following procedure.

Programming the Phone System for a Serial Integration with Unity Connection

Step 1   Program the analog lines connecting to the voice messaging ports on the TIMG units as a multiline hunt group.

Make sure that the phone system sends calls only to Unity Connection voice ports that are set to Answer Calls. Calls sent to a voice port not set to Answer Calls cannot be answered by Unity Connection and may cause other problems.

Step 2   Enable hookflash transfer capability on each analog line that connects to the voice messaging ports on the TIMG units.

Step 3   Enable caller ID (via SMDI, MCI, or MD-110) on each subscriber extension.

Step 4   For each subscriber extension, set the call forwarding options to the following:

- Unrestricted source
- Forward when the extension is not answered
- Forward when the extension is busy

Setting Up the TIMG Units

Do the following procedures to set up the analog TIMG units (media gateways) that are connected to the phone system.

These procedures require that the following tasks have already been completed:

- The phone system is connected to the TIMG units using T1 digital lines and the applicable RS-232 serial cable.

- The TIMG units are connected to a power source.

- The TIMG units are ready to be connected to the LAN or WAN.

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Caution   Because TIMG units have the same default IP address, you must set them up one at a time. Otherwise, you can experience IP address conflicts.

Fields that are not mentioned in the following procedures must keep their default values. For the default values of all fields, see the manufacturer documentation for the TIMG units.

Downloading TIMG Firmware Update Files for TIMG Units

SUMMARY STEPS

1. On a Windows workstation that have access to the TIMG units, go to the following link: http://software.cisco.com/download/navigator.html?mdfid=280082558&i=rm.
2. In the tree control on the Downloads Home page, expand **Unified Communications**> **Unified Communications Applications** > **Messaging** > **Cisco Unity and select Cisco Unity Telephony Integration**.
3. On the Log In page, enter your username and password, then select **Log In**.
4. On the Select a Release page, under **Latest Releases**, select the most recent release.
5. In the right column, select the version of the firmware for your TIMG units.
6. On the Download Image page, select **Download**.
7. On the Supporting Document(s) page, select **Agree**.
8. In the **File Download** dialog box, select **Save**.
9. In the **Save As** dialog box, browse to the Windows workstation that have access the TIMG units, browse to a directory where you want to save the file, and select **Save**.
10. In the Download Complete dialog box, select **Open**. The window for extracting the TIMG firmware update files appears.

11. Select **Extract**.

12. In the Extract dialog box, browse to the directory where you want the extracted files, and select **Extract**.

13. Close the window for the extracting application.

DETAILED STEPS

Step 1 On a Windows workstation that have access to the TIMG units, go to the following link: http://software.cisco.com/download/navigator.html?mdfid=280082558&i=rm.

> **Note** To access the software download page, you must be signed in to Cisco.com as a registered user.
>
> This procedure describes the steps when using Internet Explorer as your web browser. If you are using a different web browser, the steps may differ.

Step 2 In the tree control on the Downloads Home page, expand **Unified Communications**> **Unified Communications Applications** > **Messaging** > **Cisco Unity and select Cisco Unity Telephony Integration**.

Step 3 On the Log In page, enter your username and password, then select **Log In**.

Step 4 On the Select a Release page, under **Latest Releases**, select the most recent release.

Step 5 In the right column, select the version of the firmware for your TIMG units.

Step 6 On the Download Image page, select **Download**.

Step 7 On the Supporting Document(s) page, select **Agree**.

Step 8 In the **File Download** dialog box, select **Save**.

Step 9 In the **Save As** dialog box, browse to the Windows workstation that have access the TIMG units, browse to a directory where you want to save the file, and select **Save**.

Step 10 In the Download Complete dialog box, select **Open**. The window for extracting the TIMG firmware update files appears.

Step 11 Select **Extract**.

Step 12 In the Extract dialog box, browse to the directory where you want the extracted files, and select **Extract**.

Step 13 Close the window for the extracting application.

Setting Up the TIMG Units (Firmware Version 6.x)

Step 1 On the Windows workstation, add a temporary route to enable access to the TIMG units.

a) On the Windows Start menu, select **Run**.

b) Enter **cmd**, and press **Enter**. The Command Prompt window appears.

c) At the command prompt, enter **route add 10.12.13.74 <IP Address of Workstation>**, and press **Enter**.

For example, if the IP address of the workstation is 198.1.3.25, enter "route add 10.12.13.74<space>198.1.3.25" in the Command Prompt window.

d) Close the Command Prompt window.

Step 2 Connect a TIMG unit to the network.

Step 3 In the web browser, go to **http://10.12.13.74**.

Step 4 To sign in, enter the following case-sensitive settings.

Table 1: Sign-in Settings

Field	Setting
Username	Enter **admin**.
Password	Enter **IpodAdmin**.

Step 5   Select **OK**.

Step 6   On the System menu, select **Upgrade**.

Step 7   On the Upgrade page, under Browse for Upgrade File, select **Browse**.

Step 8   In the Choose File dialog box, browse to the directory on the Windows workstation that has the extracted TIMG firmware update files.

Step 9   Select **T1E1_<xx > .app** (where <xx> is multiple digits), and select **Open**.

Step 10   On the Upgrade page, select **Install File**.

Step 11   After the file is installed, a message prompting you to restart the TIMG unit appears. Select **Cancel**.

> **Caution**   Do not restart the TIMG unit until you are instructed to do so later in this procedure, even if the file installation fails. Restarting the TIMG unit at this step may prevent the TIMG unit from functioning correctly.

Step 12   Repeat Step 6 through Step 11 for the file T1E1_<xx>.fsh.

Step 13   On the System menu, select **Upgrade**.

Step 14   On the Upgrade page, under Browse for Upgrade File, select **Browse**.

Step 15   In the Choose File dialog box, browse to the file T1E1_<xx>.msd.

Step 16   Select **T1E1_<xx > .msd**, and select **Open**.

Step 17   On the Upgrade page, click **Install File**.

Step 18   After the file is installed, a message prompting you to restart the TIMG unit appears. Select **OK**.

Step 19   In the web browser, go to **http://10.12.13.74**.

Step 20   To sign in, enter the following case-sensitive settings.

Table 2: Sign-in Settings

Field	Setting
Username	Enter **admin**.
Password	Enter **IpodAdmin**.

Step 21   Select **OK**.

Step 22   On the Configure menu, select **Password**.

Step 23   On the Change Password page, enter the following settings.

Table 3: Change Password Page Settings

Field	Setting
Old Password	Enter **IpodAdmin**. (This setting is case sensitive.)

Field	Setting
New Password	Enter your new password. (This setting is case sensitive.)
Confirm Password	Enter your new password. (This setting is case sensitive.)

Step 24 Select **Change**.

Step 25 On the Configuration menu, select **Mgmt Protocols**.

Step 26 On the Management Protocols page, enter the following settings.

Table 4: Management Protocols Page Settings

Field	Settings
E-mail Alarms Enabled	Select **No**.
SNMP Traps Enabled	Select **No**.
HTTP Server Enabled	Select **Yes**.
HTTPs Server Enabled	Select **No**.

Step 27 Select **Submit**.

Step 28 On the Configuration menu, select **Routing Table**.

Step 29 On the Routing Table page, under Router Configuration, select **VoIP Host Groups**.

Step 30 Under VoIP Host Groups, enter the following settings for the first VoIP Host Group.

Table 5: First VoIP Host Group Settings

Field	Settings
Name	Accept the default or enter another descriptive name of the VoIP host group.
Load-Balanced	*(Unity Connection without a cluster)* Select **False**. *(Unity Connection with a cluster configured)* Select **False**.
Fault-Tolerant	*(Unity Connection without a cluster)* Select **False**. *(Unity Connection with a cluster configured)* Select **True**.

Step 31 For Unity Connection without a cluster, under Host List, enter the host name or IP address of the Unity Connection server and the server port in the format <host name or IP address>:5060.

For Unity Connection with a cluster configured, under Host List, enter the host name or IP address of the subscriber server (the second Unity Connection server that you installed) and the server port in the format <host name or IP address>:5060.

Step 32 For Unity Connection without a cluster, continue to Step 34. For Unity Connection with a cluster configured, select **Add Host**.

Step 33 In the second field, enter the host name or IP address of the publisher server (the first Unity Connection server that you installed) and the server port in the format <host name or IP address>:5060.

Caution Do not add a third host under Host List or a second host group under VoIP Host Groups. Otherwise, the Unity Connection cluster may not function correctly.

Step 34 Select **Submit**.

Step 35 On the Configuration menu, select **TDM** > **T1/E1**.

Step 36 On the T1/E1 Configuration page, enter the following settings.

Table 6: T1/E1 Configuration Page Settings

Field	Settings
Line Settings	
Line Mode	Select **T1**.
Signaling Mode	Select **CAS**.
Interface Mode	Select **Terminal**.
T1 Line	
Line Encoding	Enter the setting that matches the phone system programming.
Framing	Enter the setting that matches the phone system programming.
Selects Transmit Pulse Waveform	Enter the setting that matches the phone system programming.
T1 CAS Protocol	
T1 CAS Protocol	Enter the setting that matches the phone system programming.
Flash Hook	Enter the setting that matches the phone system programming.
Consult Call Dialtone Drop Code	Enter the setting that matches the phone system programming.
Consult Call Proceeding Drop Code	Enter the setting that matches the phone system programming.
Consult Call Busy Drop Code	Enter the setting that matches the phone system programming.
Consult Call Error Drop Code	Enter the setting that matches the phone system programming.
Consult Call Connected Drop Code	Enter the setting that matches the phone system programming.
Consult Call Disconnected Drop Code	Enter the setting that matches the phone system programming.
MWI confirmation Tone	Select **No**.
CPID Type	Select **TypeII_CPID**.

Field	Settings
Initial Wait for Inband CPID	Enter **100**.
Inband CPID Complete Timeout	Enter **300**.
Failover Settings	
Enable Failover	Select **No**.

Step 37   Select **Submit**.

Step 38   On the Configuration menu, select **TDM** > **General**.

Step 39   On the TDM General Settings page, enter the following settings.

Table 7: TDM General Settings Page Settings

Field	Settings
PCM Coding	Select **uLaw**.
Minimum Call Party Delay (ms)	Enter **500**.
Maximum Call Party Delay (ms)	Enter **2000**.
Dial Digit on Time (ms)	Enter **100**.
Dial Inter-Digit Time (ms)	Enter **100**.
Dial Pause Time (ms)	Enter **2000**.
Turn MWI On FAC	Leave this field blank.
Turn MWI Off FAC	Leave this field blank.
Outbound Call Connect Timeout (ms)	Enter **10000**.
Wait for Ringback/Connect on Blind Transfer	Select **Yes**.
Hunt Group Extension	Enter the pilot number of the Unity Connection voice messaging ports.

Step 40   Select **Submit**.

Step 41   On the Configuration menu, select **TDM** > **Port Enable**.

Step 42   On the TDM Port Enabling page, select **No** for the ports that you want to disable on the TIMG unit.

Step 43   Confirm that **Yes** is selected for all other ports on the TIMG unit.

Step 44   Select **Submit**.

Step 45   On the Configuration menu, select **VoIP** > **General**.

Step 46 On the VoIP General Settings page, enter the following settings.

Table 8: VoIP General Settings Page Settings

Field	Setting
User-Agent	
Host and Domain Name	Enter the domain name of the TIMG unit.
Transport Type	Select **UDP**.
Call as Domain Name	Select **No**.
SIPS URI Scheme Enabled	Select **No**.
Invite Expiration (sec)	Enter **120**.
Server	
DNS Server Address	Enter the IP Address of the Domain Name Server that the TIMG unit uses.
Registration Server Address	Leave this field blank.
Registration Server Port	Enter **5060**.
Registration Expiration (sec)	Enter **3600**.
TCP/UDP	
UDP/TCP Transports Enabled	Select **Yes**.
TCP/UDP Server Port	Enter **5060**.
Proxy	
Primary Proxy Server Address	Leave this field blank.
Primary Proxy Server Port	Not applicable. Leave the default setting.
Backup Proxy Server Address	Not applicable. Leave the default setting.
Backup Proxy Server Port	Not applicable. Leave the default setting.
Proxy Query Interval	Enter **10**.
Timing	

Field	Setting
T1 Time	Enter **500**.
T2 Time	Enter **4000**.
T4 Time	Enter **5000**.
Monitoring	
Monitor Call Connections	Select **No**.

Step 47   Select **Submit**.

Step 48   On the Configuration menu, select **VoIP** > **Media**.

Step 49   On the VoIP Media Settings page, enter the following settings.

Table 9: VoIP Media Settings Page Settings

Field	Settings
Audio	
Audio Compression	Select the preferred codec for audio compression: • **G.711u**—The TIMG unit uses only the G.711 mu-law codec. • **G.729AB**—The TIMG unit prefers the G.729 codec but can also use the G.711 mu-law codec.
RTP Digit Relay Mode	Select **RFC2833**.
Signaling Digit Relay Mode	Select **Off**.
Voice Activity Detection	Select **On**.
Frame Size	Select the applicable setting: • G.711—**20** • G.729AB—**10** **Caution** Failure to use the correct setting results in recorded messages containing nothing but silence.
Frames Per Packet	Select the applicable setting: • G.711—**1** • G.729AB—**2** **Caution** Failure to use the correct setting results in recorded messages containing nothing but silence.

Step 50   Select **Submit**.

Step 51   On the Configuration menu, select **VoIP** > **QOS**.

Step 52   On the VoIP QOS Configuration page, enter the following settings.

Table 10: VoIP QOS Configurative Page Settings

Field	Settings
Call Control QOS Byte	Enter **104** (equivalent to DSCP AF31).
RTP QOS Byte	Enter **184** (equivalent to DSCP EF).

Step 53   Select **Submit**.

Step 54   On the Configuration menu, select **Serial** > **General**.

Step 55   On the Serial Port, COM 1 page, enter the following settings.

Table 11: Serial Port, COM 1 Page Settings

Field	Settings
Serial Port Baud Rate	Select the setting that is configured on the phone system. The default setting is 9600.
Serial Port Parity	Select the setting that is configured on the phone system. The default setting is None.
Serial Port Data Bits	Select the setting that is configured on the phone system. The default setting is 8.
Serial Port Stop Bits	Select the setting that is configured on the phone system. The default setting is 1.

Step 56   Select **Submit**.

Step 57   On the Configuration menu, select **Serial** > **Switch Protocol**.

Step 58   On the Switch Protocol page, enter the following settings.

Table 12: Switch Protocol Page Settings

Field	Settings
Serial Port, COM 1	

Field	Settings
Serial Mode (Master/Slave)	Select the applicable setting: • **Master**—Select this setting when this TIMG unit is connected to the data link serial cable from the phone system. There can be only one master TIMG unit in a phone system integration. • **Slave**—Select this setting when this TIMG unit is not connected to the data link serial cable from the phone system. There can be multiple slave TIMG units in a phone system integration.
Serial Interface Protocol	Select the serial protocol that your phone system uses: • **SMDI** • **MCI** • **MD110**
MCI Message Extension Length	*(For MCI protocol only)* Select the applicable number of extension digits.
MCI Message Type	*(For MCI protocol only)* Select the applicable message type.
Cpid Length	Select the applicable setting. Typically, the settings are 7 or 10.
Cpid Padding String	Enter the applicable string or leave this field blank. Typically, the setting is one of the following: • A string of zeros, where the number of zeros matches the setting of the Cpid Len field. • A prefix that is provided by the Centrex service.
Voice Mail Port Length	If the setting of the Serial Interface Protocol field is MD-110, enter **2**. Otherwise, accept the default of **7**.
System Number	Enter the applicable setting. Typically, the setting is 1.
MWI Response Timeout (ms)	Enter **2000**.
IP Address of Serial Server	If the TIMG unit is the master, leave this field blank. If the TIMG unit is a slave, enter the IP address of the master TIMG unit (the TIMG unit that is connected to the data link serial cable from the phone system).
Serial Cpid Expiration (ms)	Enter **5000**.
Logical Extension Number	

Field	Settings
<port number>	If the setting of the Serial Interface Protocol field is MCI or MD-110, enter the extension number for each port on the TIMG unit.
	If the setting of the Serial Interface Protocol field is SMDI, enter the logical port number. Typically, the setting is 1 for port 1, 2 for port 2, and so on beginning with the master TIMG unit and continuing through each of the slave TIMG units.

Step 59   Select **Submit**.

Step 60   On the Configuration menu, select **IP**.

Step 61   On the IP Settings, LAN1 page, enter the following settings.

Table 13: IP Settings, LAN1 Page Settings

Field	Settings
Client IP Address	Enter the new IP address that you want to use for the TIMG unit.
	(This is the IP address that you enter in Cisco Unity Connection Administration when you create the integration.)
Client Subnet Mask	Enter the new subnet mask, if the subnet mask is different from the default IP address.
Default Network Gateway Address	Enter the IP address of the default network gateway router that the TIMG units use.
BOOTP Enabled	If you are using DHCP, select **Yes**.
	If you are not using DHCP, select **No**.

Step 62   Select **Submit**.

Step 63   On the Configuration menu, select **Tone Detection**.

Step 64   On the Tone Detection page, under Call Progress Tone - Learn, in the Learn Tone Event field, select **Busy** and do the following substeps to verify that the tone is correct.

    a)   From a available phone, call a second phone.

    b)   Answer the second phone when it rings, and leave both handsets off so that both phones are busy.

    c)   From a third phone, dial one of the busy phones.

    d)   Confirm that you hear a busy tone.

    e)   Hang up the third phone but leave the handsets for the other two phones off.

Step 65   Under Call Progress Tone - Learn, in the Dial String field, enter the extension that you dialed in Step 64c. from the third phone.

Step 66   Select **Learn**.

Step 67   On the Tone Detection page, under Call Progress Tone - Learn, in the Learn field, select **Error** and do the following substeps to verify that the tone is correct.

    a)   From an available phone, dial an extension that does not exist.

    b)   Confirm that you hear the reorder or error tone.

    c)   Hang up the phone.

Step 68	Under Call Progress Tone - Learn, in the Dial String field, enter the extension that you dialed in Step 67a.
Step 69	Select **Learn**.
Step 70	On the Tone Detection page, under Call Progress Tone - Learn, in the Learn field, select **Ringback** and do the following substeps to verify that the tone is correct.

    a) From an available phone, dial an extension that does exist.

    b) Confirm that you hear the ringback tone.

    c) Hang up the phone.

Step 71	Under Call Progress Tone - Learn, in the Dial String field, enter the extension that you dialed in Step 70a.
Step 72	Select **Learn**.
Step 73	Select **Submit**.
Step 74	Hang up the phones that you used in Step 64.
Step 75	On the System menu, select **Restart**.
Step 76	On the Restart page, select **Restart Unit Now**.
Step 77	Repeat Step 2 through Step 76 on all remaining TIMG units.

Creating an Integration with the Phone System

After ensuring that the phone system, the TIMG units, and the Unity Connection server are ready for the integration, do the following procedures to set up the integration and to enter the port settings.

Step 1	In Cisco Unity Connection Administration, expand **Telephony Integrations**, then select **Phone System**.
Step 2	On the Search Phone Systems page, under Display Name, select the name of the default phone system.
Step 3	On the Phone System Basics page, in the Phone System Name field, enter the descriptive name that you want for the phone system.
Step 4	If you want to use this phone system as the default for TRaP connections so that administrators and users without voicemail boxes can record and playback through the phone in Unity Connection web applications, check the **Default TRAP Switch** check box. If you want to use another phone system as the default for TRaP connections, uncheck this check box.
Step 5	Select **Save**.
Step 6	On the Phone System Basics page, in the Related Links drop-down box, select **Add Port Group** and select **Go**.
Step 7	On the New Port Group page, enter the applicable settings and select **Save**.

Table 14: Settings for the New Port Group Page

Field	Setting
Phone System	Select the name of the phone system that you entered in Step 3.
Create From	Select **Port Group Template** and select **SIP to DMG/PIMG/TIMG** in the drop-down box.
Display Name	Enter a descriptive name for the port group. You can accept the default name or enter the name that you want.

Field	Setting
SIP Security Profile	Select **5060**.
SIP Transport Protocol	Select the SIP transport protocol that Unity Connection uses.
IPv4 Address or Host Name	Enter the IP address of the TIMG unit that you are integrating with Unity Connection.
IPv6 Address or Host Name	Do not enter a value in this field. IPv6 is not supported for TIMG integrations.
IP Address or Host Name	Enter the IP address of the TIMG unit that you are integrating with Unity Connection.
Port	Enter the SIP port of the TIMG unit that Unity Connection connects to. We recommend that you use the default setting. **Caution** This name must match the setting in the TCP/UDP Server Port field on the Configuration > VoIP > General page of the TIMG unit. Otherwise, the integration do not function correctly.

Step 8 In the Related Links drop-down box, select **Add Ports** and select **Go**.

Step 9 On the New Port page, enter the following settings and select **Save**.

Table 15: Settings for the New Port Page

Field	Considerations
Enabled	Check this check box.
Number of Ports	Enter the number of voice messaging ports that you want to create in this port group. **Note** For a Unity Connection cluster, the server must have the number of voice messaging ports that are set up on the phone system for the TIMG integration so that this server can handle all voice messaging traffic for the cluster if one of the servers stops functioning. For example, if the phone system is set up with 16 voice messaging ports, this server must have 16 voice messaging ports.
Phone System	Select the name of the phone system that you entered in Step 3.
Port Group	Select the name of the port group that you added in Step 7.

Step 10 On the Search Ports page, select the display name of the first voice messaging port that you created for this phone system integration.

Note By default, the display names for the voice messaging ports are composed of the port group display name followed by incrementing numbers.

Step 11 On the Port Basics page, set the voice messaging port settings as applicable. The fields in the following table are the ones that you can change.

Table 16: Settings for the Voice Messaging Ports

Field	Considerations
Enabled	Check this check box to enable the port. The port is enabled during normal operation.
	Uncheck this check box to disable the port. When the port is disabled, calls to the port get ringing tone but are not answered. Typically, the port is disabled only by the installer duri testing.
Extension	Enter the extension for the port as assigned on the phone system.
Answer Calls	Check this check box to designate the port for answering calls. These calls can be incomi calls from unidentified callers or from users.
Perform Message Notification	Check this check box to designate the port for notifying users of messages. Assign Perfor Message Notification to the least busy ports.
Send MWI Requests	Uncheck this check box. Otherwise, the integration may not function correctly.
Allow TRAP Connections	Check this check box so that users can use the port for recording and playback through th phone in Unity Connection web applications. Assign Allow TRAP Connections to the lea busy ports.
Outgoing Hunt Order	Enter the priority order in which Unity Connection uses the ports when dialing out (for exam if the Perform Message Notification, Send MWI Requests, or Allow TRAP Connections cl box is checked). The highest numbers are used first. However, when multiple ports have t same Outgoing Hunt Order number, Unity Connection uses the port that has been idle the longest.

Step 12   Select **Save**.

Step 13   Select **Next**.

Step 14   Repeat Step 11 through Step 13 for all remaining voice messaging ports for the phone system.

Step 15   In Cisco Unity Connection Administration, expand **Telephony Integrations**, then select **Phone System**.

Step 16   On the Search Phone Systems page, under Display Name, select the name of the phone system that you entered in Step 3.

Step 17   Repeat Step 6 through Step 16 for each remaining TIMG unit integrated with Unity Connection.

       Note   Each TIMG unit is connected to one port group with the applicable voice messaging ports. For example, a system that uses two TIMG units requires two port groups, one port group for each TIMG unit.

Step 18   If another phone system integration exists, in Cisco Unity Connection Administration, expand **Telephony Integrations**, then select **Trunk**. Otherwise, skip to Step 22.

Step 19   On the Search Phone System Trunks page, on the Phone System Trunk menu, select **New Phone System Trunk**.

Step 20   On the New Phone System Trunk page, enter the following settings for the phone system trunk and select **Save**.

Table 17: Settings for the Phone System Trunk

Field	Setting
From Phone System	Enter the display name of the phone system that you are creating a trunk for.

Field	Setting
To Phone System	Enter the display name of the previously existing phone system that the trunk connects to.
Trunk Access Code	Enter the extra digits that Unity Connection must dial to transfer calls through the gateway to extensions on the previously existing phone system.

Step 21 Repeat Step 19 and Step 20 for all remaining phone system trunks that you want to create.

Step 22 In the Related Links drop-down list, select **Check Telephony Configuration** and select **Go** to confirm the phone system integration settings.

If the test is not successful, the Task Execution Results displays one or more messages with troubleshooting steps. After correcting the problems, test the connection again.

Step 23 In the Task Execution Results window, select **Close**.