



# Settings for PIMG Firmware Version 5.x

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## Settings for PIMG Firmware Version 5.x

### Digital PIMG Settings (Firmware Version 5.x)

Do the following steps to set up the Digital PIMG units

#### SUMMARY STEPS

1. On a Windows workstation, sign in to a PIMG unit.
2. In the Configure menu, select **System**.
3. On the System page, enter the following settings.
4. Select **Apply Changes**.
5. On the Configure menu, select **Gateway**.
6. On the Gateway page, select the **Gateway Routing** tab.
7. On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:
8. Under VoIP Endpoint ID, enter the following settings.
9. Select **Apply Changes**.
10. Select the **Gateway Advanced** tab.
11. On the Gateway Advanced tab, enter the following settings.
12. Select **Apply Changes**.
13. Select the **Gateway Capabilities** tab.
14. Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.
15. Select **Apply Changes**.
16. On the Configure menu, select **SIP**.
17. On the SIP page, enter the following settings.
18. Select **Apply Changes**.
19. On the Configure menu, select **IP**.
20. On the IP page, enter the following settings.

21. Select **Apply Changes**.
22. On the Configure menu, select **Tones**.
23. On the Tones page, select the **Learn** tab.
24. On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
25. On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
26. On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 25c](#). from the third phone.
27. On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
28. On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 27a](#).
29. On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
30. On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 29a](#).
31. Select **Learn**.
32. When the process is complete, check the check box for each newly learned tone and select **Apply**.
33. Hang up the phones that you used in [Step 25](#).
34. On the Configure menu, select **Restart**.
35. On the Restart page, select **Restart Unit Now**.
36. When the PIMG unit has restarted, in the View menu, select **Refresh**.
37. Repeat [Step 1](#) through [Step 36](#) on all remaining PIMG units.

## DETAILED STEPS

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- Step 1** On a Windows workstation, sign in to a PIMG unit.
- Step 2** In the Configure menu, select **System**.
- Step 3** On the System page, enter the following settings.

*Table 1: System Page Settings*

Field	Setting
Operating Mode	Select <b>SIP</b> .
PBX Type	Select the applicable setting: <ul style="list-style-type: none"> <li>• For Avaya phone systems, select <b>Lucent</b>.</li> <li>• For NEC phone systems, select <b>NEC_NEAX</b>.</li> <li>• For Nortel phone systems, select <b>M1</b>.</li> <li>• For Siemens phone systems, select <b>Optiset_300ECS</b>.</li> </ul>
PCM Coding	Select <b>uLaw</b> .

**Step 4** Select **Apply Changes**.

**Step 5** On the Configure menu, select **Gateway**.

**Step 6** On the Gateway page, select the **Gateway Routing** tab.

**Step 7** On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:

- a) In the Fault Tolerance Enabled field, select **Yes**.
- b) In the Load Balancing Enabled field, select **No**.

**Step 8** Under VoIP Endpoint ID, enter the following settings.

**Note** To add endpoints, select **Add New Endpoint**.

**Table 2: Gateway Routing Tab Settings**

Count	VoIP Endpoint ID
1	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the subscriber Unity Connection server.</p>
2	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the publisher server.</p>

**Step 9** Select **Apply Changes**.

**Step 10** Select the **Gateway Advanced** tab.

**Step 11** On the Gateway Advanced tab, enter the following settings.

**Table 3: Gateway Advanced Tab Settings**

Field	Settings
Call Connect Mode	Select <b>OnAnswer</b> .
Destination for Unroutable PBX Calls	Enter the extension of an attendant who receives calls to Cisco Unity Connection that are unanswered.
Minimum Call Party Delay (msecs)	Enter <b>500</b> .
Turn MWI On FAC	For Siemens Hicom 300 E (North American) phone systems, enter Enter <b>##1</b> . Otherwise, leave this field blank.
Turn MWI Off FAC	For Siemens Hicom 300 ECS phone systems, enter Enter <b>##8</b> . Otherwise, leave this field blank.
Wait for Ringback/Connect on Blind Transfer	Select <b>Yes</b> .

Field	Settings
Hunt Group Extension	Enter the pilot number of the Unity Connection voice messaging ports.
Audio Compression	Select the preferred codec for audio compression: <ul style="list-style-type: none"> <li>• <b>G.711</b></li> <li>• <b>G.729AB</b></li> </ul>
Signaling Digit Relay Mode	Select <b>Off</b> .
Voice Activity Detection	Select <b>Off</b> .
Frame Size	Select the applicable setting: <ul style="list-style-type: none"> <li>• G.711—<b>20</b></li> <li>• G.729AB—<b>10</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Frames Per Packet	Select the applicable setting: <ul style="list-style-type: none"> <li>• G.711—<b>1</b></li> <li>• G.729AB—<b>2</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Call Control QOS Byte	Enter <b>104</b> (equivalent to DSCP AF31).
RTP QOS Byte	Enter <b>184</b> (equivalent to DSCP EF).

**Step 12** Select **Apply Changes**.

**Step 13** Select the **Gateway Capabilities** tab.

**Step 14** Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.

**Table 4: Gateway Capabilities Tab Settings**

Telephony Port Capability Settings	Voice Messaging Port Usage
Calls-Only	The port answers incoming calls only and cannot dial out (for example, to set MWIs or send message notifications).
MWIs-Only	The port dial out only (for example, to set MWIs or send message notifications) and cannot answer incoming calls.
Both	The port answers incoming calls and also dial out (for example, to set MWIs or send message notifications).

In setting up the PIMG unit, do not send calls to 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 Send MWI Requests, do not send calls to it. Otherwise the integration cannot function correctly.

If a port in Unity Connection is disabled, select **No** in the Telephony Port Enabled column for the corresponding port on this tab. Note that changing a setting in the Telephony Port Enabled column requires restarting the PIMG unit.

**Step 15** Select **Apply Changes**.

**Step 16** On the Configure menu, select **SIP**.

**Step 17** On the SIP page, enter the following settings.

**Table 5: SIP Page Settings**

Field	Setting
Host and Domain Name	Enter the domain name of the PIMG unit.
Server Port	Enter <b>5060</b> .
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 <b>10</b> .
T1 Time	Enter <b>400</b> .
T2 Time	Enter <b>3000</b> .

**Step 18** Select **Apply Changes**.

**Step 19** On the Configure menu, select **IP**.

**Step 20** On the IP page, enter the following settings.

**Table 6: IP Page Settings**

Field	Setting
Client IP Address	Enter the new IP address you want to use for the PIMG 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 PIMG units use.
BOOTP Enabled	Select <b>No</b> .

- Step 21** Select **Apply Changes**.
- Step 22** On the Configure menu, select **Tones**.
- Step 23** On the Tones page, select the **Learn** tab.
- Destination addresses cannot be duplicated in the same session. Otherwise, the process for learning tones cannot succeed. If you do not have enough available phones to learn all the tones at one time, you can run multiple sessions to learn tones individually by checking or unchecking the applicable Acquire Tone check boxes.
- Step 24** On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
- Step 25** On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From a available phone, call a second phone.
  - Answer the second phone when it rings, and leave both handsets off so that both phones are busy.
  - From a third phone, dial one of the busy phones.
  - Confirm that you hear a busy tone.
  - Hang up the third phone but leave the handsets for the other two phones off.
- Step 26** On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 25c](#) from the third phone.
- Step 27** On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does not exist.
  - Confirm that you hear the reorder or error tone.
  - Hang up the phone.
- Step 28** On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 27a](#).
- Step 29** On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does exist
  - Confirm that you hear the ringback tone.
  - Hang up the phone.
- Step 30** On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 29a](#).
- Step 31** Select **Learn**.
- Note** When running learn tones, the PIMG unit restarts after learning the first tone.
- Step 32** When the process is complete, check the check box for each newly learned tone and select **Apply**.
- Step 33** Hang up the phones that you used in [Step 25](#).
- Step 34** On the Configure menu, select **Restart**.
- Step 35** On the Restart page, select **Restart Unit Now**.
- Step 36** When the PIMG unit has restarted, in the View menu, select **Refresh**.
- Step 37** Repeat [Step 1](#) through [Step 36](#) on all remaining PIMG units.
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## Analog PIMG Settings for DTMF Integration (Firmware Version 5.x)

Do the following steps to set up the analog PIMG units for a DTMF integration

### SUMMARY STEPS

1. On a Windows workstation, sign in to a PIMG unit.
2. On the Configure menu, select **System**.
3. On the System page, enter the following settings.
4. Select **Apply Changes**.
5. On the Configure menu, select **Gateway**.
6. On the Gateway page, select the **Gateway Routing** tab.
7. On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:
8. Under VoIP Endpoint ID, enter the following settings.
9. Select **Apply Changes**.
10. Select the **Gateway Advanced** tab.
11. On the Gateway Advanced tab, enter the following settings.
12. Select **Apply Changes**.
13. Select the **Gateway Capabilities** tab.
14. Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.
15. Select **Apply Changes**.
16. On the Configure menu, select **SIP**.
17. On the SIP page, enter the following settings.
18. Select **Apply Changes**.
19. On the Configure menu, select **IP**.
20. On the IP page, enter the following settings.
21. Select **Apply Changes**.
22. On the Configure menu, select **Tones**.
23. On the Tones page, select the **Learn** tab.
24. On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
25. On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
26. On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 25c](#). from the third phone.
27. On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
28. On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 27a](#).
29. On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
30. On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 29a](#).
31. Select **Learn**.
32. When the process is complete, check the check box for each newly learned tone and select **Apply**.

33. Hang up the phones that you used in [Step 25](#).
34. On the Configure menu, select **Restart**.
35. On the Restart page, select **Restart Unit Now**.
36. When the PIMG unit has restarted, in the View menu, select **Refresh**.
37. Repeat [Step 1](#) through [Step 36](#) on all remaining PIMG units.

## DETAILED STEPS

**Step 1** On a Windows workstation, sign in to a PIMG unit.

**Step 2** On the Configure menu, select **System**.

**Step 3** On the System page, enter the following settings.

**Table 7: System Page Settings**

Field	Settings
Operating Mode	Select <b>SIP</b> .
PBX Type	Select <b>None</b> .
PCM Coding	Select <b>uLaw</b> .

**Step 4** Select **Apply Changes**.

**Step 5** On the Configure menu, select **Gateway**.

**Step 6** On the Gateway page, select the **Gateway Routing** tab.

**Step 7** On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:

- a) In the Fault Tolerance Enabled field, select **Yes**.
- b) In the Load Balancing Enabled field, select **No**.

**Step 8** Under VoIP Endpoint ID, enter the following settings.

**Note** To add endpoints, select **Add New Endpoint**.

**Table 8: Gateway Routing Tab Settings**

Count	VoIP Endpoint ID
1	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the subscriber server.</p>
2	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the publisher server.</p>



**Step 9** Select **Apply Changes**.

**Step 10** Select the **Gateway Advanced** tab.

**Step 11** On the Gateway Advanced tab, enter the following settings.

**Table 9: Gateway Advanced Tab Settings**

<b>Field</b>	<b>Settings</b>
Call Connect Mode	Select <b>OnAnswer</b> .
Destination for Unroutable IP Calls	Leave this field blank.
Destination for Unroutable PBX Calls	Leave this field blank.
Monitor Call Connections	Select <b>No</b> .
Minimum Call Party Delay (msecs)	Enter <b>500</b> .
Maximum Call Party Delay (msecs)	Enter <b>2000</b> .
Dial Digit on Time (msecs)	Enter <b>100</b> .
Dial Inter-Digit Time (msecs)	Enter <b>100</b> .
Dial Pause Time (msecs)	Enter <b>2000</b> .
Turn MWI On FAC	Enter the code that turns MWIs on.
Turn MWI Off FAC	Enter the code that turns MWIs off.
Outbound Call Connect Timeout (msecs)	Enter <b>10000</b> .
Wait for Ringback/Connect on Blind Transfer	Select <b>Yes</b> .
Hunt Group Extension	Enter the pilot number of the Unity Connection voice messaging ports.
Audio Compression	Select the preferred codec for audio compression: <ul style="list-style-type: none"> <li>• <b>G.711</b></li> <li>• <b>G.729AB</b></li> </ul>
RTP Digit Relay Mode	Select <b>RFC2833</b> .
Signaling Digit Relay Mode	Select <b>Off</b> .
Voice Activity Detection	Select <b>Off</b> .
Frame Size	Select the applicable setting: <ul style="list-style-type: none"> <li>• <b>G.711—20</b></li> <li>• <b>G.729AB—10</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>

Field	Settings
Frames Per Packet	Select the applicable setting: <ul style="list-style-type: none"> <li>• G.711—1</li> <li>• G.729AB—2</li> </ul> Failure to use the correct setting results in recorded messages containing nothing but silence.
Call Control QOS Byte	Enter <b>104</b> (equivalent to DSCP AF31).
RTP QOS Byte	Enter <b>184</b> (equivalent to DSCP EF).
SNMP Traps Enabled	Select <b>No</b> .
E-mail Alarms Enabled	Select <b>No</b> .

**Step 12** Select **Apply Changes**.

**Step 13** Select the **Gateway Capabilities** tab.

**Step 14** Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.

**Table 10: Gateway Capabilities Tab Settings**

Telephony Port Capability Settings	Voice Messaging Port Usage
Calls-Only	The port answers incoming calls only and cannot dial out (for example, to set MWIs or send message notifications).
MWIs-Only	The port dial out only (for example, to set MWIs or send message notifications) and cannot answer incoming calls.
Both	The port answers incoming calls and also dial out (for example, to set MWIs or send message notifications).

In setting up the PIMG unit, do not send calls to 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 Send MWI Requests, do not send calls to it. Otherwise the integration cannot function correctly.

If a port in Unity Connection is disabled, select **No** in the Telephony Port Enabled column for the corresponding port on this tab. Note that changing a setting in the Telephony Port Enabled column requires restarting the PIMG unit.

**Step 15** Select **Apply Changes**.

**Step 16** On the Configure menu, select **SIP**.

**Step 17** On the SIP page, enter the following settings.

**Table 11: SIP Page Settings**

Field	Settings
Host and Domain Name	Enter the domain name of the PIMG unit.

Field	Settings
Server Port	Enter <b>5060</b> .
Transport Type	Select <b>UDP</b> .
Call as Domain Name	Select <b>No</b> .
Registration Server Address	Leave this field blank.
Registration Server Port	Enter <b>5060</b> .
Registration Expiration (sec)	Enter <b>3600</b> .
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 <b>10</b> .
T1 Time (msecs)	Enter <b>400</b> .
T2 Time (msecs)	Enter <b>3000</b> .
Invite Expiration (sec)	Enter <b>120</b> .

**Step 18** Select **Apply Changes**.

**Step 19** On the Configure menu, select **IP**.

**Step 20** On the IP page, enter the following settings.

**Table 12: IP Page Settings**

Field	Settings
Client IP Address	Enter the new IP address you want to use for the PIMG 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 PIMG units use.
BOOTP Enabled	Select <b>No</b> .

**Step 21** Select **Apply Changes**.

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

**Step 23** On the Tones page, select the **Learn** tab.

Destination addresses cannot be duplicated in the same session. Otherwise, the process for learning tones cannot succeed. If you do not have enough available phones to learn all the tones at one time, you can run multiple sessions to learn tones individually by checking or unchecking the applicable Acquire Tone check boxes.

- Step 24** On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
- Step 25** On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, call a second phone.
  - Answer the second phone when it rings, and leave both handsets off so that both phones are busy.
  - From a third phone, dial one of the busy phones.
  - Confirm that you hear a busy tone.
  - Hang up the third phone but leave the handsets for the other two phones off.
- Step 26** On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 25c](#) from the third phone.
- Step 27** On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does not exist.
  - Confirm that you hear the reorder or error tone.
  - Hang up the phone.
- Step 28** On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 27a](#).
- Step 29** On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does exist
  - Confirm that you hear the ringback tone.
  - Hang up the phone.
- Step 30** On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 29a](#).
- Step 31** Select **Learn**.
- Note** When running learn tones, the PIMG unit restarts after learning the first tone.
- Step 32** When the process is complete, check the check box for each newly learned tone and select **Apply**.
- Step 33** Hang up the phones that you used in [Step 25](#).
- Step 34** On the Configure menu, select **Restart**.
- Step 35** On the Restart page, select **Restart Unit Now**.
- Step 36** When the PIMG unit has restarted, in the View menu, select **Refresh**.
- Step 37** Repeat [Step 1](#) through [Step 36](#) on all remaining PIMG units.

## Analog PIMG Settings for Serial Integration (Firmware Version 5.x)

Do the following steps to set up the analog PIMG units for a Serial integration

## SUMMARY STEPS

1. On a Windows workstation, sign in to a PIMG unit.
2. On the Configure menu, select **System**.
3. On the System page, enter the following settings.
4. Select **Apply Changes**.
5. On the Configure menu, select **Gateway**.
6. On the Gateway page, select the **Gateway Routing** tab.
7. On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:
8. Under VoIP Endpoint ID, enter the following settings.
9. Select **Apply Changes**.
10. Select the **Gateway Advanced** tab.
11. On the Gateway Advanced tab, enter the following settings.
12. Select **Apply Changes**.
13. Select the **Gateway Capabilities** tab.
14. Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.
15. Select **Apply Changes**.
16. On the Configure menu, select **Serial Protocol**.
17. On the Serial Protocol page, enter the following settings.
18. Select **Apply Changes**.
19. On the Configure menu, select **SIP**.
20. On the SIP page, enter the following settings.
21. Select **Apply Changes**.
22. On the Configure menu, select **IP**.
23. On the IP page, enter the following settings.
24. Select **Apply Changes**.
25. On the Configure menu, select **Tones**.
26. On the Tones page, select the **Learn** tab.
27. On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
28. On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
29. On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 28c](#). from the third phone.
30. On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
31. On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 30a](#).
32. On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
33. On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 32a](#).
34. Select **Learn**.
35. When the process is complete, check the check box for each newly learned tone and select **Apply**.
36. Hang up the phones that you used in [Step 28](#).

37. On the Configure menu, select **Restart**.
38. On the Restart page, select **Restart Unit Now**.
39. When the PIMG unit has restarted, in the View menu, select **Refresh**.
40. Repeat [Step 1](#) through [Step 39](#) on all remaining PIMG units.

## DETAILED STEPS

**Step 1** On a Windows workstation, sign in to a PIMG unit.

**Step 2** On the Configure menu, select **System**.

**Step 3** On the System page, enter the following settings.

*Table 13: System Page Settings*

Field	Setting
Operating Mode	Select <b>SIP</b> .
PCM Coding	Select <b>uLaw</b> .
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 4** Select **Apply Changes**.

**Step 5** On the Configure menu, select **Gateway**.

**Step 6** On the Gateway page, select the **Gateway Routing** tab.

**Step 7** On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:

- a) In the Fault Tolerance Enabled field, select **Yes**.
- b) In the Load Balancing Enabled field, select **No**.

**Step 8** Under VoIP Endpoint ID, enter the following settings.

**Note** To add endpoints, select **Add New Endpoint**.

**Table 14: Gateway Routing Tab Settings**

Count	VoIP Endpoint ID
1	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the subscriber server.</p>
2	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the publisher server.</p>

**Step 9** Select **Apply Changes**.

**Step 10** Select the **Gateway Advanced** tab.

**Step 11** On the Gateway Advanced tab, enter the following settings.

**Table 15: Gateway Advanced Tab Settings**

Field	Settings
Advanced Call Routing	
Call Connect Mode	Select <b>OnAnswer</b> .
Destination for Unroutable IP Calls	Leave this field blank.
Destination for Unroutable PBX Calls	Leave this field blank.
Monitor Call Connections	Select <b>No</b> .
Telephony	
Minimum Call Party Delay	Enter <b>500</b> .
Maximum Call Party Delay	Enter <b>2000</b> .
Dial Digit on Time	Enter <b>100</b> .
Dial Inter-Digit Time	Enter <b>100</b> .
Dial Pause Time	Enter <b>2000</b> .
Turn MWI On FAC	Leave this field blank.
Turn MWI Off FAC	Leave this field blank.
Outbound Call Connect Timeout	Enter <b>10000</b> .
Wait for Ringback/Connect on Blind Transfer	Select <b>Yes</b> .
Hunt Group Extension	Enter the pilot number of the Unity Connection voice messaging ports.

Field	Settings
Audio	
Audio Compression	Select the preferred codec for audio compression: <ul style="list-style-type: none"> <li>• <b>G.711</b></li> <li>• <b>G.729AB</b></li> </ul>
RTP Digit Relay Mode	Select <b>RFC2833</b> .
Signaling Digit Relay Mode	Select <b>Off</b> .
Voice Activity Detection	Select <b>Off</b> .
Frame Size	Select the applicable setting: <ul style="list-style-type: none"> <li>• <b>G.711—20</b></li> <li>• <b>G.729AB—10</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Frames Per Packet	Select the applicable setting: <ul style="list-style-type: none"> <li>• <b>G.711—1</b></li> <li>• <b>G.729AB—2</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Quality of Service	
Call Control QOS Byte	Enter <b>104</b> (equivalent to DSCP AF31).
RTP QOS Byte	Enter <b>184</b> (equivalent to DSCP EF).
Traps and Alarms	
E-mail Alarms Enabled	Select <b>No</b> .
SNMP Traps Enabled	Select <b>No</b> .

**Step 12** Select **Apply Changes**.

**Step 13** Select the **Gateway Capabilities** tab.

**Step 14** Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.



**Table 16: Gateway Capabilities Tab Settings**

Telephony Port Capability Settings	Voice Messaging Port Usage
Calls-Only	The port answers incoming calls only and cannot dial out (for example, to set MWIs or send message notifications).
MWIs-Only	The port dial out only (for example, to set MWIs or send message notifications) and cannot answer incoming calls.
Both	The port answers incoming calls and also dial out (for example, to set MWIs or send message notifications).

In setting up the PIMG unit, do not send calls to 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 Send MWI Requests, do not send calls to it. Otherwise the integration cannot function correctly.

If a port in Unity Connection is disabled, select **No** in the Telephony Port Enabled column for the corresponding port on this tab. Note that changing a setting in the Telephony Port Enabled column requires restarting the PIMG unit.

**Step 15** Select **Apply Changes**.

**Step 16** On the Configure menu, select **Serial Protocol**.

**Step 17** On the Serial Protocol page, enter the following settings.

**Table 17: Serial Protocol Page Settings**

Field	Setting
Serial Mode	Select the applicable setting: <ul style="list-style-type: none"> <li>• <b>Master</b>—Select this setting when this PIMG unit is connected to the data link serial cable from the phone system. There can be only one master PIMG unit in a phone system integration.</li> <li>• <b>Slave</b>—Select this setting when this PIMG unit is not connected to the data link serial cable from the phone system. There can be multiple slave PIMG units in a phone system integration.</li> </ul>
Serial Interface Protocol	Select the serial protocol that your phone system uses: <ul style="list-style-type: none"> <li>• <b>SMDI</b></li> <li>• <b>MCI</b></li> <li>• <b>MD-110</b></li> </ul>
Cpid Len	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: <ul style="list-style-type: none"> <li>• A string of zeros, where the number of zeros matches the setting of the Cpid Len field.</li> <li>• A prefix that is provided by the Centrex service.</li> </ul>

Field	Setting
Voice Mail Port Len	If the setting of the Serial Interface Protocol field is MD-110, enter <b>2</b> . Otherwise, accept the default of <b>7</b> .
System Number	Enter the applicable setting. Typically, the setting is <b>1</b> .
MWI Response Timeout	Enter <b>2000</b> .
IP Address of Serial Server	If the PIMG unit is the master, leave this field blank. If the PIMG unit is a slave, enter the IP address of the master PIMG unit (the PIMG unit that is connected to the data link serial cable from the phone system).
Serial Cpid Expiration	Enter <b>2000</b> .
Logical Extension Number	If the setting of the Serial Interface Protocol field is MCI or MD-110, enter the extension number for each port on the PIMG unit. If the setting of the Serial Interface Protocol field is SMDI, enter the logical port number. Typically, the setting is <b>1</b> for port 1, <b>2</b> for port 2, and so on beginning with the master PIMG unit and continuing through each of the slave PIMG units.

**Step 18** Select **Apply Changes**.

**Step 19** On the Configure menu, select **SIP**.

**Step 20** On the SIP page, enter the following settings.

**Table 18: SIP Page Settings**

Field	Setting
Host and Domain Name	Enter the domain name of the PIMG unit. This setting must match the name of the port group in Cisco Unity Connection Administration that has the voice messaging ports connecting to the PIMG unit.
Server Port	Enter <b>5060</b> .
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 <b>10</b> .
T1 Time	Enter <b>400</b> .
T2 Time	Enter <b>3000</b> .

- Step 21** Select **Apply Changes**.
- Step 22** On the Configure menu, select **IP**.
- Step 23** On the IP page, enter the following settings.

**Table 19: IP Page Settings**

Field	Setting
Client IP Address	Enter the new IP address you want to use for the PIMG 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 PIMG units use.
BOOTP Enabled	Select <b>No</b> .

- Step 24** Select **Apply Changes**.
- Step 25** On the Configure menu, select **Tones**.
- Step 26** On the Tones page, select the **Learn** tab.
- Destination addresses cannot be duplicated in the same session. Otherwise, the process for learning tones do not succeed. If you do not have enough available phones to learn all the tones at one time, you can run multiple sessions to learn tones individually by checking or unchecking the applicable Acquire Tone check boxes.
- Step 27** On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
- Step 28** On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From a available phone, call a second phone.
  - Answer the second phone when it rings, and leave both handsets off so that both phones are busy.
  - From a third phone, dial one of the busy phones.
  - Confirm that you hear a busy tone.
  - Hang up the third phone but leave the handsets for the other two phones off.
- Step 29** On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 28c](#) from the third phone.
- Step 30** On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does not exist.
  - Confirm that you hear the reorder or error tone.
  - Hang up the phone.
- Step 31** On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 30a](#).
- Step 32** On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked 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 33** On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 32a](#).

**Step 34** Select **Learn**.

**Note** When running learn tones, the PIMG unit restarts after learning the first tone.

**Step 35** When the process is complete, check the check box for each newly learned tone and select **Apply**.

**Step 36** Hang up the phones that you used in [Step 28](#).

**Step 37** On the Configure menu, select **Restart**.

**Step 38** On the Restart page, select **Restart Unit Now**.

**Step 39** When the PIMG unit has restarted, in the View menu, select **Refresh**.

**Step 40** Repeat [Step 1](#) through [Step 39](#) on all remaining PIMG units.

## Digital Mitel PIMG Settings (Firmware Version 5.x)

Do the following steps to set up the digital Mitel PIMG units

### SUMMARY STEPS

1. On a Windows workstation, sign in to a PIMG unit.
2. On the Configure menu, select **System**.
3. On the System page, enter the following settings.
4. Select **Apply Changes**.
5. On the Configure menu, select **Gateway**.
6. On the Gateway page, select the **Gateway Routing** tab.
7. On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:
8. Under VoIP Endpoint ID, enter the following settings.
9. Select **Apply Changes**.
10. Select the **Gateway Advanced** tab.
11. On the Gateway Advanced tab, enter the following settings.
12. Select **Apply Changes**.
13. Select the **Gateway Capabilities** tab.
14. Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.
15. Select **Apply Changes**.
16. On the Configure menu, select **SIP**.
17. On the SIP page, enter the following settings.
18. Select **Apply Changes**.
19. On the Configure menu, select **IP**.
20. On the IP page, enter the following settings.
21. Select **Apply Changes**.

22. On the Configure menu, select **Tones**.
23. On the Tones page, select the **Learn** tab.
24. On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
25. On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
26. On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 25c](#). from the third phone.
27. On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
28. On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 27a](#).
29. On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
30. On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 29a](#).
31. Select **Learn**.
32. When the process is complete, check the check box for each newly learned tone and select **Apply**.
33. Hang up the phones that you used in [Step 25](#).
34. On the Configure menu, select **Restart**.
35. On the Restart page, select **Restart Unit Now**.
36. When the PIMG unit has restarted, in the View menu, select **Refresh**.
37. Repeat [Step 1](#) through [Step 36](#) on all remaining PIMG units.

## DETAILED STEPS

**Step 1** On a Windows workstation, sign in to a PIMG unit.

**Step 2** On the Configure menu, select **System**.

**Step 3** On the System page, enter the following settings.

*Table 20: System Page Settings*

Field	Setting
Operating Mode	Select <b>SIP</b> .
PBX Type	(This setting does not apply.)
PCM Coding	Select <b>uLaw</b> .

**Step 4** Select **Apply Changes**.

**Step 5** On the Configure menu, select **Gateway**.

**Step 6** On the Gateway page, select the **Gateway Routing** tab.

**Step 7** On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:

- a) In the Fault Tolerance Enabled field, select **Yes**.
- b) In the Load Balancing Enabled field, select **No**.

**Step 8** Under VoIP Endpoint ID, enter the following settings.

**Note** To add endpoints, select **Add New Endpoint**.

**Table 21: Gateway Routing Tab Settings**

Count	VoIP Endpoint ID
1	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the subscriber server.</p>
2	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the publisher server.</p>

**Step 9** Select **Apply Changes**.

**Step 10** Select the **Gateway Advanced** tab.

**Step 11** On the Gateway Advanced tab, enter the following settings.

**Table 22: Gateway Advanced Tab Settings**

Field	Settings
Call Connect Mode	Select <b>OnAnswer</b> .
Destination for Unroutable PBX Calls	Enter the extension of an attendant who receive calls to Unity Connection that are unanswered.
Minimum Call Party Delay (msecs)	Enter <b>500</b> .
Turn MWI On FAC	Enter the code that turns MWIs on.
Turn MWI Off FAC	Enter the code that turns MWIs off.
Wait for Ringback/Connect on Blind Transfer	Select <b>Yes</b> .
Hunt Group Extension	Enter the pilot number of the Unity Connection voice messaging ports.
Audio Compression	Select the preferred codec for audio compression: <ul style="list-style-type: none"> <li>• <b>G.711</b></li> <li>• <b>G.729AB</b></li> </ul>
Signaling Digit Relay Mode	Select <b>Off</b> .
Voice Activity Detection	Select <b>Off</b> .

Field	Settings
Frame Size	Select the applicable setting: <ul style="list-style-type: none"> <li>• G.711—<b>20</b></li> <li>• G.729AB—<b>10</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Frames Per Packet	Select the applicable setting: <ul style="list-style-type: none"> <li>• G.711—<b>1</b></li> <li>• G.729AB—<b>2</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Call Control QOS Byte	Enter <b>104</b> (equivalent to DSCP AF31).
RTP QOS Byte	Enter <b>184</b> (equivalent to DSCP EF).

**Step 12** Select **Apply Changes**.

**Step 13** Select the **Gateway Capabilities** tab.

**Step 14** Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.

*Table 23: Gateway Capabilities Tab Settings*

Telephony Port Capability Settings	Voice Messaging Port Usage
Calls-Only	The port answer incoming calls only and cannot dial out (for example, to set MWIs or send message notifications).
MWIs-Only	The port dial out only (for example, to set MWIs or send message notifications) and cannot answer incoming calls.
Both	The port answers incoming calls and also dial out (for example, to set MWIs or send message notifications).

In setting up the PIMG unit, do not send calls to 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 Send MWI Requests, do not send calls to it. Otherwise the integration cannot function correctly.

If a port in Unity Connection is disabled, select **No** in the Telephony Port Enabled column for the corresponding port on this tab. Note that changing a setting in the Telephony Port Enabled column requires restarting the PIMG unit.

**Step 15** Select **Apply Changes**.

**Step 16** On the Configure menu, select **SIP**.

**Step 17** On the SIP page, enter the following settings.

Table 24: SIP Page Settings

Field	Setting
Host and Domain Name	Enter the domain name of the PIMG unit.
Server Port	Enter <b>5060</b> .
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 <b>10</b> .
T1 Time	Enter <b>400</b> .
T2 Time	Enter <b>3000</b> .

**Step 18** Select **Apply Changes**.

**Step 19** On the Configure menu, select **IP**.

**Step 20** On the IP page, enter the following settings.

Table 25: IP Page Settings

Field	Setting
Client IP Address	Enter the new IP address you want to use for the PIMG 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 PIMG units use.
BOOTP Enabled	Select <b>No</b> .

**Step 21** Select **Apply Changes**.

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

**Step 23** On the Tones page, select the **Learn** tab.

Destination addresses cannot be duplicated in the same session. Otherwise, the process for learning tones cannot succeed. If you do not have enough available phones to learn all the tones at one time, you can run multiple sessions to learn tones individually by checking or unchecking the applicable Acquire Tone check boxes.

**Step 24** On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.



- Step 25** On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From a available phone, call a second phone.
  - Answer the second phone when it rings, and leave both handsets off so that both phones are busy.
  - From a third phone, dial one of the busy phones.
  - Confirm that you hear a busy tone.
  - Hang up the third phone but leave the handsets for the other two phones off.
- Step 26** On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 25c](#) from the third phone.
- Step 27** On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does not exist.
  - Confirm that you hear the reorder or error tone.
  - Hang up the phone.
- Step 28** On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 27a](#).
- Step 29** On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does exist.
  - Confirm that you hear the ringback tone.
  - Hang up the phone.
- Step 30** On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 29a](#).
- Step 31** Select **Learn**.
- Note** When running learn tones, the PIMG unit restarts after learning the first tone.
- Step 32** When the process is complete, check the check box for each newly learned tone and select **Apply**.
- Step 33** Hang up the phones that you used in [Step 25](#).
- Step 34** On the Configure menu, select **Restart**.
- Step 35** On the Restart page, select **Restart Unit Now**.
- Step 36** When the PIMG unit has restarted, in the View menu, select **Refresh**.
- Step 37** Repeat [Step 1](#) through [Step 36](#) on all remaining PIMG units.

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## Digital Rolm PIMG Settings (Firmware Version 5.x)

Do the following steps to set up the digital Rolm PIMG units

### SUMMARY STEPS

- On a Windows workstation, sign in to a PIMG unit.
- On the Configure menu, select **System**.
- On the System page, enter the following settings.
- Select **Apply Changes**.
- On the Configure menu, select **Gateway**.

6. On the Gateway page, select the **Gateway Routing** tab.
7. On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:
8. Under VoIP Endpoint ID, enter the following settings.
9. Select **Apply Changes**.
10. Select the **Gateway Advanced** tab.
11. On the Gateway Advanced tab, enter the following settings.
12. Select **Apply Changes**.
13. Select the **Gateway Capabilities** tab.
14. Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.
15. Select **Apply Changes**.
16. On the Configure menu, select **SIP**.
17. On the SIP page, enter the following settings.
18. Select **Apply Changes**.
19. On the Configure menu, select **IP**.
20. On the IP page, enter the following settings.
21. Select **Apply Changes**.
22. On the Configure menu, select **Tones**.
23. On the Tones page, select the **Learn** tab.
24. On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
25. On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
26. On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 25c](#). from the third phone.
27. On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
28. On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 27a](#).
29. On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
30. On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 29a](#).
31. Select **Learn**.
32. When the process is complete, check the check box for each newly learned tone and select **Apply**.
33. Hang up the phones that you used in [Step 25](#).
34. On the Configure menu, select **Restart**.
35. On the Restart page, select **Restart Unit Now**.
36. When the PIMG unit has restarted, in the View menu, select **Refresh**.
37. Repeat [Step 1](#) through [Step 36](#) on all remaining PIMG units.

## DETAILED STEPS

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- Step 1** On a Windows workstation, sign in to a PIMG unit.

**Step 2** On the Configure menu, select **System**.

**Step 3** On the System page, enter the following settings.

**Table 26: System Page Settings**

Field	Setting
Operating Mode	Select <b>SIP</b> .
PBX Type	Depending on your phone system, select one of the following: <ul style="list-style-type: none"> <li>• <b>Rolm_9751_SW9005</b></li> <li>• <b>Rolm_9751_SW9006</b></li> </ul>
PCM Coding	Select <b>uLaw</b> .

**Step 4** Select **Apply Changes**.

**Step 5** On the Configure menu, select **Gateway**.

**Step 6** On the Gateway page, select the **Gateway Routing** tab.

**Step 7** On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 8](#). If Unity Connection has a cluster configured, do the following substeps:

- a) In the Fault Tolerance Enabled field, select **Yes**.
- b) In the Load Balancing Enabled field, select **No**.

**Step 8** Under VoIP Endpoint ID, enter the following settings.

**Note** To add endpoints, select **Add New Endpoint**.

**Table 27: Gateway Routing Tab Settings**

Count	VoIP Endpoint ID
1	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the subscriber server.</p>
2	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the publisher server.</p>

**Step 9** Select **Apply Changes**.

**Step 10** Select the **Gateway Advanced** tab.

**Step 11** On the Gateway Advanced tab, enter the following settings.

Table 28: Gateway Advanced Tab Settings

Field	Settings
Call Connect Mode	Select <b>OnAnswer</b> .
Destination for Unroutable PBX Calls	Enter the extension of an attendant who receives calls to Unity Connection that are unanswered.
Minimum Call Party Delay (msecs)	Enter <b>500</b> .
Turn MWI On FAC	Leave this field blank.
Turn MWI Off FAC	Leave this field blank.
Wait for Ringback/Connect on Blind Transfer	Select <b>Yes</b> .
Hunt Group Extension	Enter the pilot number of the Unity Connection voice messaging ports.
Audio Compression	Select the preferred codec for audio compression: <ul style="list-style-type: none"> <li>• <b>G.711</b></li> <li>• <b>G.729AB</b></li> </ul>
Signaling Digit Relay Mode	Select <b>Off</b> .
Voice Activity Detection	Select <b>Off</b> .
Frame Size	Select the applicable setting: <ul style="list-style-type: none"> <li>• G.711—<b>20</b></li> <li>• G.729AB—<b>10</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Frames Per Packet	Select the applicable setting: <ul style="list-style-type: none"> <li>• G.711—<b>1</b></li> <li>• G.729AB—<b>2</b></li> </ul> <p>Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Call Control QOS Byte	Enter <b>104</b> (equivalent to DSCP AF31).
RTP QOS Byte	Enter <b>184</b> (equivalent to DSCP EF).

**Step 12** Select **Apply Changes**.

**Step 13** Select the **Gateway Capabilities** tab.

**Step 14** Depending on how you have planned to use the voice messaging ports, select the applicable setting for each port in the Telephony Port Capability column.

**Table 29: Gateway Capabilities Tab Settings**

Telephony Port Capability Settings	Voice Messaging Port Usage
Calls-Only	The port answers incoming calls only and cannot dial out (for example, to set MWIs or send message notifications).
MWIs-Only	The port dial out only (for example, to set MWIs or send message notifications) and cannot answer incoming calls.
Both	The port answers incoming calls and also dial out (for example, to set MWIs or send message notifications).

In setting up the PIMG unit, do not send calls to 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 Send MWI Requests, do not send calls to it. Otherwise the integration cannot function correctly.

If a port in Unity Connection is disabled, select **No** in the Telephony Port Enabled column for the corresponding port on this tab. Note that changing a setting in the Telephony Port Enabled column requires restarting the PIMG unit.

**Step 15** Select **Apply Changes**.

**Step 16** On the Configure menu, select **SIP**.

**Step 17** On the SIP page, enter the following settings.

**Table 30: SIP Page Settings**

Field	Setting
Host and Domain Name	Enter the domain name of the PIMG unit.
Server Port	Enter <b>5060</b> .
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 <b>10</b> .
T1 Time	Enter <b>400</b> .
T2 Time	Enter <b>3000</b> .

**Step 18** Select **Apply Changes**.

**Step 19** On the Configure menu, select **IP**.

**Step 20** On the IP page, enter the following settings.

Table 31: IP Page Settings

Field	Setting
Client IP Address	Enter the new IP address you want to use for the PIMG 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 PIMG units use.
BOOTP Enabled	Select <b>No.</b>

**Step 21** Select **Apply Changes**.

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

**Step 23** On the Tones page, select the **Learn** tab.

Destination addresses cannot be duplicated in the same session. Otherwise, the process for learning tones cannot succeed. If you do not have enough available phones to learn all the tones at one time, you can run multiple sessions to learn tones individually by checking or unchecking the applicable Acquire Tone check boxes.

**Step 24** On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.

**Step 25** On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.

- From a available phone, call a second phone.
- Answer the second phone when it rings, and leave both handsets off so that both phones are busy.
- From a third phone, dial one of the busy phones.
- Confirm that you hear a busy tone.
- Hang up the third phone but leave the handsets for the other two phones off.

**Step 26** On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 25c](#) from the third phone.

**Step 27** On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.

- From an available phone, dial an extension that does not exist.
- Confirm that you hear the reorder or error tone.
- Hang up the phone.

**Step 28** On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 27a](#).

**Step 29** On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.

- From an available phone, dial an extension that does exist.
- Confirm that you hear the ringback tone.
- Hang up the phone.

**Step 30** On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 29a](#).

**Step 31** Select **Learn**.

**Note** When running learn tones, the PIMG unit restarts after learning the first tone.

**Step 32** When the process is complete, check the check box for each newly learned tone and select **Apply**.

**Step 33** Hang up the phones that you used in [Step 25](#).

**Step 34** On the Configure menu, select **Restart**.

**Step 35** On the Restart page, select **Restart Unit Now**.

**Step 36** When the PIMG unit has restarted, in the View menu, select **Refresh**.

**Step 37** Repeat [Step 1](#) through [Step 36](#) on all remaining PIMG units.

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