

Mitel TA7100

58014898 REV00

DGW PCM TRACES

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**Mitel TA7100 Dgw PCM Traces
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PCM Traces

The PCM traces are two different RTP streams made specifically to record all analog signals that are either sent or received on the analog side of the Mitel.

These RTP streams are sent to a configurable IP address, normally an IP address on your network where it can be recorded with a packet sniffer (such as Wireshark). Moreover, they are independent from the regular RTP streams of the VoIP call. On the analog devices, the streams are sent instantly at device startup, with an average ptime of 5 ms. The resulting streams, depending on the model, are around 15 kB/s.

Only the configured port, port #1 and/or #2 send the PCM traces for a maximum of four simultaneous RTP streams.

All streams are sent instantly at startup with an average ptime of 15 ms. This means that until the PCM traces are disabled, even an idle unit will continuously send up to $66.6 \text{ packets/s} \times 4 \text{ streams} = 267 \text{ packets/s}$ using approximately 174 bytes each, for a total of 46 Kbytes of upstream bandwidth.

On digital devices, the streams will be sent once a call is in process of being established (ISDN SETUP, SIP INVITE). This means no data will be sent if the gateway is idle with no calls in progress.

PCM Traces is efficient at identifying problems with:

- Echo in the network
- DTMF signals
- Caller ID signals
- Fax signals (or false Fax detection)
- Message Waiting Indicator signals
- Any other analog signal
- Any voice quality issue

Requirements

TA7100

- Must use UMN v3.2r24.51 or later to have access to the PCM trace MIB variables.

Starting with DGW version 2.0r8.118, you can define the endpoint you wish to capture. For example, you can configure Port #12 on a 4124. For any older versions, the traces will be captured on port #1.

- The RTP stream last 2 digits will match the port number where the traces are being captured. For example, if you select port #3, the RTP streams will be sent on ports 5003 and 6003.

NOTE: The port names are as follows:

Ports	Names
TA7102	Phone-Fax1/ Phone-Fax2
TA7104	Port1 to Port4
TA7108	Port01 to Port24

Enabling the PCM Traces - Dgw 2.0

Enabling PCM Traces in the Configuration Script

Prerequisite The PCM traces destination must be set so it can be recorded in a Wireshark capture on your network, normally sent to the PC doing the capture.

NOTE: Scripts are case sensitive and spaces are required.

Steps

1. Create a txt file, and save it as a *.cfg.
2. Enter `Mipt.PcmCaptureEnable = "Enable"`
3. Enter `Mipt.PcmCaptureEndpoint = "Value"`, where "Value" is the unit's endpoint on which the PCM capture will be taken from.
 - Bri1-2: BRI1, channel 2
 - Slot2/E1T1-3: First E1 port, channel 3
 - Port09: Port 09 of a Mitel TA7108 unit
 - Port2: Port 2 of a Mitel TA7104
 - Phone-Fax1: Port 1 of a Mitel TA7102

NOTE: The port names are case sensitive.

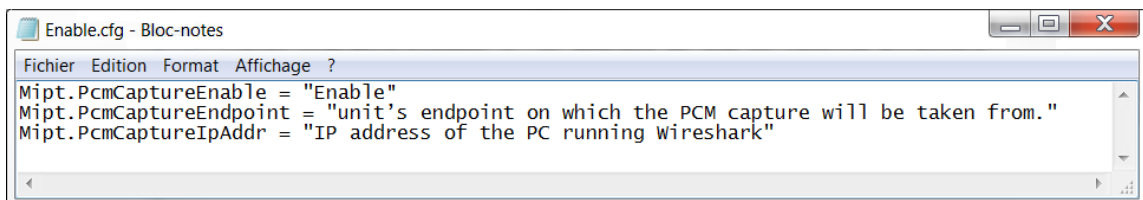
4. Enter `Mipt.PcmCaptureIpAddr = "Value"`, where "Value" is the IP address of the PC running Wireshark.

NOTE: The IP address does not have to be listening on UDP ports, as it is easy to filter out ICMP "port unreachable" messages afterwards.

5. Import the *.cfg file into the system. Refer to Configuration Scripts Import and Export.
6. When the capture is done, make sure to disable the `Mipt.PcmCaptureEnable` MIB parameter.

`Mipt.PcmCaptureEnable = "Disable"`

Result: This IP address does not have to be listening on UDP ports, as it is easy to filter out ICMP "port unreachable" messages afterwards.



```
Enable.cfg - Bloc-notes
Fichier Edition Format Affichage ?
Mipt.PcmCaptureEnable = "Enable"
Mipt.PcmCaptureEndpoint = "unit's endpoint on which the PCM capture will be taken from."
Mipt.PcmCaptureIpAddr = "IP address of the PC running Wireshark"
```

Enabling PCM Traces Using the CLI

Prerequisite The PCM traces destination must be set so it can be recorded in a Wireshark capture on your network, normally sent to the PC doing the capture.

NOTE: Scripts are case sensitive and spaces are required.

Steps

1. Using the CLI, set the Mipt.PcmCaptureEnable MIB parameter to Enable.

```
Mipt.PcmCaptureEnable = "Enable"
```

2. Set the Mipt.PcmCaptureEndpoint MIB parameter to the unit's endpoint on which the PCM capture will be taken from.

- Bri1-2: BRI1, channel 2
- Slot2/E1T1-3: First E1 port, channel 3
- Port09: Port 09 of a Mitel TA7108 unit
- Port2: Port 2 of a Mitel TA7104
- Phone-Fax1: Port 1 of a Mitel TA7102

```
Mipt.PcmCaptureEndpoint = "unit's endpoint on which the PCM capture will be taken from."
```

NOTE: The port names are case sensitive.

3. Set the Mipt.PcmCaptureIpAddr MIB parameter to the IP address of the PC running Wireshark.

Step Result: Mipt.PcmCaptureIpAddr = "IP address of the PC running Wireshark"

NOTE: This IP address does not have to be listening on UDP ports, as it is easy to filter out ICMP "port unreachable" messages afterwards.

4. When the capture is done, make sure to disable the Mipt.PcmCaptureEnable MIB parameter.

```
Mipt.PcmCaptureEnable = "Disable"
```

Result: In the configuration script, the value of Mipt.PcmCaptureEnable, Mipt.PcmCaptureIpAddr and Mipt.PcmCaptureEndpoint should reflect the values configured.

Enabling PCM Traces Using UMN

Prerequisite The PCM traces destination must be set so it can be recorded in a Wireshark capture on your network, normally sent to the PC doing the capture.

Steps

1. Using UMN, right click the name of the unit and select **Edit SNMP...**
2. Browse to: mediatrixSystem > gen5 > mediatrixCommon > mediatrixServices > miptMIB > miptMIBObjects > debugGroup > pcmCaptureGroup.
3. Set the pcmCaptureEnable MIB parameter to Enable.

4. Set the pcmCaptureEndpoint MIB parameter to the unit's endpoint on which the PCM capture will be taken from.
 - Bri1-2: BRI1, channel 2
 - Slot2/E1T1-3: First E1 port, channel 3
 - Port09: Port 09 of a Mitel TA7108 unit
 - Port2: Port 2 of a Mitel TA7104
 - Phone-Fax1: Port 1 of a Mitel TA7102

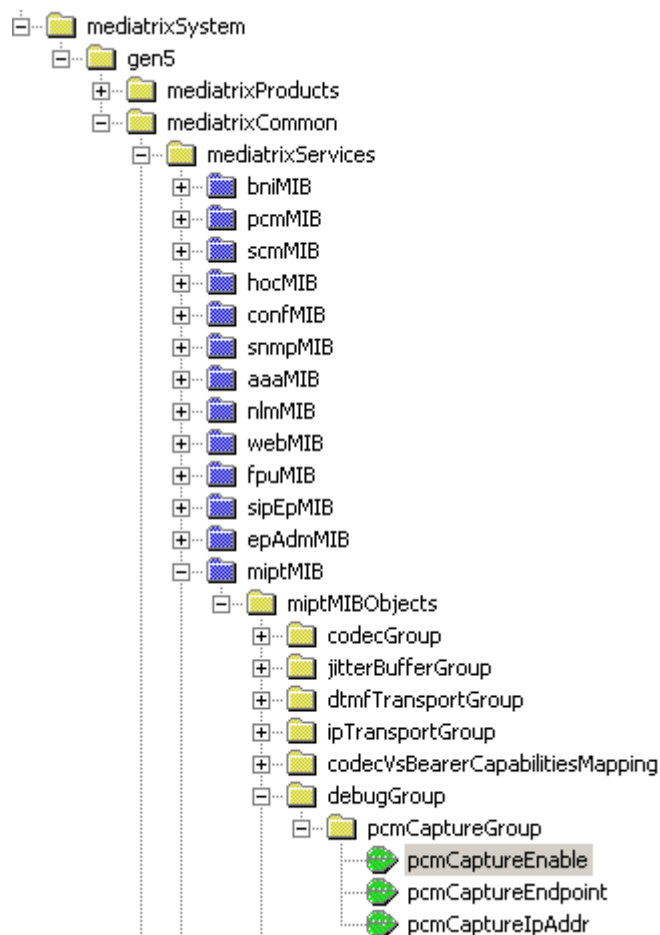
NOTE: The port names are case sensitive.

5. Set the pcmCaptureIpAddr MIB parameter to the IP address of the PC running Wireshark.

NOTE: This IP address does not have to be listening on UDP ports, as it is easy to filter out ICMP "port unreachable" messages afterwards.

6. When the capture is done, make sure to set the pcmCaptureEnable MIB parameter to Disable.

Result:



Logging On to the Mitel Unit Web Interface

For better performances, it is recommended to use the latest available version of Microsoft Internet Explorer, Google Chrome or Mozilla Firefox.

NOTE: You may not be able to log on to the Management Interface if you are using older versions.

The computer's network card must be on the same subnet as the Mitel unit.

Steps

1. In your web browser, enter the IP address used by your Mitel unit to communicate with the Management Interface.
 - If your computer is connected to the Ethernet port, commonly used to be connected to the Local Area Network (LAN), i.e. Eth2 on most devices, use the 192.168.0.10 IP address.
 - If your Mitel unit is configured to use a DHCP with IPv4, use the DHCP- provided IP address.

2. Enter public as your username and leave the password field empty.

NOTE: The public username account has administrator rights.

NOTE: You can also use admin as a username and administrator as password.


3. Click **Login**.

Result: The **Information** page of the Management Interface is displayed.

Restarting a Service - MIPT

If you are not familiar with the meaning of the fields, click Show Help, located at the upper right corner of the Web page, to display field description when mousing over the field name.

Steps

1. Go to System> Services.
2. In the User Service table, locate the service Media IP Transport (MIPT).
3. From the Startup Type selection list next to Media IP Transport (MIPT), choose the if you wish the service to start automatically when the system starts, or to start to the service manually when needed.
4. In the User Service table, click  .

Result: The tab from which you can access the web pages are no longer greyed out.

Enabling the PCM Traces using the Call Router - Dgw v2.0

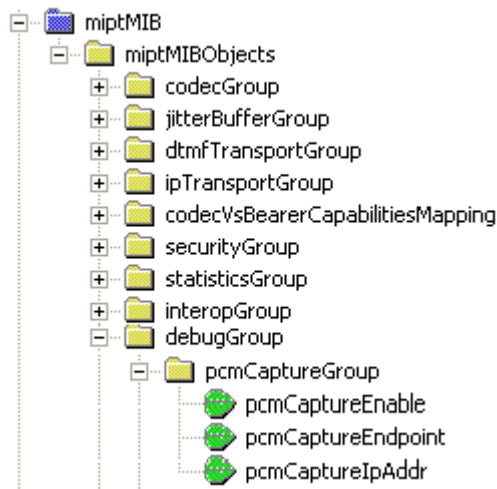
Enabling the PCM Traces using the Call Router - Dgw v2.0

Steps

1. Using UMN, browse to: mediatrixSystem -> gen5 -> mediatrixCommon -> mediatrixServices -> miptMIB -> miptMIBObjects -> debugGroup -> pcmCaptureGroup.
2. Enable the PCM traces by setting the pcmCaptureEnable MIB variable to enable.
3. Set the destination IP address (without the ip port) for the PCM traces in the pcmCaptureIpAddr MIB variable.

NOTE: Do NOT configure endpoint in the pcmCaptureEndpoint.


Result:



Creating a Mapping Type - Debug

If you are not familiar with the meaning of the fields, click Show Help, located at the upper right corner of the Web page, to display field description when mousing over the field name.

Steps

1. Go to Call Router > Route Config.
2. In the Mapping Type table, click .
3. Give a name to the mapping.
4. In the Criteria field, select Calling E164.
5. In the Transformation field, select Debug.

NOTE: The Transformation keyword Debug is case sensitive.

- Click Save.

Result:


Configure Mapping Type End	
	Value
Name	<input type="text" value="\$Example"/>
Criteria	<input type="text" value="Calling E164"/>
Transformation	<input type="text" value="Debug"/>
Config Status	

Creating a Mapping Expression - Debug

Prerequisite You must have completed the task *Creating a Mapping Type - Debug*.

If you are not familiar with the meaning of the fields, click Show Help, located at the upper right corner of the Web page, to display field description when mousing over the field name.

Steps

- Go to Call Router > Route Config.
- In the Mapping Expression, click .
- In the Sub Mappings, select the mapping type you want to configure.
- In the Name field, select the same mapping type as in step 3.
- In the Criteria field, select the calling number you want to debug.
- In the Transformation field, type PcmCapture.

NOTE: The transformation keyword PcmCapture is case sensitive.

- Click on Save.


Result:

Configure Mapping Expression End		
	Value	Suggestion
Type	Calling E164 to Debug	
Name	<input type="text" value="\$Example"/>	<input type="text" value="--- Suggestion ---"/>
Criteria	<input type="text" value="\$123Example"/>	<input type="text" value="--- Suggestion ---"/>
Transformation	<input type="text" value="PcmCapture"/>	<input type="text" value="--- Suggestion ---"/>
Sub Mappings	<input type="text" value="\$Example"/>	<input type="text" value="--- Suggestion ---"/>
Config Status		

Adding a Mapping to a Route

If you are not familiar with the meaning of the fields, click Show Help, located at the upper right corner of the Web page, to display field description when mousing over the field name.

Steps

1. Go to Call Router > Route Config.
2. In the Route table, click  next to the route you want to configure.
3. In the Mappings field, select the mapping you want to add.
4. Click Save.

