

Enabling the PCM Traces of a Port Using UMN

All Mediatrix Units

DGW 49.2.2941

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PCM Traces

The PCM traces are two different RTP streams made specifically to record all analog or digital signals that are either sent or received by the telephony ports of the Mediatrix unit.

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 start-up, 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 start-up 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 are usefull 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

- UMN v3.2r24.51 or later
- RTP stream port 5001 is used for the PCM stream received from the peer.
- RTP stream port 6001 for the PCM stream sent to the peer.
- For S7/G7/C7 Series and Sentinel 100 and 400 test calls must be done on the configured port.

Note: Because of the resulting RTP traffic, enabling **Update List of Packets in Real Time** has been known to wrongly report 40% packet loss in Wireshark, which may totally impair our analysis capabilities. This feature must be disabled in Wireshark.

Note: PCM traces are not recommended in real deployments, unless it is for a short period of time, but rather in a lab environment and is meant for troubleshooting purposes only

The port names are as follows:

Ports	Names
4102S	Phone-Fax1/Phone-Fax2
C7	FXS1 to FXS8 FXO1 to FXO8
G7/S7/Sentinel 100	PRI1, PRI2, ... FXS1, FXS2, ... FXO1, FXO2, ...
Sentinel 400	Slot1/E1T1, Slot2/E1T1... Slot3/FXS1, Slot3/FXS2... Slot3/FXO1, Slot3/FXO2...

Enabling the PCM Traces of a Port Using UMN

Before you start

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.

Information

If a port is receiving several calls at a time, the capture will be performed on the first call until it is completed, and only then will a capture be performed on another call. Traces are taken as soon as the port is opened.

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. For endpoint examples, refer to [Endpoint Examples](#) (p.8).

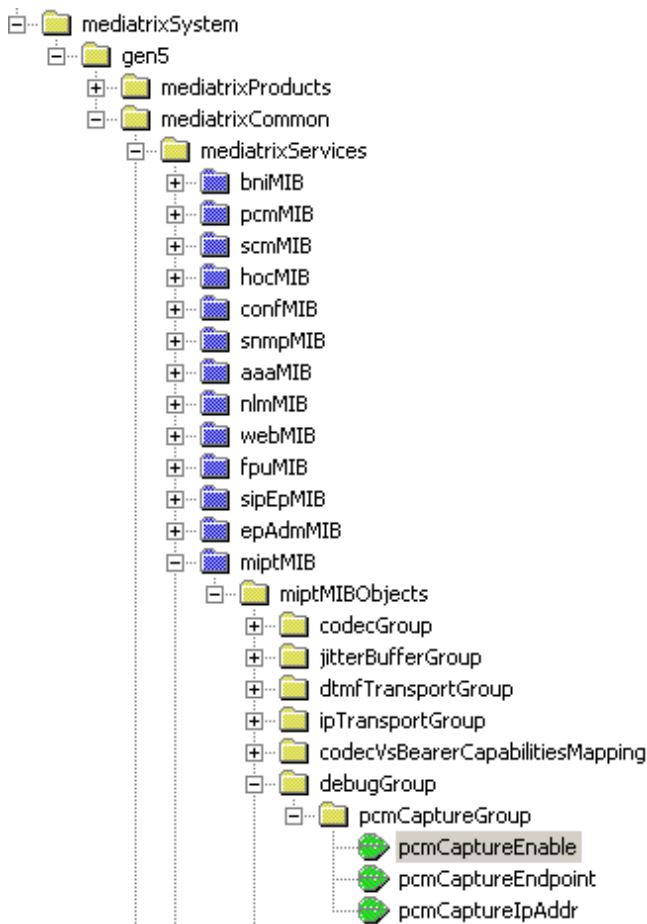
Note: To make sure that you are capturing the appropriate endpoint, please verify its naming by running the following command in CLI: **Epadm.Endpoint**. The output of the command displays a table with the unit's endpoints.

- 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 Mediatrix Unit Web Interface

Before you start

The computer IP address must be in the same TCP/IP network as the Mediatrix unit.

Information

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 Mediatrix unit Web interface if you are using older browser versions.

Steps

- 1) In your Web browser, enter the IP address at which the Web interface of your Mediatrix unit can be reached.
 - If your network has an IPv4 DHCP server, connect the primary Ethernet port of the Mediatrix unit to the network (ETH1 port), use the provided DHCP server IP address.
 - You can also connect your computer to the secondary Ethernet port of the Mediatrix unit (ETH2), use the 192.168.0.10 IP address. However, the computer must also own an IP address in the 192.168.0.0/24 network.
- 2) Enter **admin** as your username and **administrator** as the password.

Note: You can also use **public** as a username and leave the password field empty; it has the full administration rights by default.

- 3) Click **Login**.

Result

The **Information** page of the Web interface is displayed.

Restarting a Service - MIPT

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 **Auto** if you wish the service to start automatically when the system starts, or **Manual** 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.

Endpoint Examples

Endpoint Name	Description
Bri1-2	BRI port 1, channel 2
Slot2/E1T1-3	Channel 3 of the E1 port located in slot 2
Port09	Port 09 of a Mediatrix 4108-16-24 unit
Phone-Fax1	Port 1 of a Mediatrix 4102S unit
FXS1	Port 1 of the FXS card of a Mediatrix C7 unit
FXO1	Port 1 of the FXO card of a Mediatrix C7 unit

All possible endpoint names are listed in the Endpoint table displayed in the DGW Web interface (**System/Endpoints**). You may also access this table via the CLI by using the **EpAdm.Endpoint** command or directly via UMN.

Online Help

If you are not familiar with the meaning of the fields and buttons, click **Show Help**, located at the upper right corner of the Web page. When activated, the fields and buttons that offer online help will change to green and if you hover over them, the description will be displayed.

DGW Documentation

Mediatrix devices are supplied with an exhaustive set of documentation.

Mediatrix user documentation is available on the [Media5 Documentation Portal](#).

Several types of documents were created to clearly present the information you are looking for. Our documentation includes:

- **Release notes:** Generated at each GA release, this document includes the known and solved issues of the software. It also outlines the changes and the new features the release includes.
- **Configuration notes:** These documents are created to facilitate the configuration of a specific use case. They address a configuration aspect we consider that most users will need to perform. However, in some cases, a configuration note is created after receiving a question from a customer. They provide standard step-by-step procedures detailing the values of the parameters to use. They provide a means of validation and present some conceptual information. The configuration notes are specifically created to guide the user through an aspect of the configuration.
- **Technical bulletins:** These documents are created to facilitate the configuration of a specific technical action, such as performing a firmware upgrade.
- **Hardware installation guide:** They provide the detailed procedure on how to safely and adequately install the unit. It provides information on card installation, cable connections, and how to access for the first time the Management interface.
- **User guide:** The user guide explains how to customise to your needs the configuration of the unit. Although this document is task oriented, it provides conceptual information to help the user understand the purpose and impact of each task. The User Guide will provide information such as where and how TR-069 can be configured in the Management Interface, how to set firewalls, or how to use the CLI to configure parameters that are not available in the Management Interface.
- **Reference guide:** This exhaustive document has been created for advanced users. It includes a description of all the parameters used by all the services of the Mediatrix units. You will find, for example, scripts to configure a specific parameter, notification messages sent by a service, or an action description used to create Rulesets. This document includes reference information such as a dictionary, and it does not include any step-by-step procedures.

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