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1. Introduction

The Quadro's Streaming Hold Music feature allows the on-hold party to listen to the voice streamed by an external RTP streamer rather than the prerecorded voice stored on the Quadro. There is a possibility to play different streams for each extension, to play very long audio files as hold music, also allowing dynamically changing the content of hold music. Feature could be used for playing advertisements to callers while they are placed on hold.

The RTP streams can be generated by an application on a PC, which get the stream from any location (file, internet radio etc).

Epygi provides a free tool called Epygi Media Streamer (EMS), which allows streaming several sequences of MP3 files to a specified unicast or multicast IP address/port. The EMS is an application for PC, which can be easily and quickly configured.

Streaming Hold Music should be configured both on the Quadro and EMS. This guide provides step by step instructions how to install and configure the EMS and the Quadro for streaming hold music.

The Streaming Hold Music feature is available on Quadro2x, Quadro4x/16x, Quadro6L, Quadro4Li, QuadroM32x running FW 5.1.17 and higher and on QuadroM8L, QuadroM26x, QuadroM26xi, QuadroM12Li running FW 5.2.7 and higher.

2. References

For more details about Quadro's Streaming Hold Music feature, see the following references:

- Extension User's Manual
- Administrator's Manual

3. Installing EMS

The following are the requirements for EMS application:

- MS WindowsXP and MS Windows Vista
- TCP connection

Run the emssetup.exe file and follow the instructions. Upon finishing the setup the EMS application is now ready for configuring and use.

4. EMS Functionality

This application consists of a window which displays the created playlist and the RTP destinations.

- Playlist files pane indicates the list of mp3 files in the playlist.
- **Description pane** displays the characteristics of the selected mp3 file.
- **RTP Destinations pane** indicates the RTP destinations where the selected playlist should be played.

Please Note: If you wish to play different playlists on different RTP channels at the same time, several instances of EMS should be launched.

- **Progress bar** displays the progress of the selected mp3 file playing.
- **Time elapsed (seconds)** displays how long the selected playlist is already played on the RTP destination(s).
- Status bar indicates which file is playing in the playlist.

4.1. Toolbar

Following options are available in the toolbar:

- New playlist creates a new playlist.
- **Open playlist** opens the previously created playlist. When this option is selected, a window with existing playlist appears. Choose the preferred playlist to launch.
- **Delete playlist** deletes the previously created playlist. When this option is selected, a window with existing playlist appears. Choose the preferred playlist to delete.
- Add file to playlist adds mp3 files to the launched playlist. This option opens a window where
 the source file should be selected. In Decode Options, the destination stream Format (U-Law or
 A-Law) and the Packetization Time should be selected.
- Remove file from playlist removes the mp3 files from the launched playlist.
- Add RTP destination adds Quadro's IP address and the port number where the launched playlist will be played. This option opens a window where the IP address and the port number should be provided.

Please Note: The RTP destination defined here should be the Quadro's IP address where the RTP stream will be used for hold music or any other type of long-lasting music played to the party in the call. The RTP port number defined here should be configured in the **RTP Streaming Channels** page (see Telephony menu) in the Quadro's Web Management. Then the corresponding service (like hold music, call queue music, etc.) should be configured on the Quadro to use the RTP channel configured in the **RTP Streaming Channels** page.

- Remove RTP destination removes an RTP destination from the list.
- Start streaming starts the playlist streaming over the configured RTP destination(s).
- **Stop streaming** stops the playlist streaming.
- Convert file starts the audio file conversion.

4.2. Menu options

Following menus are available:

- **Playlist** offers to create a new playlist, aunch or delete an existing playlist. **Exit** option in this menu is used to quit the application.
- View allows you to show or hide the Toolbar and the Status bar.
- **Streaming** offers options to add/remove file to/from playlist, add or delete an RTP destination, start and stop the streaming. **Loop Mode** enables the playlist to be played in the loop, i.e. once the last mp3 file is played, the streaming will automatically start over the first mp3 file in the playlist.
- **Tools** offers option to convert an audio file.
- Help opens an online help and the About window.

For details about options in the EMS application menus, see chapter Toolbar.

5. Configuring EMS

The following step-by-step instructions describe how to configure the EMS for streaming hold music:

1. Run EMS. The main window for EMS will open.

Ce MediaStreamer - No playlist	
<u>Playlist View Streaming Tools H</u> elp	
Playlist files	nations
Progress Time elapsed (seconds) 0
Ready	NUM

Figure 1: EMS main window

2. Add a playlist by selecting the **New Playlist** menu or using Toolbars.

Please Note: EMS stores the Playlists for users that have no admin rights.

🛭 MediaStreamer - No playlist 📃	
Playlist View Streaming Tools Help	
Playlist files	
Progress Time elapsed (seconds)	
Ready	

Figure 2: Creating a Playlist

 Add file(s) to the created playlist. Use menu Streaming to add files to playlist or use Toolbars.

Please Note: The added file should be in MP3 format.

4. The newly added audio file will appear in the left playlist files window. You may add as much files as you need.

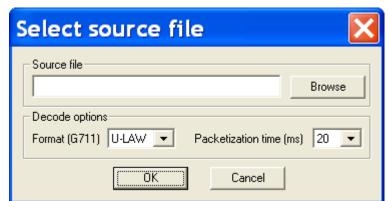


Figure 3: Adding files to the Playlist

MediaStreamer - a	abc 📃 🗌 🔀
Playlist ⊻iew Streaming ■ ♥ ୬ ☴ ☜ ■ ▶	
Playlist files Yerevani , Gishernerum.mp3	Size (in bytes) : 5285265 First frame at byte: 2133 MPEG 1 Layer III Bitrate (kbps) : 128 Frequency (Hz) : 44100 Stereo Length (in sec) : 322 Format: U-law SampleRate(H2): 8000 Packetization(ms): 20
	Time elapsed (seconds)
l Ready	NUM

Figure 4: Adding files to the Playlist

5. Use the Add RTP destination menu or Toolbars to add the destination Quadro to the list.

Add RTP destination	X
IP address 192.168.85.241 Port 7000	
Add Cancel	

Figure 5: Adding RTP Destination

6. Choose the **Start Streaming** menu or use toolbars to start the streaming for the audio file.

MediaStreamer - a	ıbc	
<u>P</u> laylist <u>V</u> iew <u>S</u> treaming	<u>T</u> ools <u>H</u> elp	
• • * , = =	• 🔁	
Playlist files Yerevani_Gishernerum.mp3	Size (in bytes) : 5285265 First frame at byte: 2133 MPEG 1 Layer III Bitrate (kbps) : 128 Frequency (Hz) : 44100	RTP destinations
	Stereo Length (in sec) : 322	
Progress	Format: U-law SampleRate(Hz): 8000 Packetization(ms): 20	
	Time ela	psed (seconds) 39
Streaming: Yerevani_Gishernerum.m		psed (seconds) 39

Figure 6: Streaming progress

7. Use the **Tools** menu or toolbars to start the conversion of an audio file.

Please Note: The MP3 files will be converted in a wav media format which may be used as custom system message for Quadro.

File format conversion
Input E:\Music\ARMENIAN\Hayko\Yerevani_Gishernerum.mp3 Browse Format MPEG Layer-3 Rate(Hz) 44100 Stereo Duration (sec) 322
Output E:\Music\ARMENIAN\Hayko\Yerevani_Gishernerum_convert.wav
Format CCITT u-Law Rate 8000 Mono V
Figure 7: Conversion progress

6. Configuring Quadro for streaming music on hold

Once EMS has been successfully installed and configured, go to the Telephony \rightarrow RTP Streaming Channels on the Quadro. This will open the **RTP Streaming Channels** page (Figure 8).

M				Network	epygi Guadole.260
	P Stream	ning Cha			
	Channel Name	Local RTP Port	Description		
	rt	5000			
Plei	Back se check your pend (C) 2003-2009 Epypi		All rights reserved.		Heip

Figure 8: Configuring RTP Streaming Channels

Add functional link in this page will open the **RTP Streaming Channels - Add Entry** page where the RTP Channel Name and Port Number can be configured (Figure 9).

Main System Users Telephony Internet Uplink Network	epygi Guatoako260
RTP Streaming Channels - Add Entry	
RTP Channel Name Ch1	
Port Number 2000	
Description	
Save Back	Неір
Plasse check your pending events! Copylight (C) 2003-2009 Egzal Technologies, Ltd. All rights reserved.	

Figure 9: Editing RTP Streaming Channels

After saving, the newly created RTP channel will appear in the RTP Streaming Channels table (Figure 10).

Mai		ers Telephony	Internet	Uplink Network	Cepygi Quattorito 268
RT	P Stream Edit Delete Sc Channel Name r1 Ch1 Back	ning Cha	nnels		
Ade	Channel Name	Local RTP Port	Description		
0	rt	5000			
0	Ch1	7000			
	Back				Help
Pleas	e check your pend c) 2003-2009 <u>Esysi</u>	fing events!		ц.	

Figure 10: Configuring RTP streaming channels

Now the music on hold should be defined for each extension. To do that, go to **Supplementary** Services→Basic services→General Settings for the extension on the Quadro and select Hold Music Settings (Figure 11).

Select the RTP Channel option, choose the channel and save.

Main Voice Mail Your Extension Supplementary Services					
Basic Service Extension: 11	s - Hold Music Settings				
General Settings Hold Music Settings	IR Send Hold Music to remote IP party Liston Hold Music. [Caller_Music ■				
Do Not Disturb Settings Hot Line Settings	C File ERestore default Hold Music file Upload new Hold Music file Decement				
	Choose Charet Chi -				
	Save Back	Help			

Figure 11: Extension Hold Settings

Please Note: If the extension is set to use external streaming channel for its hold music, users should ensure that the stream is always present. If the stream is absent by some reason, the party being on hold will listen silence.

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