PaloSanto Solutions
OPEN SOURCE INNOVATION

ATCOM

Atcom AX400P and Elastix Server

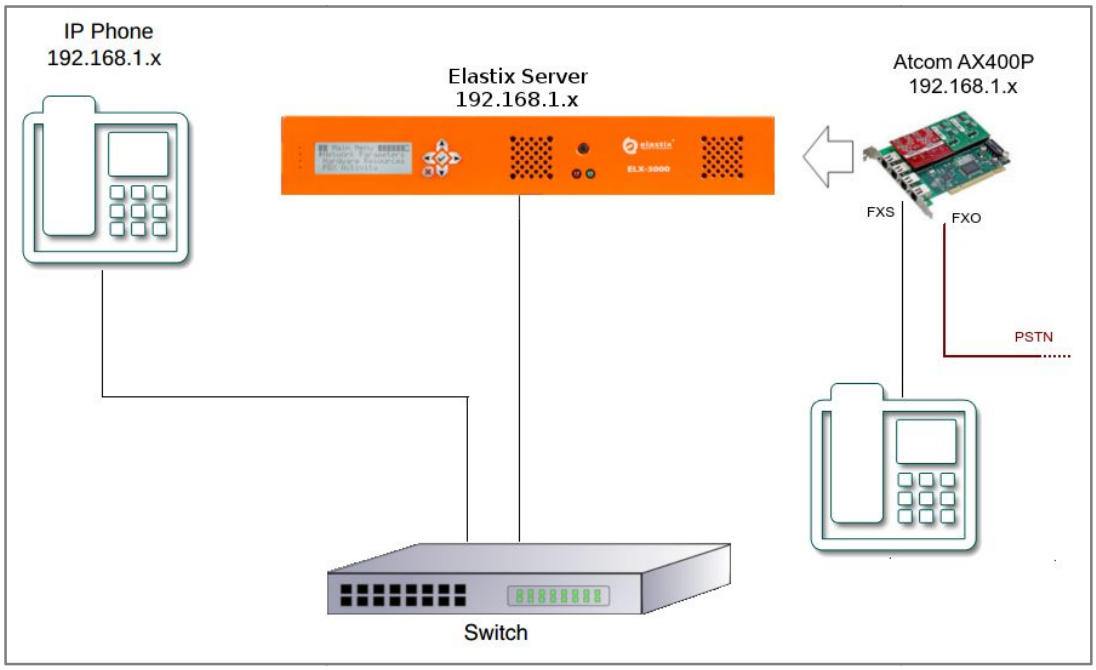
Setup Guide

ELASTIX CERTIFIED

1.0 Setup Diagram

Figure 1-1 is a setup diagram for a single Atcom AX400P Interface Card configuration. .

Figure 1-1. Setup Diagram



2.0 Host PC Environment

Table 2-1. Host Server Environment Details

	Description
Hardware Type	Elastix Appliance ELX-Series
Hardware Version	ELX-3000
Software Type	Elastix
Software Version	2.3

3.0 Test Setup Equipment

Table 3-1. Test Setup Equipment

Equipment	Model	Version
IP (SIP) Phone	N/A	N/A
Atcom	AX400P	dahdi-2.4.1.2-10
Switch	N/A	N/A

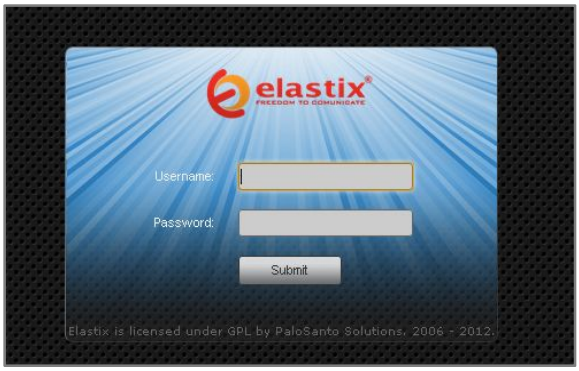
4.0 Setup Procedure

To set up the Elastix Server for the Atcom AX400P Interface Card,

1. Go to the web address of the Elastix Server Login page. The web address is determined by the customer, for this guide we have used the IP address 192.168.1.75

2. On the Login page, type the username and password for an administrative user into the Username: and Password: fields, see Figure 4-1. The username and password are determined by the customer.

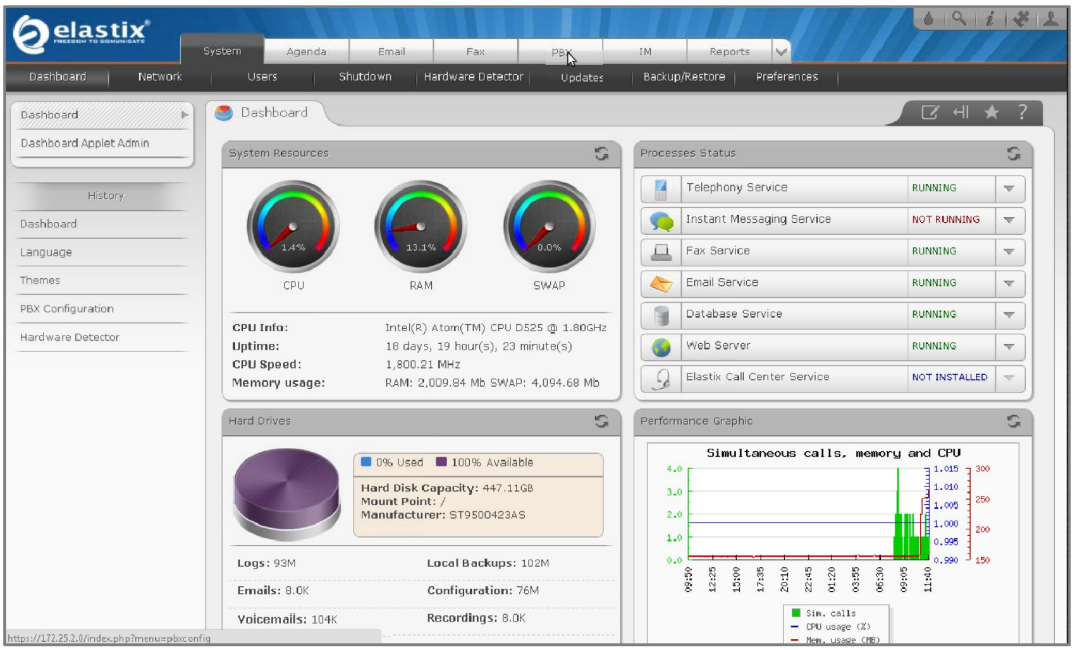
Figure 4-1. Login



3. Press Enter or click on the Submit button to go to Elastix's Dashboard

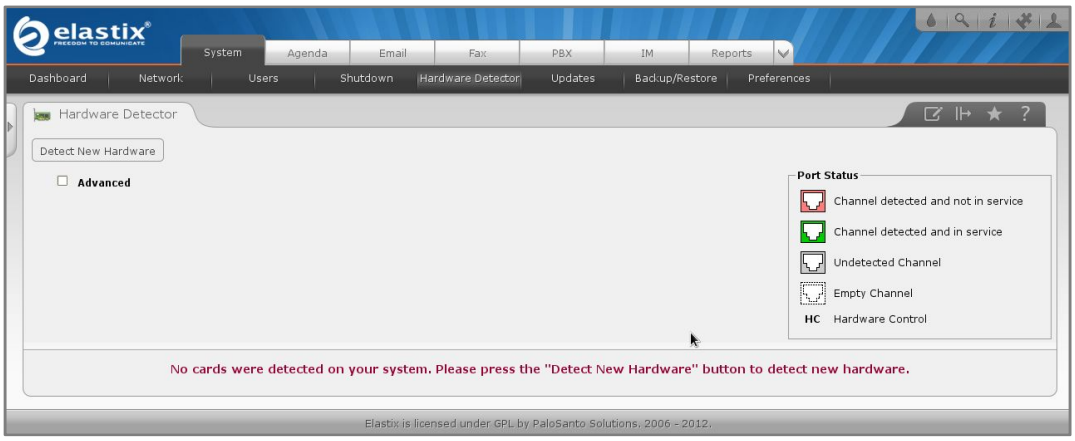
4. Once inside, click on the System tab on the menu at the top of the screen

Figure 4-2. Dashboard



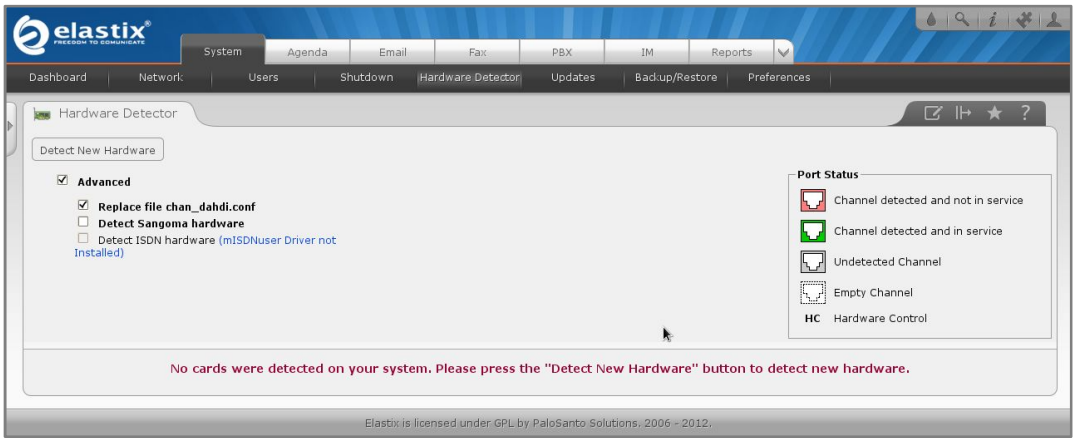
5. Now, click on "Hardware Detector" tab see Figure 4-3. This will take you to set some parameters for detecting new hardware in Elastix, see Figure 4-3.

Figure 4-3.Hardware Detector



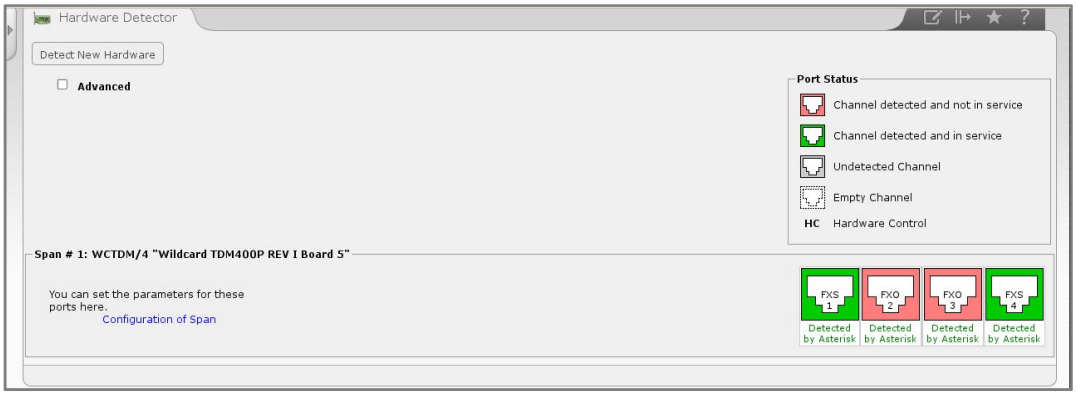
6. Click on “Advance” checkbox and select “Replace file chan_dahdi.conf” option. Now click on “Detect New Hardware” (Figure 4-4).

Figure 4-4.Hardware Detector



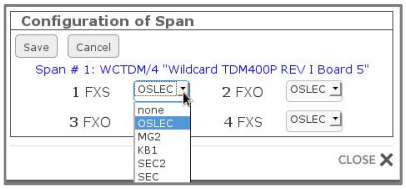
7. If the interface card is successfully detected you should see FXO and FXS ports shown at the bottom of the page. It should say “Detected by Asterisk”. The green color represents voltage presence in the port. Thus, FXS ports are shown in this color. (Figure 4-5).

Figure 4-5. Hardware Detection



8. You can configure ports for echo cancellation. Click on “Configuration of Span” link located on the left side of the detected ports (Figure 4-6).

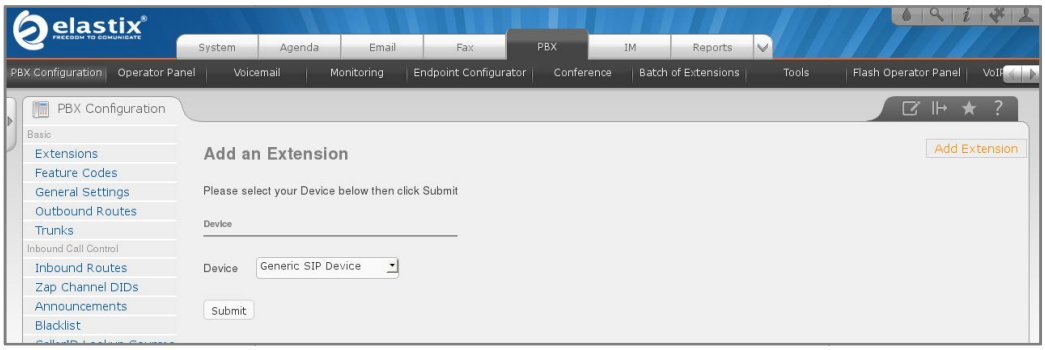
Figure 4-6. Configuration of Span



9. In Elastix the echo cancellation by default is OSLEC. You can change this value according to your needs.

10. Once the card is detected, we’ll create an incoming route for the calls coming from PSTN to our FXO port. We’re going to use an IVR for incoming calls. First let’s create a SIP extension that will be one of the IVR options. For this go to “PBX => PBX Configuration => Extension”. Click on “Submit” having selected “Add SIP Device” option. (Figure 4-8)

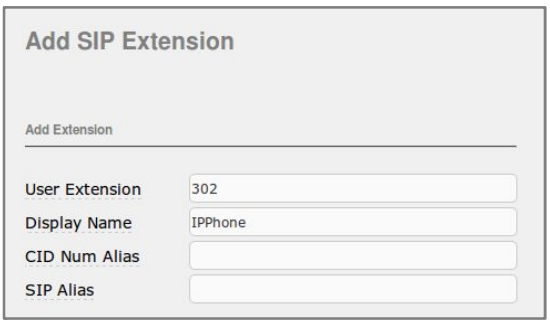
Figure 4-8. SIP Extension

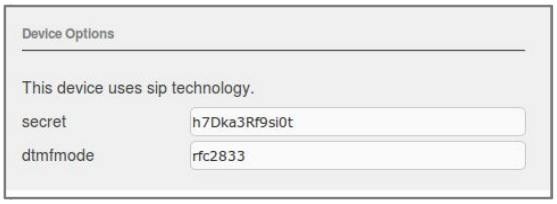


11. Fill in the following information on the Add SIP Extension page (Figure 4-9):

- **User Extension** (302 in this example)
- **Display Name** (‘IPPhone’ in this example)
- **secret** (‘h7Dka3Rf9si0t’ in this example)

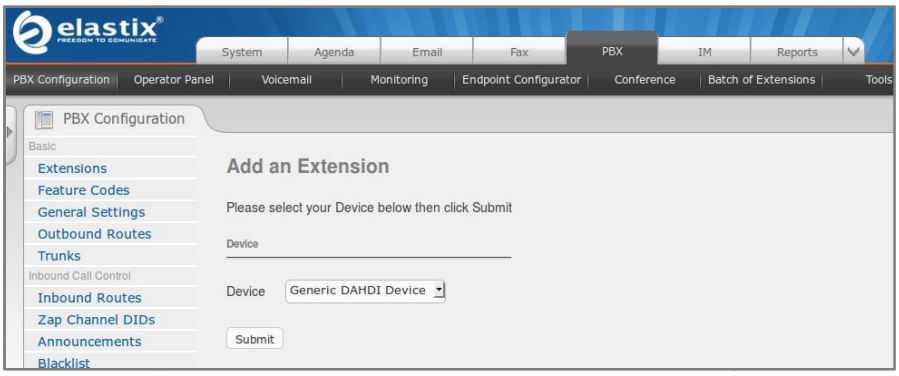
Figure 4-9. Add SIP Extension





12. Click on "Submit" button located at the end of the page and apply changes by clicking on the Apply Changes link that will appear on the top of the page. Now we'll create an extension for analog phone connected to the FXS port of the card. Go back to the Add Extension page, choose the "Generic Dahdi Device" option and click on "Submit". (Figure 4.10)

Figure 4-10. Dahdi Extension



13. Fill in the following information (Figure 4-11):

Add Extension

- **User Extension:** (303 in this example)
- **Display Name:** ('AnalogPhone' in this example)

Device options

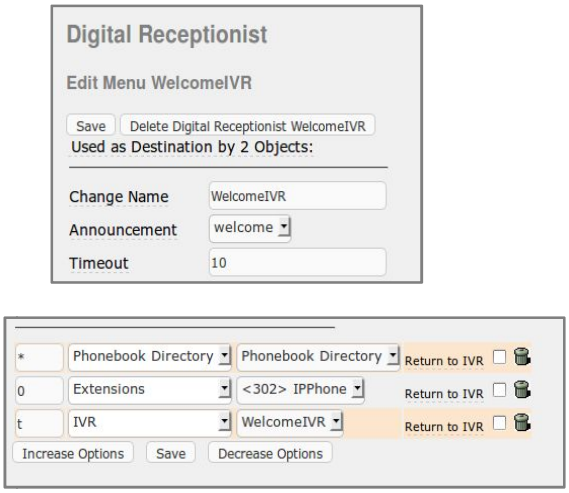
- **Channel:** See the channel's number of the FXS port, refer to figure 4-5 ('1' in this example)

Figure 4-11. Dahdi Extension

14. Click on "Submit" button located at the end of the page and apply changes.. Now, go to "PBX => PBX Configuration => IVR". Click on "Add IVR" link (Figure 4.12). Set the following:

- **Name:** Name of IVR (WelcomeIVR in this example)
- **Announcement:** Record which will be played for incoming calls.
- **Options:**
  - * - Phone book.
  - 0 - 302 Extension
  - t - Repeat the options of IVR (Add this option by modifying the IVR after creation)

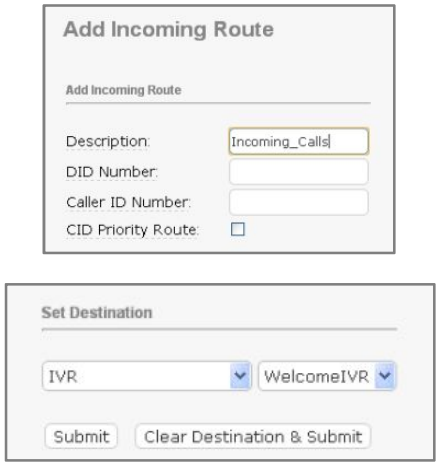
Figure 4-12. IVR



15. Click on "Save" and Apply changes by clicking on the pink ribbon that appears at the top of the page. Now go to "PBX => PBX Configuration => Inbound Routes". Click on "Add Incoming Route" link (Figure 4.13). Set the following:

- **Description:** Name of inbound route ("Incoming_Calls" in this example)
- **Set destination:** Where the call will be routed. ("WelcomeIVR" in this example)

Figure 4-13. Incoming Route

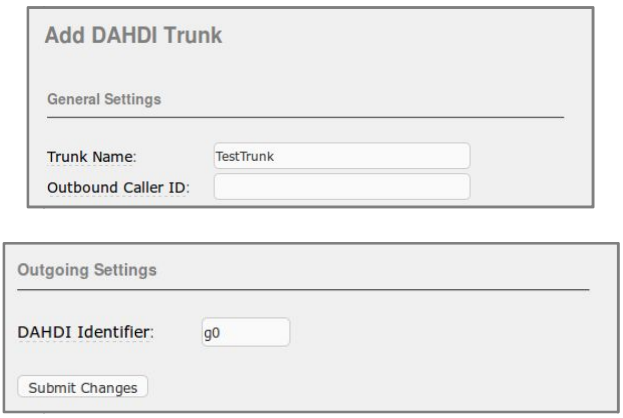


16. Click on "Submit" and apply changes. Now when we receive calls the "WelcomeIVR" IVR will play to the caller giving him choices to interact with Elastix Server.

17. We will also configure an Outbound Route for outgoing calls depending on a prefix. For this we have to configure a DAHDI Trunk first. Go to "PBX => PBX Configuration => Trunks". Click on "Add DAHDI Trunk", then "Submit" (Figure 4-14). Set the following:

- **Trunk Name:** A name for the DAHDI trunk ("TestTrunk" in this example)
- **DAHDI Identifier:** Specify the channel to be used for the trunk. ("g0" is the default value. For more details about the choices you have, refer to **Appendix** in this guide).

Figure 4-14. Trunks



18. Click on "Submit Changes" and apply changes. Go to "PBX => PBX Configuration => Outbound Routes". Click on "Add Route" link (Figure 4-15). Set the following:

Route Settings

- **Route Name:** ("9_Outside_Test" in this example)

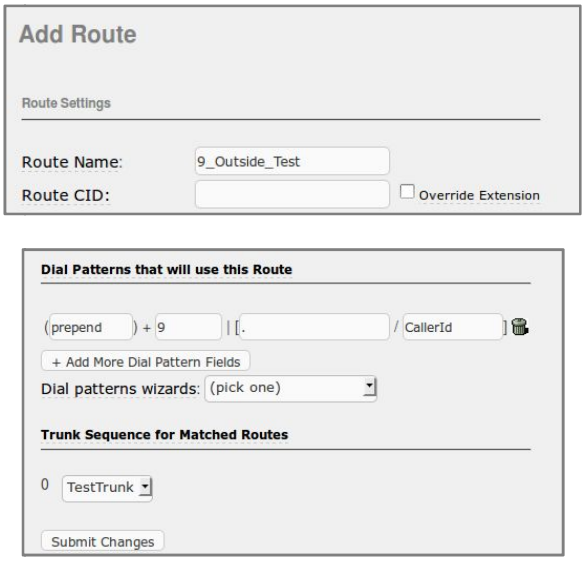
Dial patterns

- **Prefix:** (“9” in this example) | **Match pattern:** (“.” in this example)

Trunk Sequence for Matched Routes

- **0:** The trunk that we just created (“TestTrunk” in this example)

Figure 4-15. Outbound Route



19. Click on “Submit Changes” and Apply configuration. If you want to make a call through the FXO port, we just have to dial the number with “9” as prefix.

20. Configure the other IP (SIP) Phone with the correct parameters (Check out figure 4.9). This step completes the procedure for making and receiving calls using an OpenVox AX400P Interface Card.

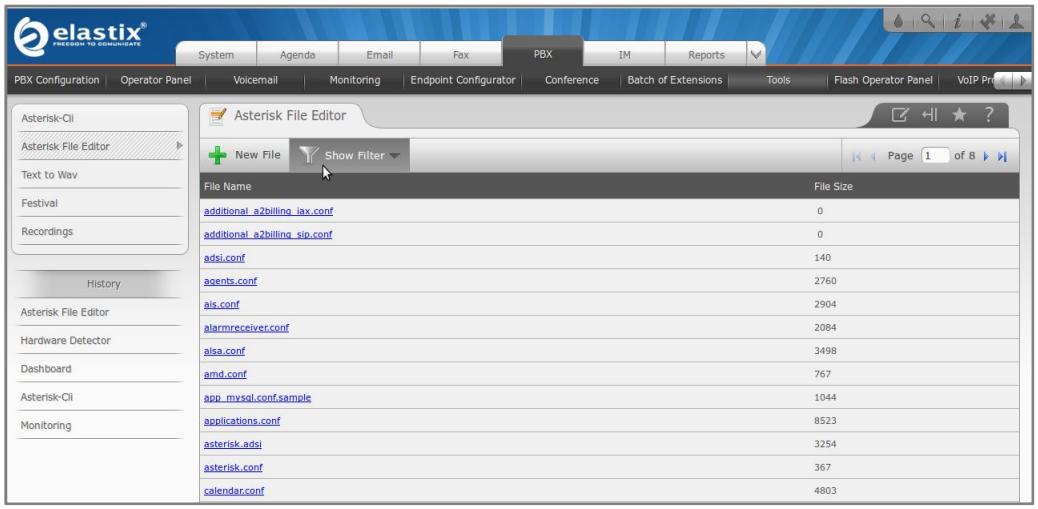
APPENDIX

DAHDI Identifier

When you create a DAHDI Trunk you need to specify a group of channels or one single channel that will be used for the trunk. To check this information, follow these steps:

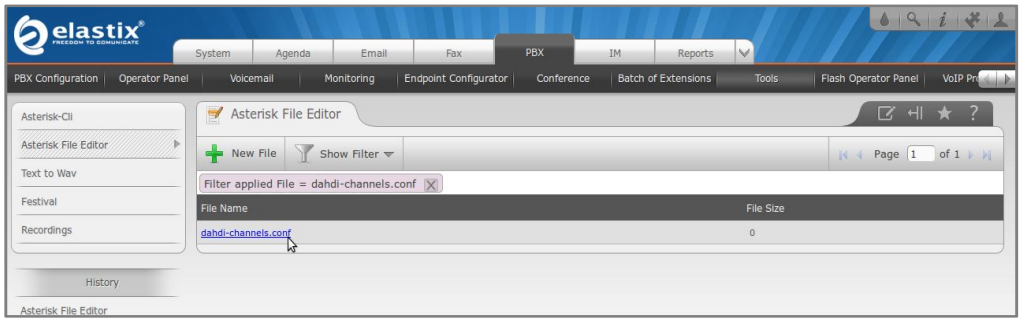
1. In the Elastix Server WebUI go to "PBX => Tools". Select "Asterisk File Editor" option located on the left side. Click on "Show Filter" (Figure A-1).

Figure A-1. Asterisk File Editor



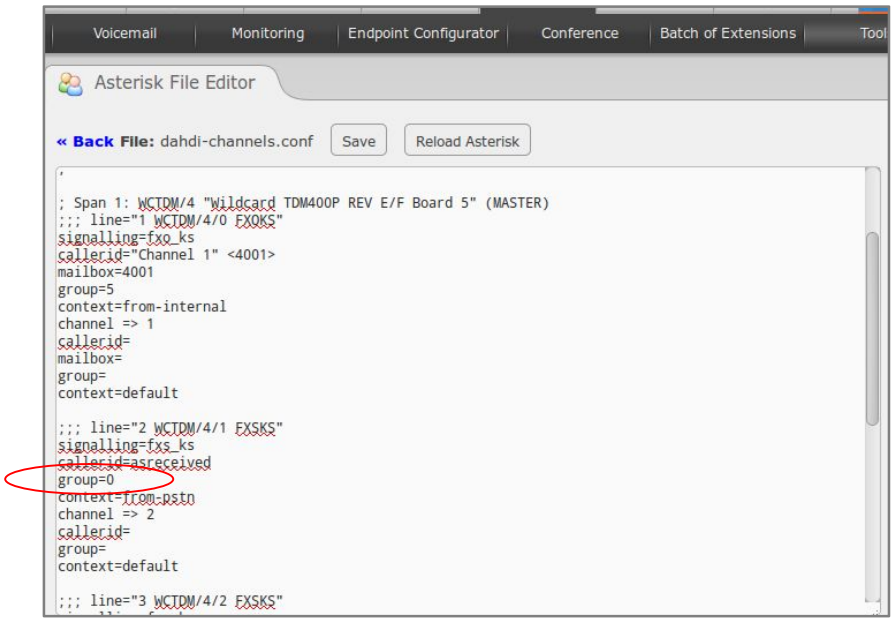
2. In the filter field write "dahdi-channels.conf" without quotes and press ENTER (Figure A-2).

Figure A-2. Filter



3. Click on "dahdi_channels.conf" file. Check the "group" parameter.
   In this example we have group 0 for all FXO ports. Also we can check the channels parameter for each port here. You can change the group value by your convenience and don't forget to save changes and reload asterisk service.

Figure A-3. “dahdi-channels.conf”



For example, if we want to use the channel 2 for outgoing calls, when we create the dahdi trunk the Dahdi Identifier field should be set to “g0” or “2”. Make sure the other ports don’t use the same group 0.