



FIBERME Communications LLC.

Connecting GXW450x with FCM630A

Table of Contents

INTRODUCTION.....	3
Environment Setup.....	3
CONNECTING GXW450X and FCM630A USING PEER SIP TRUNK	4
Create Peer SIP trunk on GXW450X.....	4
Create Peer SIP trunk on FCM630A.....	6
CONFIGURE CALL ROUTING.....	8
From GXW450X (Digital) to FCM630A (VoIP).....	8
Step 1: Configure Inbound Rule on GXW450X.....	8
Step 2: Configure Outbound Rule on GXW450X.....	8
Step 3: Configure Inbound Rule on FCM630A	9
From FCM630A (VoIP) to GXW450X (Digital).....	10
Step 1: Configure Outbound Rule on FCM630A	10
Step 2: Configure Inbound Rule on GXW450x.....	10
Step 3: Configure Outbound Rule on GXW450x.....	11



Table of Figures

Figure 1: Typical Architecture	3
Figure 2: SIP Trunk - Create New SIP Trunk on GXW4501.....	4
Figure 3: SIP Trunk - Set Enable Heartbeat on GXW4501	5
Figure 4: SIP Trunk - Trunk Status on GXW4501.....	5
Figure 5: Create new SIP trunk on FCM630A.....	6
Figure 6: SIP Trunk - Set Enable Heartbeat on FCM630A.....	7
Figure 7: SIP Trunk - Trunk Status on FCM630A	7
Figure 8: Create new inbound rule on GXW450x.....	8
Figure 9: Create new outbound rule on GXW4501	9
Figure 10: Create new inbound rule on FCM630A.....	9
Figure 11: Create new Outbound Rule on FCM630A	10
Figure 12: Create new inbound rule on GXW4501	11
Figure 13: Create new outbound rule on GXW4501	11



INTRODUCTION

This document describes basic configuration to interconnect GXW450x with FCM630A series. This is typically applied to the scenario where users would like to use T1/E1/J1 interface with FCM630A.

Environment Setup

The following illustration show the typical setup that will be used in this guide:

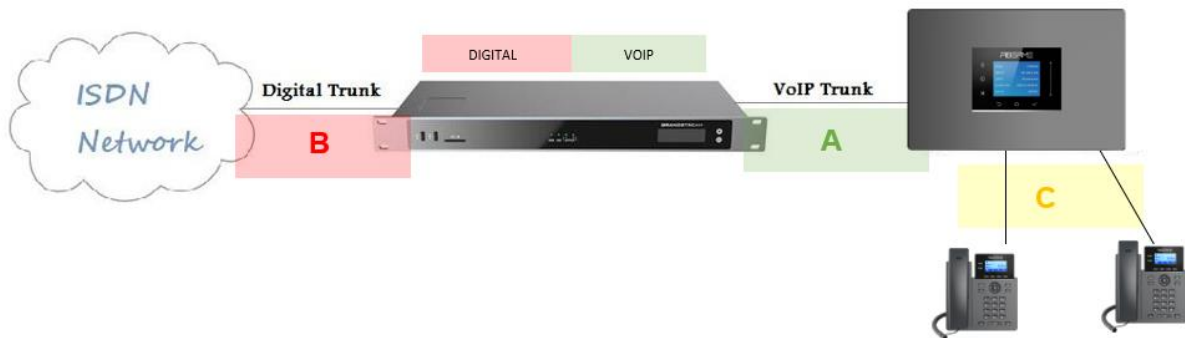


Figure 1: Typical Architecture

To achieve this scenario, following main steps need performed:

1. Create SIP Peer Trunk between GXW450X and FCM630A. This step must be done on both ends, refer to:
 - a. [Create Peer SIP trunk on GXW450X](#)
 - b. [Create Peer SIP trunk on FCM630A](#)
2. Configuring call routing: This will allow to forward calls from Digital to VoIP and vice-versa.
 - a. [From GXW450X \(Digital\) to FCM630A \(VoIP\)](#)
 - b. [From FCM630A \(VoIP\) to GXW450X \(Digital\)](#)

In this guide, we will be using a GXW4501 as a digital interface for the FCM630A. The following methodology can be used for all FCM630A series.

Note: T1/E1/J1 trunk configuration (marked as “B” in figure 1) is out of the scope of this document, for more details, refer to [GXW4500 User Manual](#). We will consider that GXW450X is connected to the ISDN network, the port type, channels and digital trunk “Digital_1” are already configured. The guide covers needed configuration between GXW450X and FCM630A only (marked as “A” in Figure 1). The configuration between FCM630A and endpoints (marked as “C” in Figure 1) is also not covered in this guide, for more details, refer to [FCM630A User Manual](#).



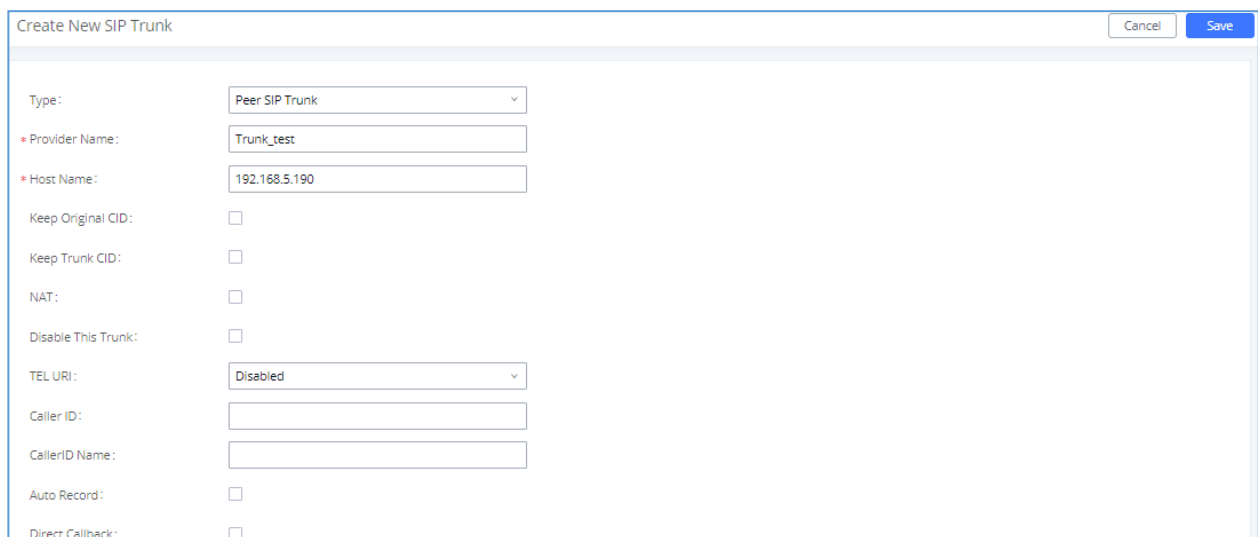
CONNECTING GXW450X and FCM630A USING PEER SIP TRUNK

Create Peer SIP trunk on GXW450X

On the GXW450X web GUI, create a Peer SIP Trunk by navigating to Trunks → VoIP Trunks and click on “Add SIP Trunk”.

In the “Create New SIP Trunk” screen:

1. Select “Peer SIP Trunk” for Type.
2. Enter a reference name for Provider Name. This is mainly for reference. In this example Trunk_testis used.
3. For Host Name enter the IP address/domain of the FCM630A. In this case **192.168.5.190** is the IP address of the FCM630A.
4. Click Save when done.




The screenshot shows a web form titled "Create New SIP Trunk" with a "Cancel" button and a "Save" button. The form contains the following fields and options:

- Type: Peer SIP Trunk (dropdown menu)
- * Provider Name: Trunk_test (text input)
- * Host Name: 192.168.5.190 (text input)
- Keep Original CID:
- Keep Trunk CID:
- NAT:
- Disable This Trunk:
- TEL URI: Disabled (dropdown menu)
- Caller ID: (text input)
- CallerID Name: (text input)
- Auto Record:
- Direct Callback:

Figure 2: SIP Trunk - Create New SIP Trunk on GXW4501

5. After clicking “Save” the new VoIP trunk will be displayed under **Trunks → VoIP Trunks**.

6. Click edit button  .

7. Locate the option labeled Enable Heartbeat Detection and enable this option by clicking the check box. This is a SIP option that allows GXW4501 to monitor the status of FCM630A.



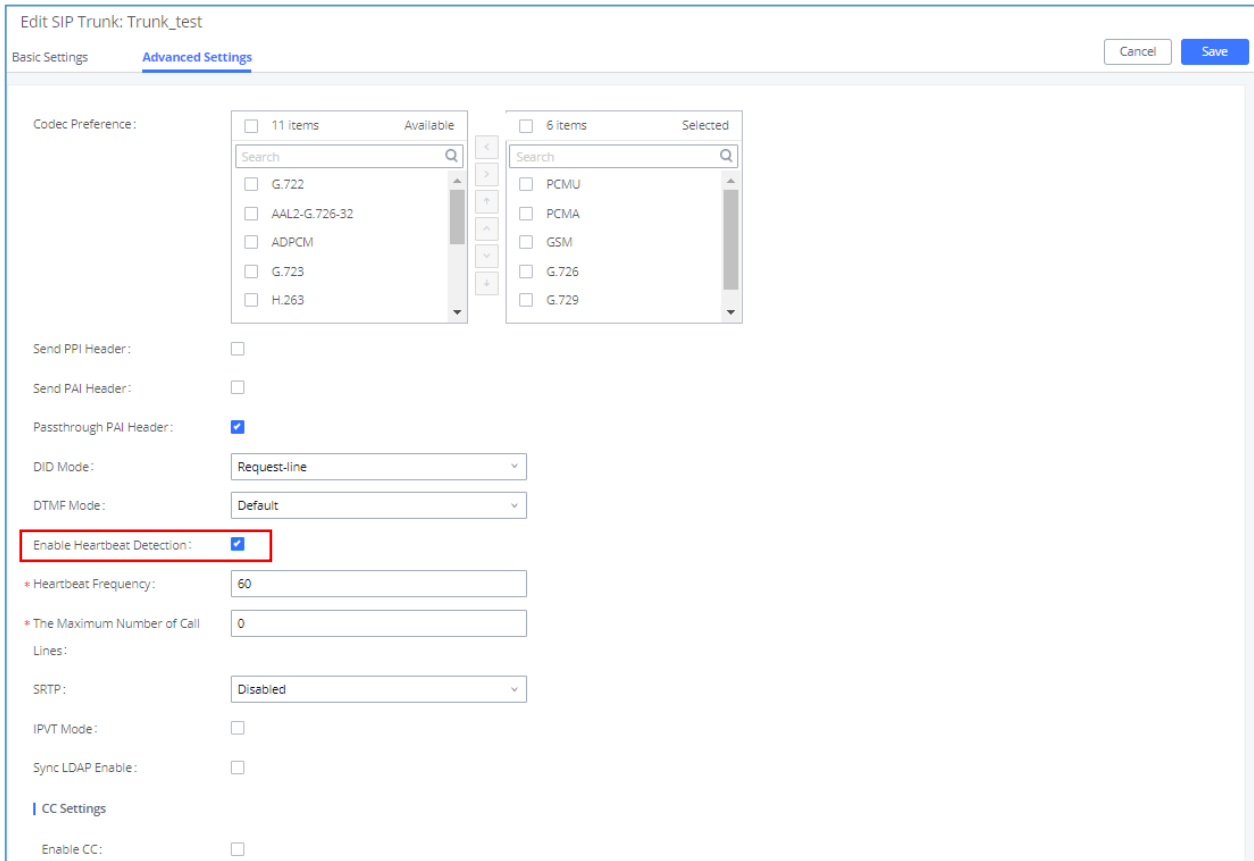


Figure 3: SIP Trunk - Set Enable Heartbeat on GXW4501

8. Click Save when done.

Once the trunk has been created and **Enable Heartbeat Detection** is set, users can view the status of thepeered trunk by navigating to the **Dashboard** page.

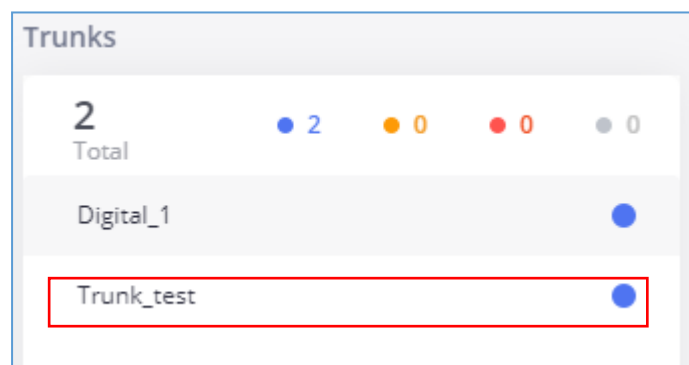


Figure 4: SIP Trunk - Trunk Status on GXW4501

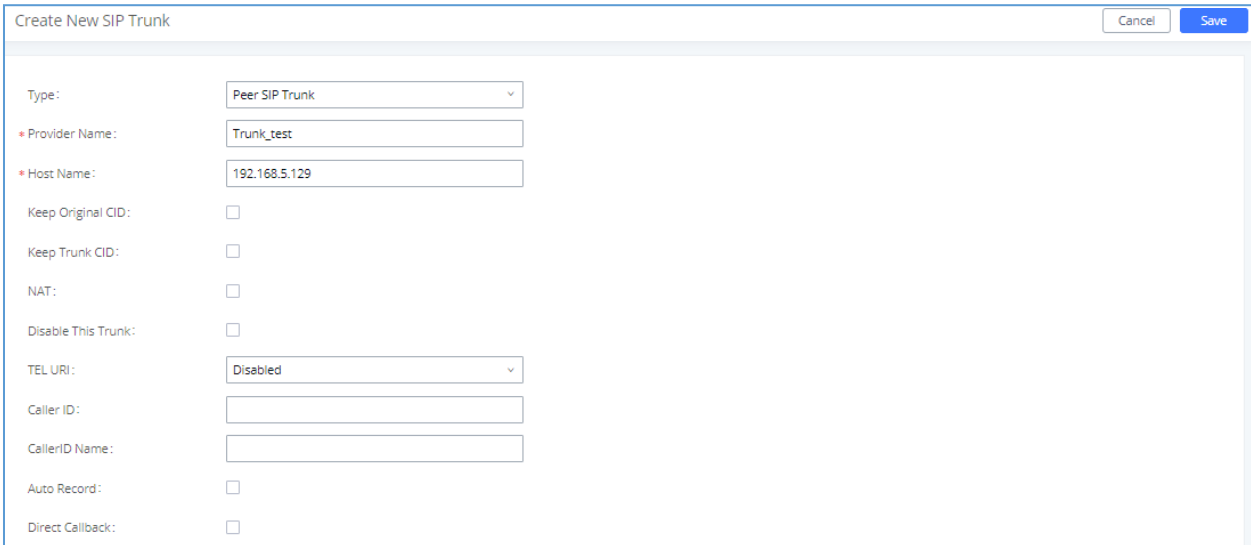


Create Peer SIP trunk on FCM630A

On the FCM630A web GUI, create a Peer SIP Trunk by navigating to **Extension / Trunk** → **VoIP Trunks** and click on “Add SIP Trunk”.

In the “Create New SIP Trunk” screen:


1. Select “Peer SIP Trunk” for Type.
2. Enter a reference name for Provider Name. This is mainly for reference. In this example “Trunk_test” is used.
3. For Host Name enter the IP address/domain of the GXW450X. In this case **192.168.5.129** is the IP address of the GXW4501.
4. Click Save when done.



The screenshot shows the 'Create New SIP Trunk' form with the following fields and values:

- Type: Peer SIP Trunk (dropdown)
- Provider Name: Trunk_test (text input)
- Host Name: 192.168.5.129 (text input)
- Keep Original CID:
- Keep Trunk CID:
- NAT:
- Disable This Trunk:
- TEL URI: Disabled (dropdown)
- Caller ID: (empty text input)
- CallerID Name: (empty text input)
- Auto Record:
- Direct Callback:

Figure 5: Create new SIP trunk on FCM630A.

5. After clicking “Save” the new VoIP trunk will be displayed under **Trunks** → **VoIP Trunks**.
6. Click edit button. 
7. Locate the option labeled Enable Heartbeat Detection and enable this option by clicking the check box. This is a SIP option that allows FCM630A to monitor the status of GXW4501.



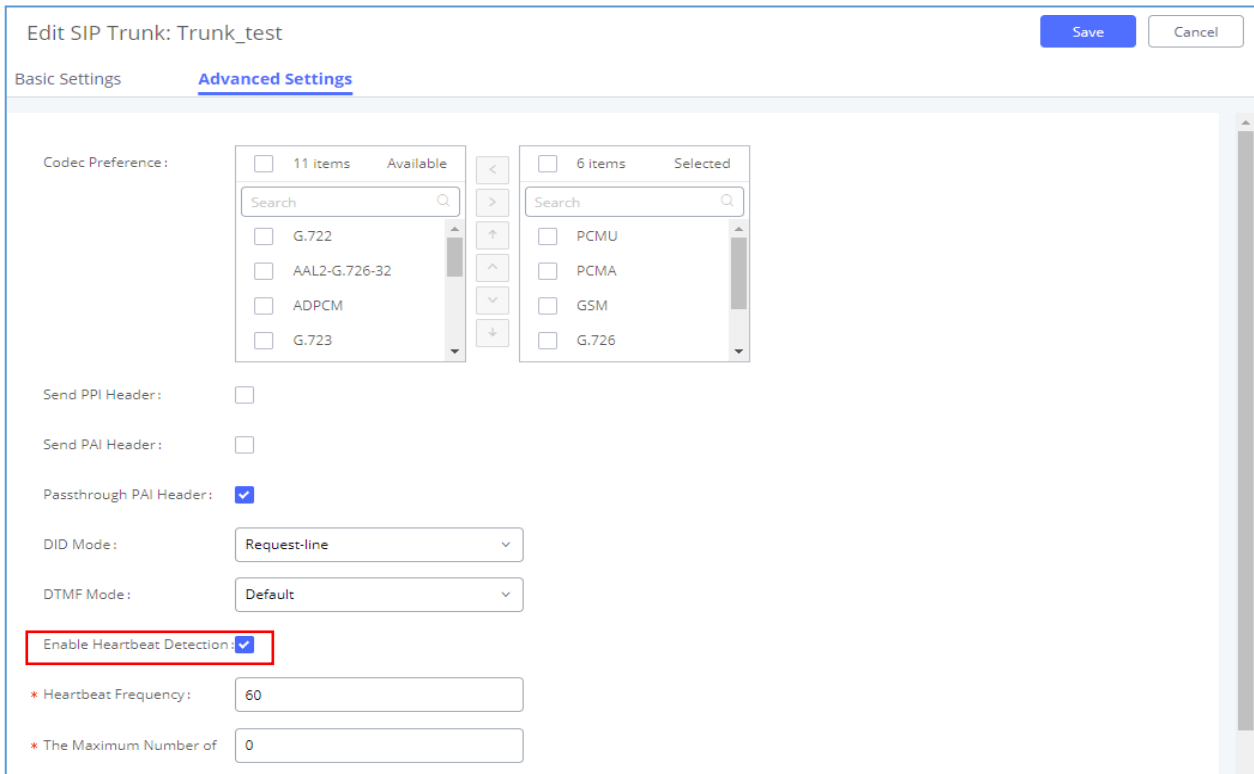


Figure 6: SIP Trunk - Set Enable Heartbeat on FCM630A.

8. Click Save when done.

Once the trunk has been created and **Enable Heartbeat Detection** is set, users can view the status of the peered trunk by navigating to the **Dashboard** page.

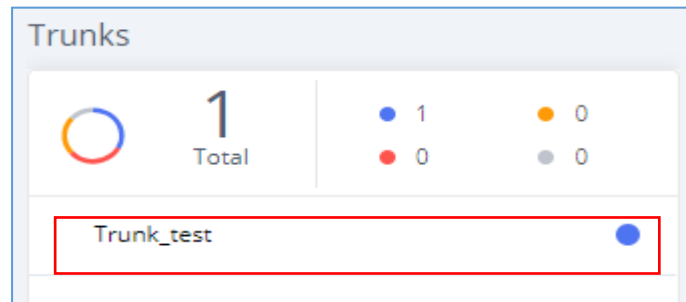


Figure 7: SIP Trunk - Trunk Status on FCM630A.

Note: If the status of the trunk displays “Unreachable” it means that the FCM630A and GXW450X are not able to reach each other. Ensure physical connectivity of both devices.



CONFIGURE CALL ROUTING

From GXW450X (Digital) to FCM630A (VoIP)

This section will guide you in order to forward the calls coming from Digital network to VOIP network.

Step 1: Configure Inbound Rule on GXW450X

In order to receive the inbound calls coming from the ISDN trunk, we need first to create an inbound route under Trunks → Inbound Routes for the PRI Trunk to define the incoming calls allowed.

Following needs to be configured:

- **Pattern:** the pattern used in this example is the DID for this trunk “**_0612345678**” to allow incoming calls coming from the PRI Trunk: **Digital_1**.

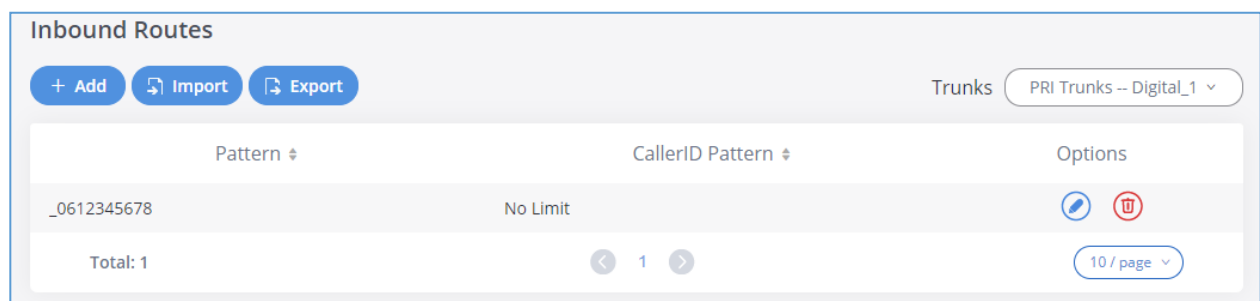


Figure 8: Create new inbound rule on GXW450x

Click on Save then Apply Changes to apply the new settings.

Step 2: Configure Outbound Rule on GXW450X

In order to route the calls coming from ISDN to the FCM, on the GXW4501 web interface, go to Trunks → Outbound Routes to create a new outbound rule which will allow the digital network to reach the extension on FCM630A.

Following needs to be configured:

- **Calling Rule Name:** This is for reference purposes, so we chose to use “to190”.
- **Pattern:** the pattern used in this example is “**_0612345678**” since will be receiving the call from **Digital_1** and allow this number to be dialed out to the FCM630A from the digital network.
- **Trunk:** Since we are configuring the GXW4501, we will select the SIP Peer Trunk “Trunk_test”, in order to send the call out to the FCM630A.



Figure 9: Create new outbound rule on GXW4501

Click on Save then Apply Changes to apply the new settings.

Step 3: Configure Inbound Rule on FCM630A

These steps will also be used to create an inbound rule on the FCM630A so that when it receives anincoming call from the ISDN network it will redirect to the configured default destination.

Following needs to be configured on the FCM630A Inbound Rule:

- **Trunks:** Select the Trunk_test.
- **DID Pattern:** Enter in the pattern “_0612345678”.
- **Default Destination:** Extension 2000.

Figure 10: Create new inbound rule on FCM630A.



From FCM630A (VoIP) to GXW450X (Digital)

This section will guide you in order to forward the calls coming from VoIP network to Digital network.

Step 1: Configure Outbound Rule on FCM630A

Same steps will also be applied when configuring the outbound route from the FCM630A to the GXW4501. The only difference in the configuration is the Pattern and the Main Trunk. Since will be using the pattern “_06X.” to reach Digital network on the GXW4501 and select the trunk between FCM630A and GXW4501.

The screenshot shows a web-based configuration interface for creating a new outbound rule. The window title is "Create New Outbound Rule" with "Cancel" and "Save" buttons in the top right. The "General" tab is selected. The configuration fields are as follows:

- Calling Rule Name:** to129
- Pattern:** _06X.
- PIN Groups:** None
- Password:** (empty field)
- Disable This Route:**
- Privilege Level:** National
- PIN Groups with Privilege:**

Figure 11: Create new Outbound Rule on FCM630A.

Step 2: Configure Inbound Rule on GXW450x

To allow the inbound calls coming from the FCM630A on the GXW4501 we need to configure the Inbound Rule, to do so, navigate to the web GUI, go to Trunks → Inbound Routes to create a new inbound rule.

For this example, GXW4501 inbound rule needs to be configured so that when the FCM dials a digital network's number it will be routed to the specified user.

On the GXW4501 configure the following:

- **Trunks:** Select the Trunk_test trunk.
- **Pattern:** Enter in the pattern “_06X.”.



Figure 12: Create new inbound rule on GXW4501

With this inbound rule configured, if an extension of the FCM630A dials an external number, it will send it over the gxw4501.

Step 3: Configure Outbound Rule on GXW450x

In order to define which Digital trunk the GXW4501 will choose to send the call from, we need to configure the Outbound Rule, under **Trunks** → **Outbound Routes**.

Following needs to be configured:

1. **Calling Rule Name:** This is for reference purposes, so we chose to use “longDistance”.
2. **Pattern:** the pattern used in this example is “_06x” since will be receiving the call from the FCM630A with number starting with "06".
3. **Trunk:** Since we want the call to be sent to the Digital Line, we need to select our ISDN trunk **Digital_1**.

Figure 13: Create new outbound rule on GXW4501

Note: If using multiple digital trunks on the GXW45xx, we can differentiate between them by using different pattern on the outbound rules and selecting the desired trunk that will match the best pattern.

