How to Connect MyPBX to NeoGate TA FXS Gateway

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1. Introduction

This application note shows how to connect MyPBX to NeoGate TA FXS gateway. This guide has been tested with NeoGate TA3200 and MyPBX U100. Two modes are available for NeoGate TA to connect to MyPBX, we call them VoIP trunk mode and Service Provider SIP/IAX trunk mode (SPS/SPX).

*You can simply choose one mode to achieve the connection.*

**Target:**
After connecting NeoGate TA3200 and MyPBX, FXS extensions will be extended on MyPBX. Once the FXS ports are connected to MyPBX, the phones connected to the FXS ports will be treated as MyPBX FXS extensions. The following features can be achieved:
1. Make calls between the analog phones and MyPBX SIP extensions;
2. Receive inbound calls on the analog phones;
3. Make outbound calls from the analog phones using trunks on MyPBX.

**Description:**
IP address of MyPBX: 192.168.5.250
IP address of NeoGate TA3200: 192.168.5.45

Figure 1. Connect MyPBX and NeoGate TA3200
2. Preparation

NeoGate TA3200 attempts to contact a DHCP server in your network to obtain valid network settings (e.g., the IP address, subnet mask, default gateway address and DNS address) by default.

Before connecting NeoGate TA3200 to MyPBX, you need to set a static IP address from the same LAN with the MyPBX.

Steps to set static IP for NeoGate TA3200:

1. Connect one analog phone to one of the FXS ports on NeoGate TA3200;
2. Dial "***" to enter the voice menu;
3. Press "1" to check the IP address;
4. Open the browser and type in the TA3200’s IP address to access TA3200;
5. Log in TA3200 and go to System→Network Preferences→LAN Settings, disable DHCP and configure the LAN network, save and apply the changes, reboot NeoGate TA3200 to take effect.

Figure 2. Configure LAN Settings on NeoGate TA3200
3. VoIP Mode

If you choose VoIP mode, the FXS ports will be registered as the MyPBX's SIP extensions, which possess the same functions as other SIP extensions on MyPBX.

![Diagram showing connection between MyPBX and VoIP](image)

Figure 3. Connect TA3200 and MyPBX via VoIP Mode

**Step 1. Create a SIP extension on MyPBX.**

**Path:** PBX→Extensions→FXS/VoIP Extensions→Add Extension

Create an extension on MyPBX for the FXS port on the TA3200 which has connected an analog phone. Here we take extension 305 for example.
Step 2. Configure one VoIP server template on NeoGate TA3200.

Path: Gateway→VoIP Settings→VoIP Server Settings

Check "Enable Register", fill in the MyPBX's IP address, this VoIP server template will be a VoIP mode template.
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Figure 5. Configure the VoIP Server Template as VoIP Mode

**Server Name:** MyPBX  
**Type:** SIP  
**Enable Register:** checked  
**Transport:** UDP  
**Hostname/IP:** fill in the MyPBX IP address, 192.168.5.250  
**Domain:** fill in the MyPBX IP address, 192.168.5.250

**Step 3. Edit the Dial Pattern Template**

**Path:** Gateway→VoIP Settings→VoIP Server Settings

The default dial pattern is set as ".", which allows you to dial any number out. In this guide, we will remain the default setting. You can change it according to your environment.

Figure 6. Edit Dial Pattern Template
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**Step 4. Edit the FXS port**

**Path:** Gateway→FXS Port List→FXS Port List

![Edit FXS Port](image)

**Figure 7. Edit the FXS Port**

- **Number:** the extension number as the one you created on MyPBX, 305.
- **Primary Server:** choose MyPBX(1), the VoIP server template configured in Step 2.
- **User Name:** the extension username on MyPBX, 305.
- **Authentication Name:** the extension authentication name on MyPBX, 305.
- **Password:** the authentication password of the extension on MyPBX, Cdzpoo732.
- **Dial Pattern Template:** choose the Dial Pattern Template, DialPatternTemplate1(1).

Save and apply the changes, and you will see the port status is “Registered” on “Port Status” page.

**Path:** Status→System Status→Port Status

![Port Status](image)

**Figure 8. Port Status**
Now, you are able to use the analog phone which is connected to NeoGate TA's FXS port 1 to make calls and receive calls.

**Note:** Outgoing calls to MyPBX extensions and to external numbers through trunks on MyPBX all should match the dial pattern, or the calls will fail.
4. SPS/SPX Mode

If you choose this mode to connect NeoGate TA3200 and MyPBX, the FXS port will be registered as a Service Provider SIP/IAX (SPS/SPX) trunk to the MyPBX. One SPS/SPX trunk to NeoGate TA also should also be created on MyPBX. In this guide, we use SIP protocol, configure one VoIP server template as SPS mode on NeoGate TA3200 and create one Service Provider SIP trunk on MyPBX.

Figure 9. Connect TA3200 and MyPBX via SPS Mode
Step 1. Create a Service Provider SIP Trunk on MyPBX

Path: PBX→Trunks→VoIP Trunk→Service Provider

**Add Service Provider**

- **Type:** SIP
- **Provider Name:** NeoGate_TA3200
- **Hostname/IP:** 192.168.5.45

![Figure 10. Add a SIP Trunk](image)

**Type:** SIP
**Provider Name:** NeoGate_TA3200
**Hostname/IP:** fill in NeoGate TA3200's IP address, 192.168.5.45.

Save and apply the changes, we can check the status of this trunk, it should be OK.

Path: Status→Line Status→Trunk Status

![Figure 11. SIP Trunk Status](image)

Step 2. Edit one VoIP Server template as SPS mode.

Path: Gateway→VoIP Settings→VoIP Server Settings
Do not check "Enable Register", choose SIP protocol, and fill in the MyPBX IP address, the VoIP server template will be configured as SPS mode.

**Server Name:** MyPBX  
**Type:** SIP  
**Enable Register:** DO NOT check  
**Transport:** UDP  
**Hostname/IP:** fill in MyPBX's IP address, 192.168.5.250  
**Domain:** fill in MyPBX's IP address, 192.168.5.250

**Step 3. Edit the Dial Pattern Template**

**Path:** Gateway→VoIP Settings→VoIP Server Settings  
The default dial pattern is set as ".", which allows you to dial any number out. In this guide, we will remain the default setting. You can change it according to your environment.
Step 4. Edit the FXS port

**Path:** Gateway→FXS Port List→FXS Port List

![Edit FXS Port](image)

**Number:** set a number for the FXS port. The number should be different from the extension numbers on MyPBX. Here we set number 500 for FXS port 1.

**Primary Server:** choose MyPBX(1), the VoIP server template configured on Step 2.

**Dial Pattern Template:** choose the Dial Pattern Template, DialPatternTemplate1(1).

**Note:** You don't need to fill in any authentication name and authentication password on the FXS port edit page if you choose SPS/SPX mode.

After saving and applying the changes, you will see the trunk is “OK” in “Line Status”.

**Path:** Status→System Status→Port Status

![FXS Port Status](image)
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Now, you can call MyPBX extensions directly.

**Step 4. Make external calls from TA3200.**

If you want to make external calls from TA3200 through the trunk on MyPBX, you should create an inbound route on MyPBX.

![Add Inbound Route](http://www.yeastar.com)

**Figure 16. Add an Outbound Route**

**Route Name:** define a name for the inbound route, From_TA3200.

**Selected Trunks:** select the trunk connected to TA3200, which is created on step 1, NeoGate_TA3200.

**Office Hours Destination:** choose "Outbound Routes", and select one outbound route, here we choose outbound route "pstnout" to allow the external call goes through the PSTN line.

**Non-office Hours Destination:** choose "Outbound Routes", and select one outbound route, here we choose outbound route "pstnout" to allow the external call goes through the PSTN line.
To make outbound calls from TA3200, you should dial the number which matches the dial pattern on TA3200 and the dial pattern on MyPBX outbound route. In this guide, the dial pattern on TA3200 is ".", which allows any number; the dial pattern on MyPBX outbound route is "9.". So you need to dial "9" before the phone number to make a successful outbound call through the PSTN line.

Step 5. Make calls from MyPBX to TA3200.

To make calls from MyPBX to NeoGate TA3200, you need to create one outbound route on MyPBX.

Path: PBX→Outbound Call Control→Outbound Routes
Set the dial pattern as X., choose the trunk "NeoGate_TA3200" which is created above. In this guide, you should dial 500 to call the phone which is connected to TA3200 FXS port 1.

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