

Intercommunication between two MyPBX (via VoIP Trunk)

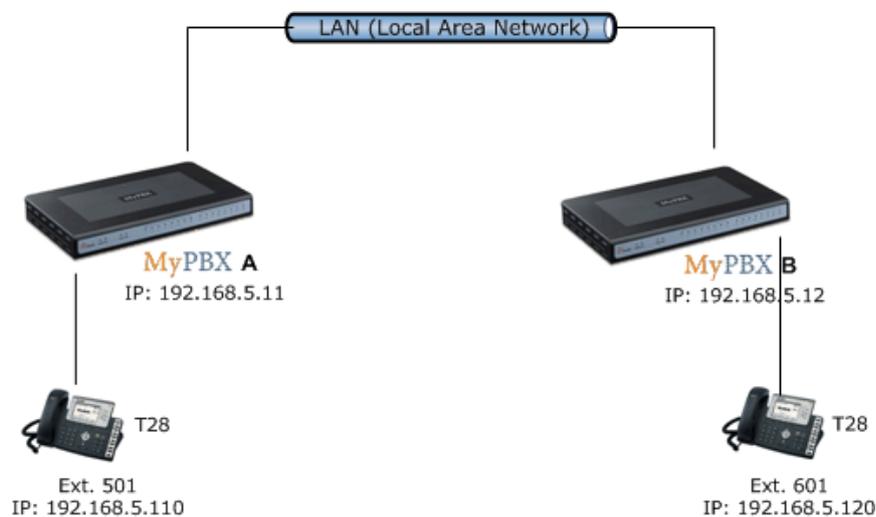
1. Link two MyPBX in the same network	2
2. Link two MyPBX in different location	6
2.1 Link two MyPBX via IAX Trunk	7
2.2 Link two MyPBX via SIP Trunk.....	10

This application note shows how to link two MyPBX in different location. With this function, we can link branches together with MyPBX. Same method can be used when connect more than 2 MyPBX in different branches.

1. Link two MyPBX in the same network

The simplest case to link two MyPBX together is in the same network. We start from this and then try to expand to different network. We use MyPBX here, same method for other MyPBX products. Below is the structure of how to link two MyPBX in the same LAN:

Flowchart:



Application:

The method of connecting two MyPBX in the same LAN is:

1. Register the MyPBX A as an extension in MyPBX B via VOIP(SIP/IAX2) Trunk, so the extensions in MyPBX A can make calls to MyPBX B's extensions via this 'Special' trunk.
2. Use the reverse method in MyPBX B to register to MyPBX A.

In above structure:

- 1) The two MyPBX links each other via VOIP(SIP/IAX2) trunk.
- 2) All the extensions under MyPBX A are in the format 5xx.
- 3) All the extensions under MyPBX B are in the format 6xx.
- 4) Extensions under MyPBX A can make calls to extension under MyPBX B use format 6xx.
- 5) Extensions under MyPBX B can make calls to extension under MyPBX A use format 5xx.
- 6) Yealink-T28 A registers to MyPBX A as an extension 501.
- 7) Yealink-T28 B registers to MyPBX B as an extension 601.

Configure:

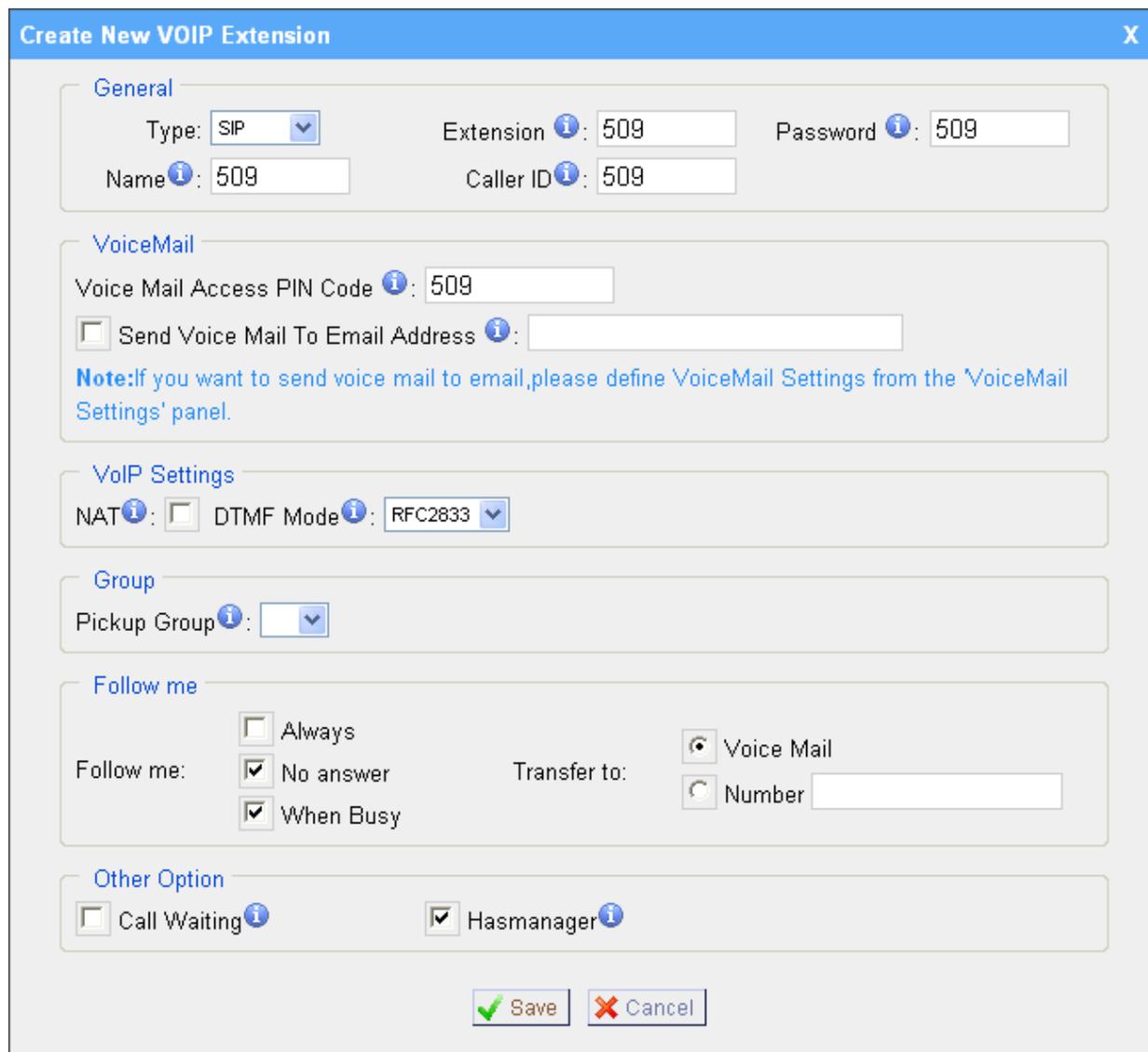
Step 1 Setup an extension 509 in MyPBX A.

Extension: 509; Phone number of this extension

Password: 509;

Name: 509;

CallerID: 509;



Create New VOIP Extension X

General

Type: SIP Extension: 509 Password: 509
Name: 509 Caller ID: 509

VoiceMail

Voice Mail Access PIN Code: 509
 Send Voice Mail To Email Address

Note: If you want to send voice mail to email, please define VoiceMail Settings from the 'VoiceMail Settings' panel.

VoIP Settings

NAT: DTMF Mode: RFC2833

Group

Pickup Group:

Follow me

Follow me: Always No answer When Busy
Transfer to: Voice Mail Number

Other Option

Call Waiting Hasmanager

Save Cancel

Figure 1-1

Step 2: Set up an SIP/IAX2 trunk in MyPBX B to link to MyPBX A via this 509 extension. In the page Trunks--> Add VOIP Trunk.

Created New VOIP trunk X

Type: SIP

Provider Name: 509

Hostname/IP: 192.168.5.11 : 5080

Domain: 192.168.5.11

Username: 509

Authorization name: 509

Password: 509

Enable Outbound Proxy Server

Figure 1-2

Step 3: Set Outbound Route in MyPBX B, all calls start with 5 will be sent to MyPBX A. In the page: Outbound Routes--> Add Outbound Route.

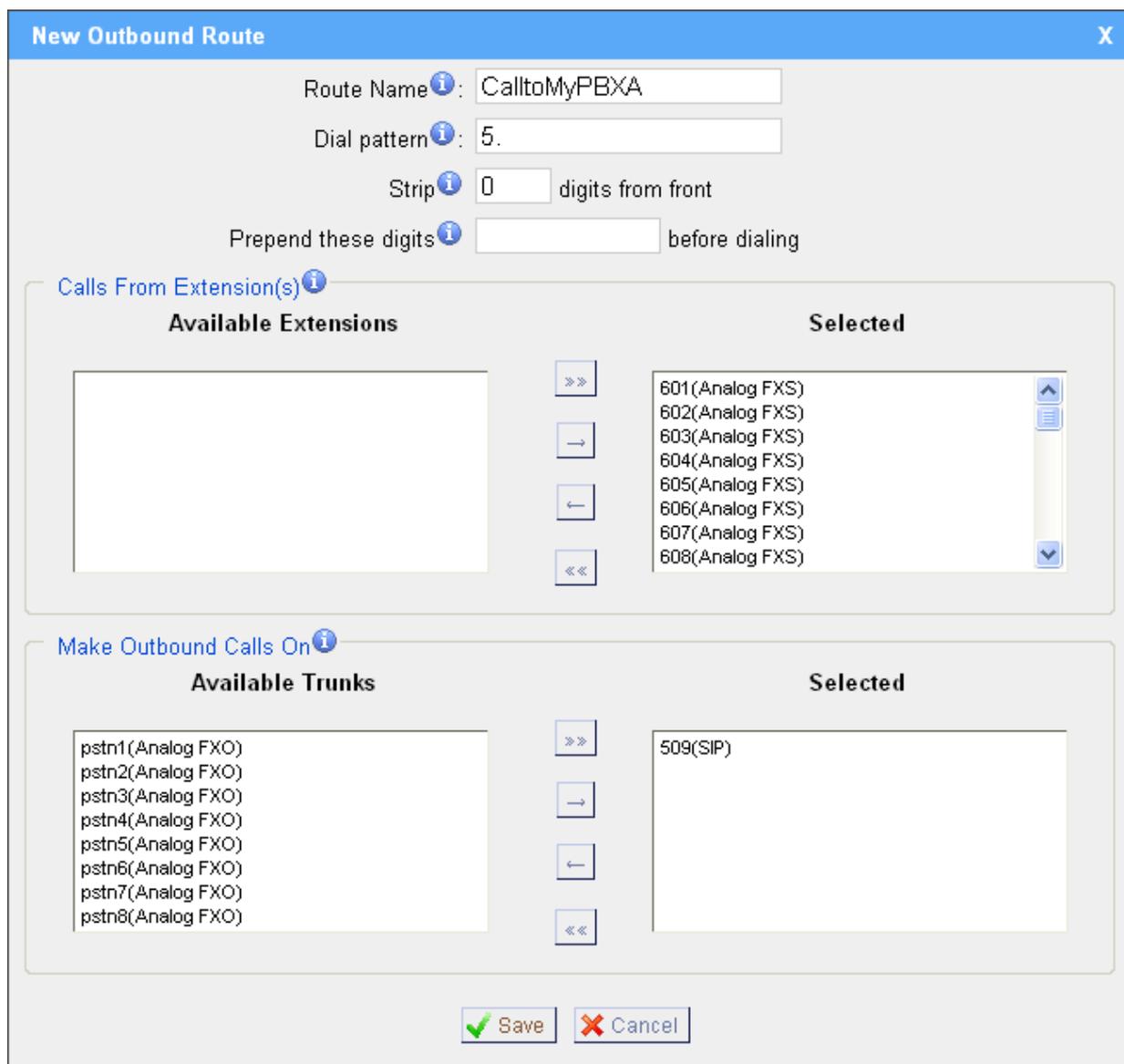


Figure 1-3

Save and Apply Changes.

Test Call:

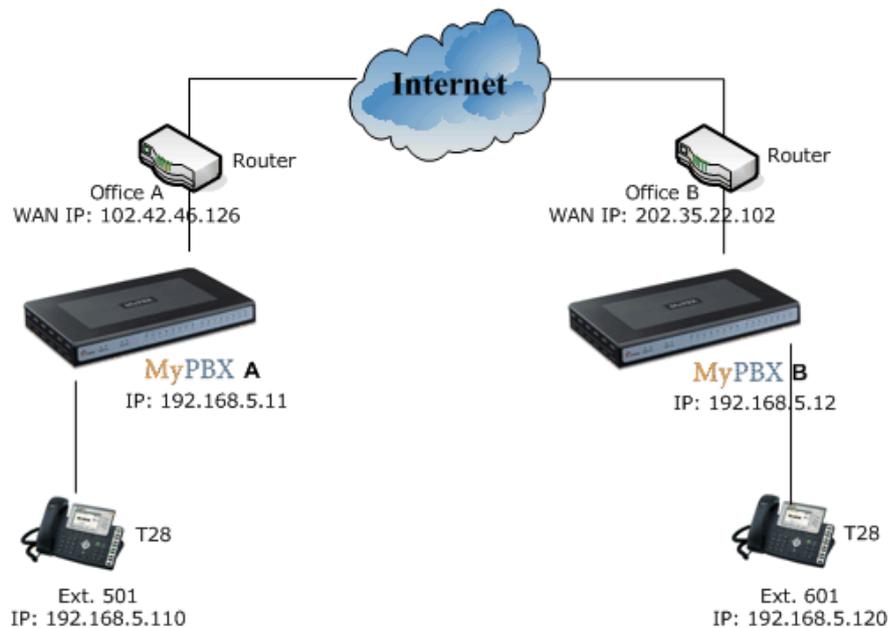
- 1) Register an IP phone T28 to MyPBX A with 501 extension.
- 2) Register an IP phone T28 to MyPBX B with 601 extension.
- 3) Use 501 to dial 601. And you can see 601 is ringing and you can pick up the calls.

Above is the way to router MyPBX B's call to MyPBX A, the method to link MyPBX A to MyPBX B is the same as above.

2. Link two MyPBX in different location

The generally environment for two MyPBX in different location is: two MyPBX are both behind router and using the private IP.

Flowchart:



Application:

Note: Since the MyPBX doesn't have the public IP, we need to do port forwarding in the router and make MyPBX is reachable to others.

The method of connecting two MyPBX in the different location is:

1. Register the MyPBX A as an extension in MyPBX B via VOIP (SIP/IAX2) Trunk, so the extensions in MyPBX A can make calls to MyPBX B's extensions via this 'Special' trunk.
2. Use the reverse method in MyPBX B to register to MyPBX A.

In above structure:

- 1) The two MyPBX links each other via VOIP (SIP/IAX2) trunk.
- 2) All the extensions under MyPBX A are in the format 5xx.
- 3) All the extensions under MyPBX B are in the format 6xx.
- 4) Extensions under MyPBX A can make calls to extension under MyPBX B use format 6xx.
- 5) Extensions under MyPBX B can make calls to extension under MyPBX A use format 5xx.
- 6) Yealink-T28 A registers to MyPBX A as an extension 501.
- 7) Yealink-T28 B registers to MyPBX B as an extension 601.

2.1 Link two MyPBX via IAX Trunk

Step 1 Set port forwarding in the router for MyPBX A.

Example: The router's public IP is '102.42.46.126'.

The MyPBX A is behind the router, to register to MyPBX A via the internet, you need to forward the IAX port in your router, so all the packets received on the router WAN port (102.42.46.126:4569) will be forwarded to the MyPBX A (192.168.5.11:4569). Below is the setting page in a Linksys router:

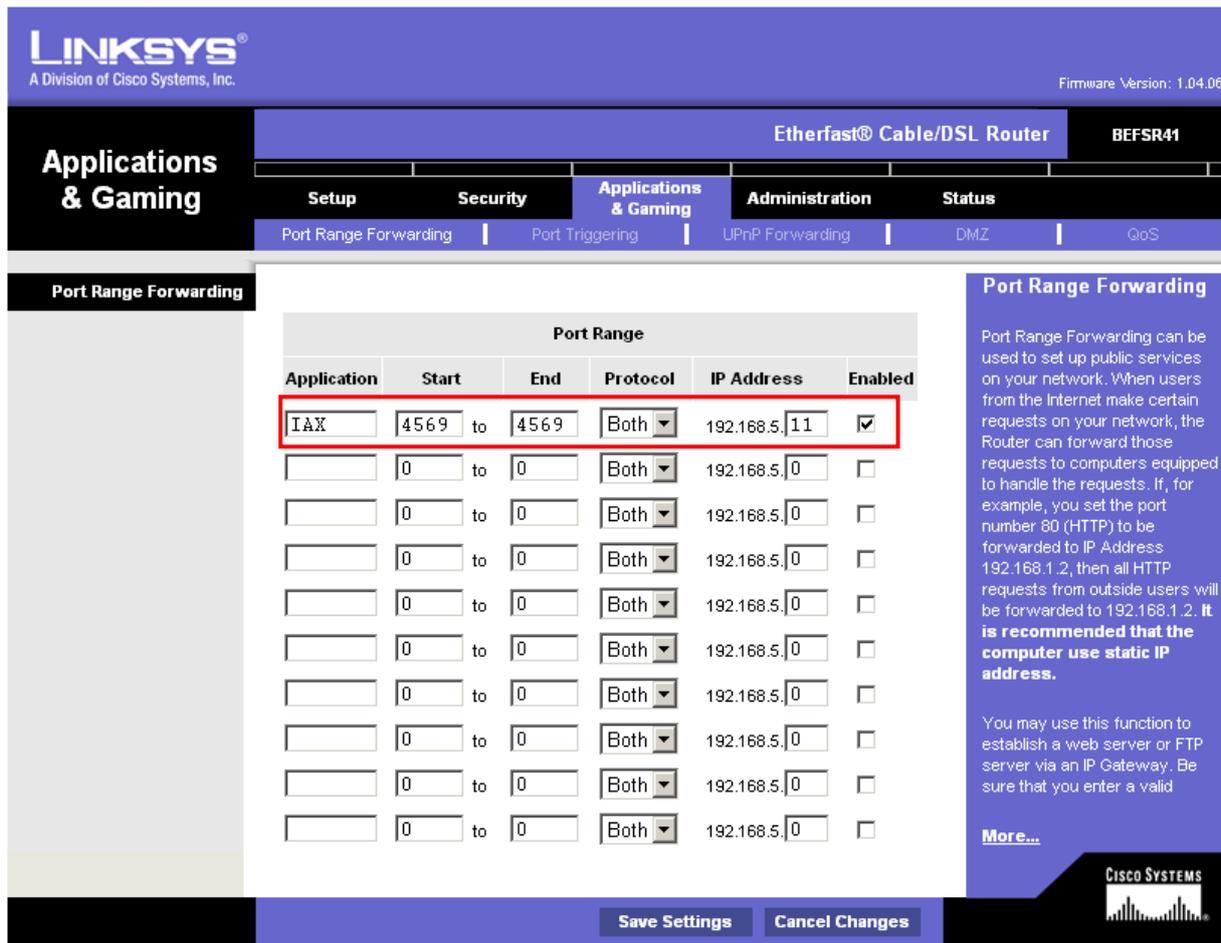


Figure 2-1

Step 2 Setup an extension 509 in MyPBX A.

Type: IAX

Extension: 509; Phone number of this extension

Password: 509;

Name: 509;

Caller ID: 509;

Create New VOIP Extension
X

General

Type: IAX Extension 509 Password 509

Name 509 Caller ID 509

VoiceMail

Voice Mail Access PIN Code 509

Send Voice Mail To Email Address

Note: If you want to send voice mail to email, please define VoiceMail Settings from the 'VoiceMail Settings' panel.

VoIP Settings

NAT DTMF Mode RFC2833

Group

Pickup Group

Follow me

Follow me: Always No answer When Busy

Transfer to: Voice Mail Number

Other Option

Call Waiting Hasmanager

✔ Save
✘ Cancel

Figure 2-2

Step 3: Set up an IAX trunk in MyPBX B to link to MyPBX A via this 509 extension. In the page Trunks → Add VOIP Trunk → IAX Trunk.

Created New VOIP trunk
X

Type: IAX

Provider Name: MyPBX-A

Hostname/IP: 102.42.46.126 : 4569

Username: 509

Password: 509

✔ Save
✘ Cancel

Figure 2-3

Step 4: Set Outbound Route in MyPBX B, all calls start with 5 will be sent to MyPBX A. In

the page: Outbound Routes--> Add Outbound Route.

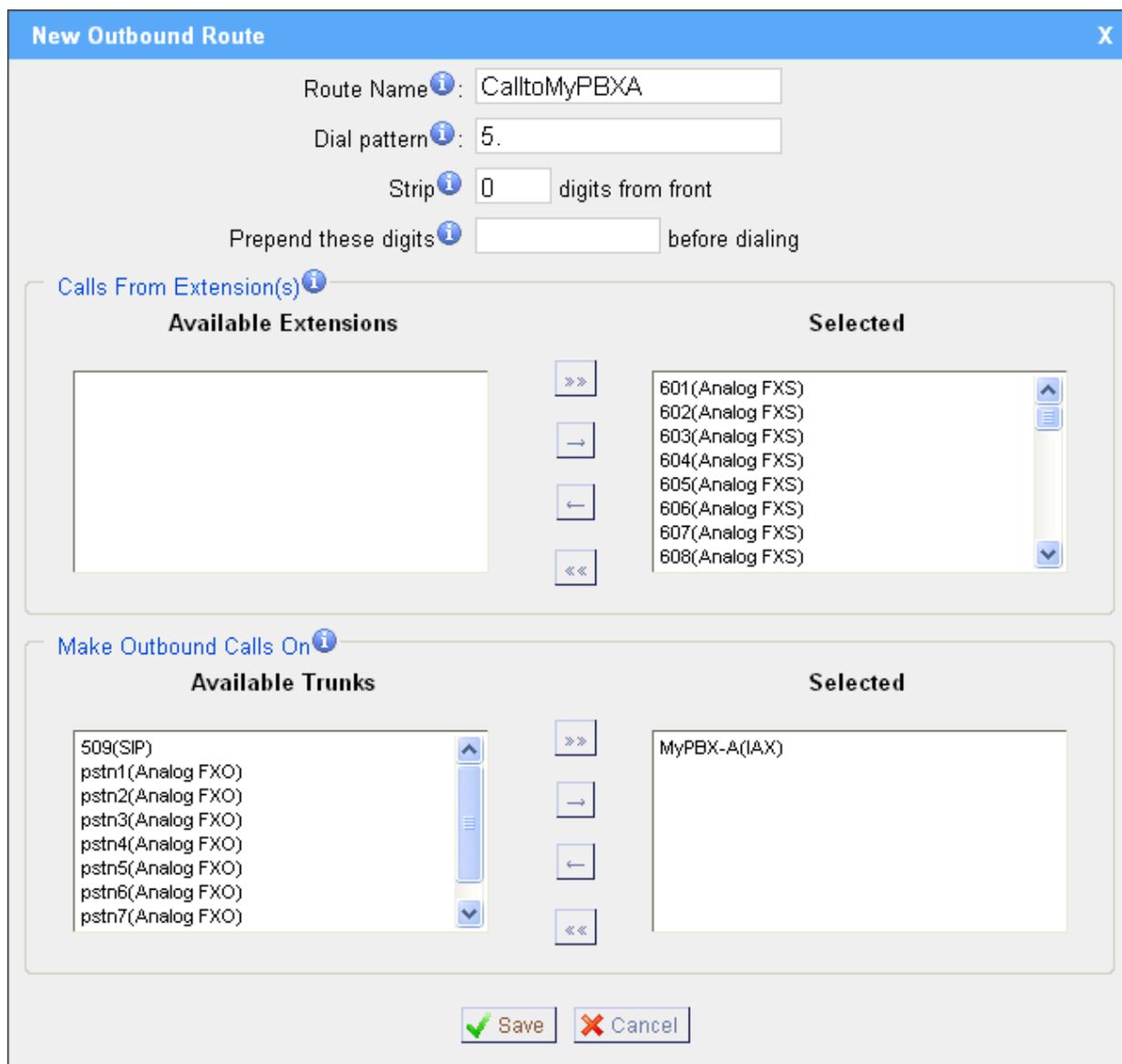


Figure 2-4

Save and Apply Changes.

Test Call:

- 1) Register an IP phone T28 to MyPBX A with 501 extension.
- 2) Register an IP phone T28 to MyPBX B with 601 extension.
- 3) Use 601 to dial 501. And you can see 501 is ringing and you can pick up the calls.

Above is the way to router MyPBX B's call to MyPBX A.

Step 5: Use the same method do port forwarding in router B for MyPBX B. Your public address from network provider maybe a dynamic ip which will be changed periodically. To overcome the problem of dynamic ip, you may need to use the DDNS service , for more info please Google via internet.

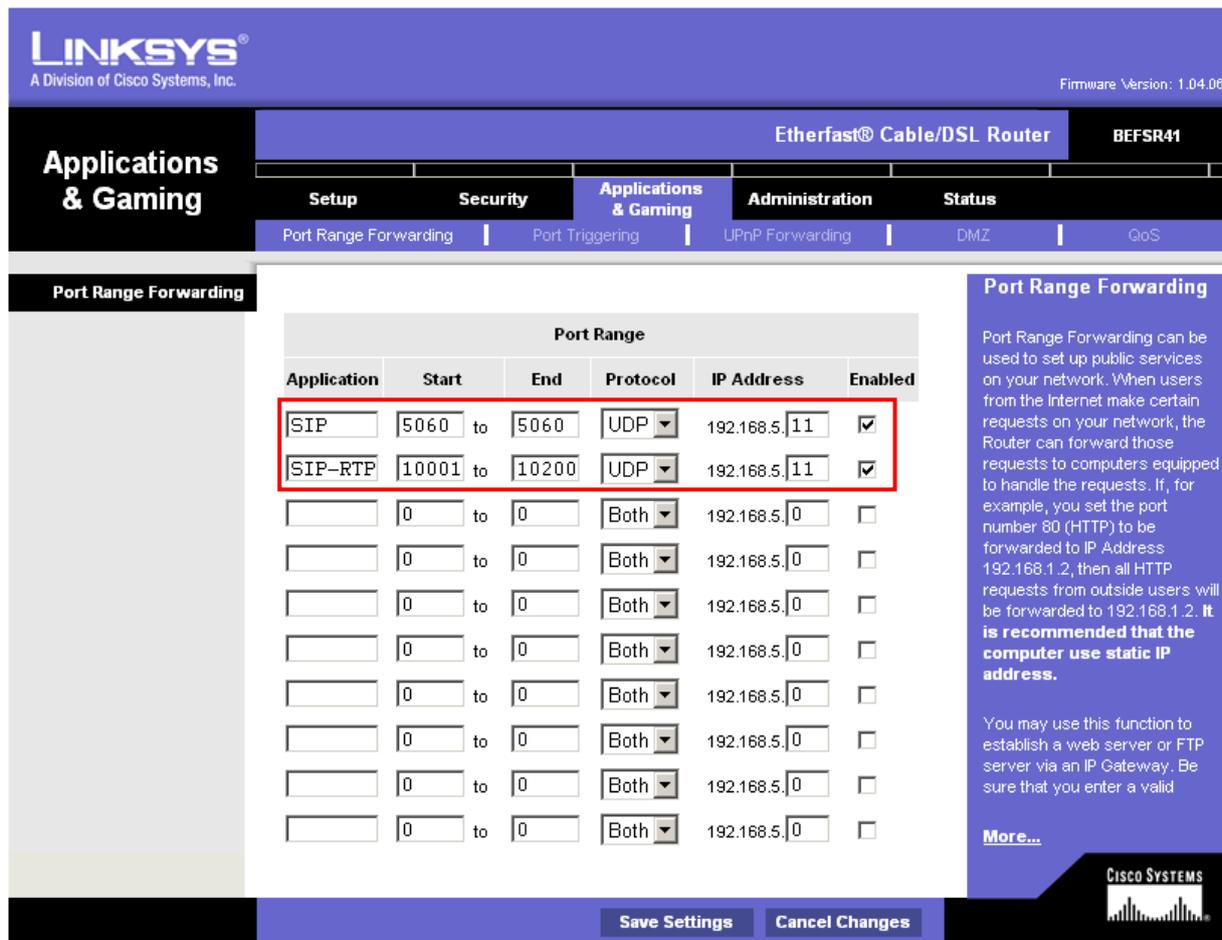
2.2 Link two MyPBX via SIP Trunk

Step 1 Set port forwarding in the router for MyPBX A.

Example: The router's public IP is '102.42.46.126'.

The MyPBX A is behind the router, to register to MyPBX A via the internet, you need to forward the SIP port in your router, so all the packets received on the router WAN port (102.42.46.126:5060) will be forwarded to the MyPBX A (192.168.5.11:5060). Below is the setting page in a Linksys router:

Note: we must map UDP port 5060 and UDP port 10001-10200.



LINKSYS
A Division of Cisco Systems, Inc. Firmware Version: 1.04.08

Etherfast® Cable/DSL Router BEFSR41

Applications & Gaming

Setup | Security | **Applications & Gaming** | Administration | Status

Port Range Forwarding | Port Triggering | UPnP Forwarding | DMZ | QoS

Port Range Forwarding

Port Range					
Application	Start	End	Protocol	IP Address	Enabled
SIP	5060	to 5060	UDP	192.168.5.11	<input checked="" type="checkbox"/>
SIP-RTP	10001	to 10200	UDP	192.168.5.11	<input checked="" type="checkbox"/>
	0	to 0	Both	192.168.5.0	<input type="checkbox"/>
	0	to 0	Both	192.168.5.0	<input type="checkbox"/>
	0	to 0	Both	192.168.5.0	<input type="checkbox"/>
	0	to 0	Both	192.168.5.0	<input type="checkbox"/>
	0	to 0	Both	192.168.5.0	<input type="checkbox"/>
	0	to 0	Both	192.168.5.0	<input type="checkbox"/>
	0	to 0	Both	192.168.5.0	<input type="checkbox"/>
	0	to 0	Both	192.168.5.0	<input type="checkbox"/>

Port Range Forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your network, the Router can forward those requests to computers equipped to handle the requests. If, for example, you set the port number 80 (HTTP) to be forwarded to IP Address 192.168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2. **It is recommended that the computer use static IP address.**

You may use this function to establish a web server or FTP server via an IP Gateway. Be sure that you enter a valid

[More...](#)

Save Settings **Cancel Changes**

CISCO SYSTEMS

Figure 2-5

Step 2 Configure NAT settings in MyPBX A.

MyPBX -> SIP Settings -> NAT, configure the NAT settings according to below page.

External IP: your router's public IP address

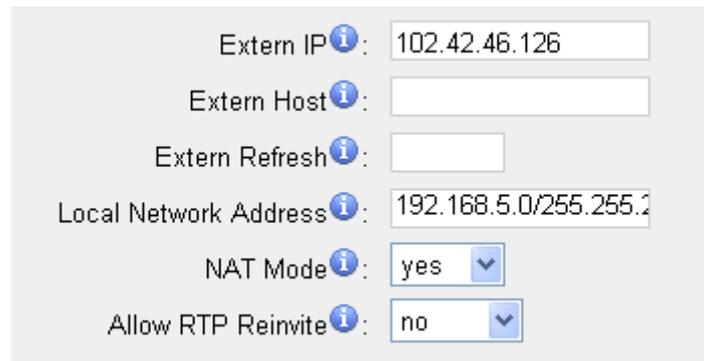
External Host:

External refresh:

Local Network Address: 192.168.5.0/255.255.255.0 (change this according to your network configuration)

NAT mode: Yes

Allow RTP Reinvite: No



The screenshot shows a configuration interface with the following fields and values:

Extern IP ⓘ:	102.42.46.126
Extern Host ⓘ:	
Extern Refresh ⓘ:	
Local Network Address ⓘ:	192.168.5.0/255.255.2
NAT Mode ⓘ:	yes ▼
Allow RTP Reinwite ⓘ:	no ▼

Figure 2-6

Step 3 Setup an extension 509 in MyPBX A.

General

Type: SIP;

Extension: 509; Phone number of this extension

Password: 509;

Name: 509;

Caller ID: 509;

VoIP Settins

NAT: yes

Note: please enable NAT.

Create New VOIP Extension X

General

Type: SIP Extension: 509 Password: 509
Name: 509 Caller ID: 509

VoiceMail

Voice Mail Access PIN Code: 509
 Send Voice Mail To Email Address:

Note: If you want to send voice mail to email, please define VoiceMail Settings from the 'VoiceMail Settings' panel.

VoIP Settings

NAT: DTMF Mode: RFC2833

Group

Pickup Group:

Follow me

Follow me: Always No answer When Busy
Transfer to: Voice Mail Number

Other Option

Call Waiting Hasmanager

Figure 2-7

Step 4: Set up an SIP trunk in MyPBX B to link to MyPBX A via this 509 extension. In the page Trunks--> Add VOIP Trunk.

Created New VOIP trunk X

Type: SIP

Provider Name: MyPBX-A

Hostname/IP: 102.42.46.126 : 5060

Domain: 102.42.46.126

Username: 509

Authorization name: 509

Password: 509

Enable Outbound Proxy Server

Figure 2-8

Step 5: Set Outbound Route in MyPBX B, all calls start with 5 will be sent to MyPBX A. In the page: Outbound Routes--> Add Outbound Route.

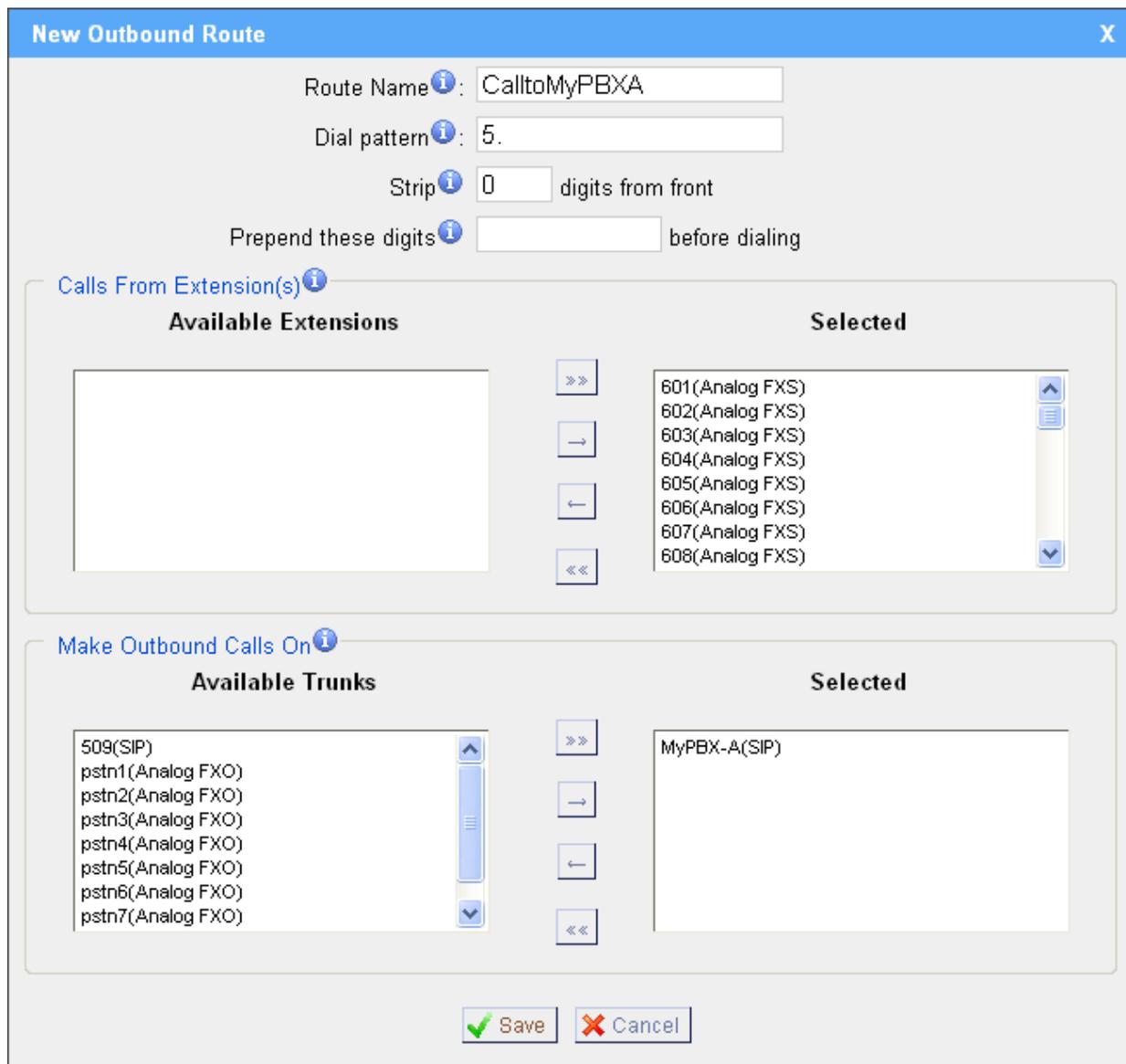


Figure 2-9

Save and Apply Changes.

Test Call:

- 1) Register an IP phone T28 to MyPBX A with 501 extension.
- 2) Register an IP phone T28 to MyPBX B with 601 extension.
- 3) Use 601 to dial 501. And you can see 501 is ringing and you can pick up the calls.

Above is the way to router MyPBX B's call to MyPBX A.

Step 6: Use the same method do port forwarding in router B for MyPBX B. Your public address from network provider maybe a dynamic ip which will be changed periodically. To overcome the problem of dynamic ip, you may need to use the DDNS service , for more info please Google via internet.

<Finish>