

Yeastar TG Gateway Integration Guide

Yeastar P-Series Cloud Edition

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Contents

| | |
|---|----------|
| Yeastar TG GSM Gateway Integration Guide..... | 1 |
| Connect Yeastar P-Series Cloud Edition and Yeastar TG400 Gateway..... | 2 |
| Make Outbound Calls through a Designated GSM Trunk..... | 4 |
| Route Calls from Different Carriers to Different Destinations..... | 10 |

Yeastar TG GSM Gateway Integration Guide

This guide provides a configuration example to show you how to extend GSM/3G/4G trunks for Yeastar P-Series Cloud Edition.

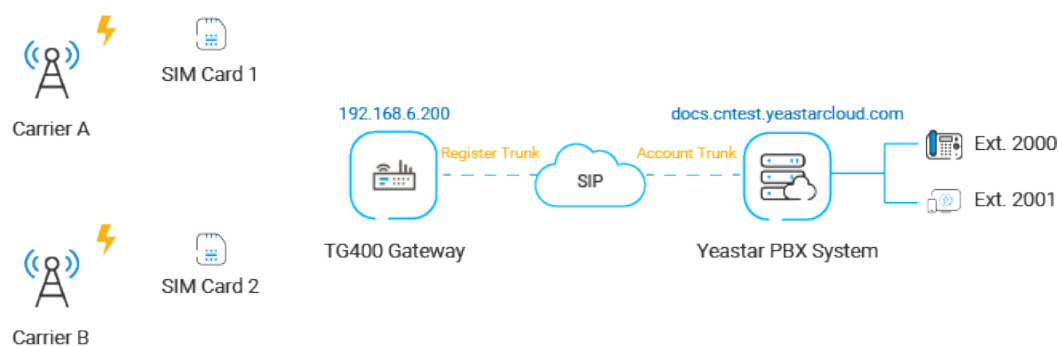
Background information

The instructions provided in this guide are based on the following test environment.

| Equipment | Firmware Version | IP Address/Domain Name |
|--------------------------------|------------------|------------------------------|
| Yeastar P-Series Cloud Edition | 84.10.0.30 | docs.cntest.yeastarcloud.com |
| Yeastar TG400 GSM Gateway | 91.3.0.21 | 192.168.6.200 |

There are two SIM cards installed in Yeastar TG400 GSM Gateway. The following table shows mobile number prefixes of the two carriers.

| SIM Card | Carrier | Mobile Prefix |
|------------|-----------|---------------|
| SIM Card 1 | Carrier A | 92 |
| SIM Card 2 | Carrier B | 10 |



Objectives

This guide provides instructions based on the above scenario to help you achieve the following objectives:

- [Connect Yeastar P-Series Cloud Edition and Yeastar TG400 Gateway](#)
- [Make Outbound Calls through a Designated GSM Trunk](#)
- [Route Calls from Different Carriers to Different Destinations](#)

Connect Yeastar P-Series Cloud Edition and Yeastar TG400 Gateway

This topic describes how to connect Yeastar P-Series Cloud Edition and Yeastar TG400 gateway, so as to extend GSM/3G/4G trunks on the PBX.

Requirements

The version of Yeastar P-Series Cloud Edition is 84.10.0.30 or later.

Procedure

- [Step 1. Create a SIP account trunk on Yeastar PBX system](#)
- [Step 2. Create a SIP register trunk on Yeastar TG400 gateway](#)

Step 1. Create a SIP account trunk on Yeastar PBX system

1. Log in to PBX web portal, go to **Extension and Trunk > Trunk**, click **Add**.
2. Configure the trunk settings.

Basic

• Name: TG400

• Trunk Status: Enabled

Select ITSP Template: General

Detailed Configuration

• Trunk Type: Account Trunk

• Transport: UDP

• Username: 6700

• Password: *****

☒ Use User Name as Account Trunk's Authentication Name

- **Name:** Enter a name to help you identify it. For example, TG400.
- **Trunk Status:** Select **Enabled**.
- **Select ITSP Template:** Select **General**.
- **Trunk Type:** Select **Account Trunk**.
- **Transport:** Select **UDP**.
- **Username:** Specify a username for the trunk.



Note:



The username is regarded as the trunk number.

- **Password:** Specify a password that is associated with the username.
- **Use User Name as Account Trunk's Authentication Name:** Enable this option to use the trunk's username for authentication.

3. Click **Save** and **Apply**.

Step 2. Create a SIP register trunk on Yeastar TG400 gateway

1. Log in to gateway web interface, go to **Gateway > VoIP Settings > VoIP Trunk**, click **Add VoIP Trunk**.
2. In the pop-up window, configure the trunk settings:

Add Register Trunk [X]

General | **Advanced**

Trunk Type: Register Trunk

Type: SIP

Provider Name: P_Cloud

Hostname/IP: docs.cntest.yeastarcloud.com : 5060

Domain: docs.cntest.yeastarcloud.com

User Name: 6700

Authorization Name: 6700

Password:

Save **Cancel**




- **Trunk Type:** Select **Register Trunk**.
- **Type:** Select **SIP**.
- **Provider Name:** Enter a name to help you identify it.
- **Hostname/IP:** Enter the domain name of Yeastar PBX system and the SIP port. In this example, enter `docs.cntest.yeastarcloud.com` and the default SIP port 5060.

- **Domain:** Enter the domain name of Yeastar PBX system. In this example, enter `docs.cntest.yeastarcloud.com`.
- **User Name:** Enter the username provided by Yeastar PBX system. In this example, enter `6700`.
- **Authorization Name:** Enter the username provided by Yeastar PBX system. In this example, enter `6700`.
- **Password:** Enter the password provided by Yeastar PBX system.

3. Click **Save** and **Apply Changes**.

Result

- On PBX web portal (**Extension and Trunk > Trunk**), the trunk status displays .

| <input type="checkbox"/> | Status | Name | Type | Hostname/Port | Username | Outbound Caller ID | Operations |
|--------------------------|---|-------|---------------|---------------|----------|--------------------|---|
| <input type="checkbox"/> |  | TG400 | Account Trunk | | 6700 | |   |

- On TG400 gateway web interface (**Status > System Status > Trunk Status**), the trunk status displays "Registered".

| Status | Trunk Name | Type | User Name | Hostname/IP | Reachability |
|------------|----------------|------|-----------|------------------------------|--------------|
| Registered | <u>P_Cloud</u> | SIP | 6700 | docs.cntest.yeastarcloud.com | OK |

It is concluded that Yeastar PBX system is connected to Yeastar TG400 gateway; 4 GSM trunks are extended on Yeastar PBX system.

What to do next

- To make outbound calls through the extended GSM trunk, see [Make Outbound Calls through a Designated GSM Trunk](#).
- To receive inbound calls through the extended GSM trunk, see [Route Calls from Different Carriers to Different Destinations](#).

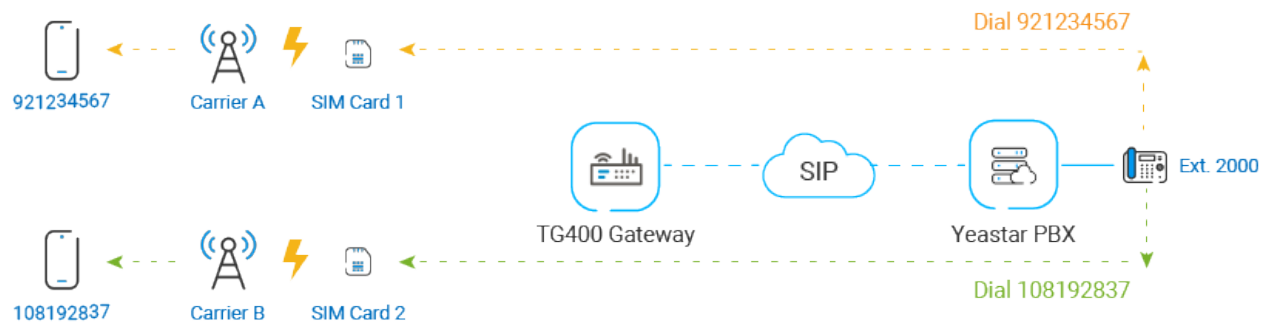
Make Outbound Calls through a Designated GSM Trunk

Many carriers have call plans that let you make free or low-cost calls between other numbers through the same carrier network. This topic describes how to make outbound calls through designated GSM trunks to save call charges.

Scenario

The instructions provided in this topic are based on the following scenario:

| Outbound Number Format | Trunk | Carrier |
|------------------------|-------------|-----------|
| Number with prefix 92 | GSM trunk 1 | Carrier A |
| Number with prefix 10 | GSM trunk 2 | Carrier B |



Procedure

- [Step 1. Create an outbound route on Yeastar PBX system](#)
- [Step 2. Create two 'IP to Mobile' routes on Yeastar TG400 gateway](#)
- [Step 3. Make test calls from Yeastar PBX system](#)

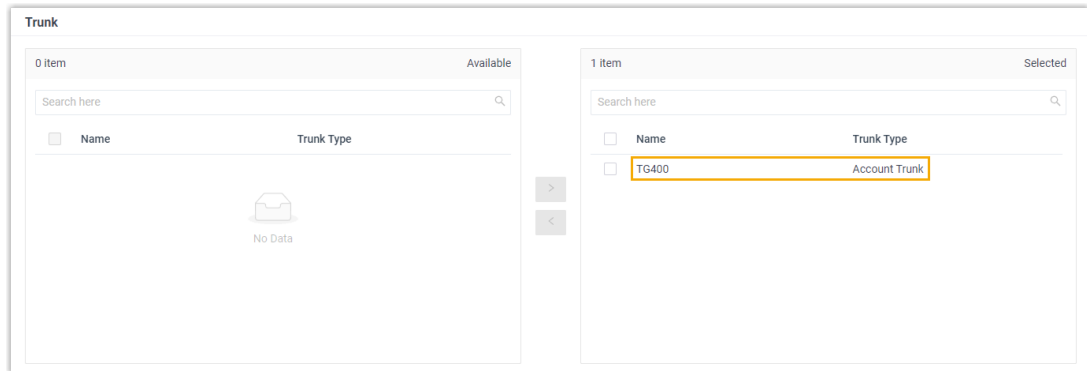
Step 1. Create an outbound route on Yeastar PBX system

On Yeastar PBX system, create an outbound route to allow PBX users to call through Yeastar TG400 gateway.

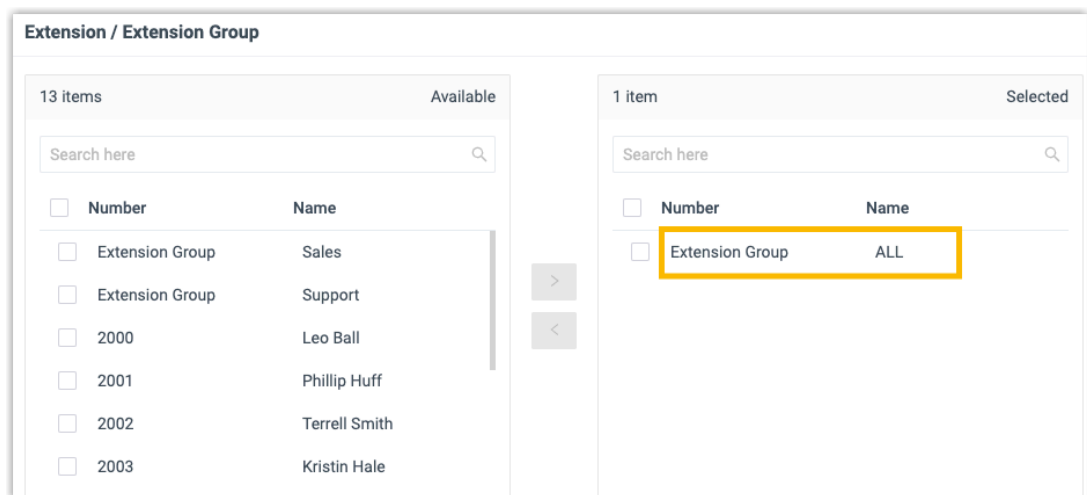
1. Log in to PBX web portal, go to **Call Control > Outbound Route**, click **Add**.
2. Configure the following settings for the outbound route and leave other settings as default.
 - **Name:** Enter a name to help you identify it.
 - **Dial Pattern:** Set the dial patterns according to your needs. In this example, set **Pattern** to **x.**, which means that users can dial any number without limitation.

| * Pattern | Strip | Prepend |
|---------------------------------|----------------------|----------------------|
| <input type="text" value="x."/> | <input type="text"/> | <input type="text"/> |

- **Trunk:** Select the SIP account trunk that is connected to the Yeastar TG400 gateway. In this example, select the trunk TG400.



- **Extension/Extension Group:** Select the extensions that are allowed to make calls through this outbound route. In this example, select all the extensions.



3. Click **Save** and **Apply**.

Step 2. Create two 'IP to Mobile' routes on Yeastar TG400 gateway

On Yeastar TG400 gateway, create an 'IP to Mobile' route for carrier A, and create another one for carrier B. These two routes will match the dialed numbers from PBX, and send numbers out through designated GSM trunks.

1. Log in to gateway web interface, go to **Gateway > Route Settings > IP to Mobile**, click **Add IP to Mobile Route**.
2. In the pop-up window, configure the route, then click **Save** and **Apply Changes**.

The following table shows the required configurations for carrier A and carrier B.


| Setting | Description | For Carrier A | For Carrier B |
|------------------|---|--|--|
| Simple Mode | To keep simple mode with basic settings or to expand more settings. | No | No |
| Route Name | Enter a name to help you identify it. | To-CarrierA | To-CarrierB |
| Call Source | Select the SIP trunk that is connected to Yeastar PBX system. | SIP Register Trunk - P_Cloud | SIP Register Trunk - P_Cloud |
| DID Number | <p>Enter the pattern or number to match dialed numbers from Yeastar PBX system.</p> <div>  Note: If you want to match any incoming calls, you need to set DID Number to .(dot), or out-bound calls would fail. </div> | Enter 92. to allow the numbers with prefix 92. | Enter 10. to allow the numbers with prefix 10. |
| Call Destination | Select the GSM trunk that will be used to call out. | Mobile – Trunk1 | Mobile – Trunk2 |

Figure 1. 'IP to Mobile' route for carrier A

New Route

X

Simple Mode ⓘ : No ▼

Route Name ⓘ : To-CarrierA

Match Incoming Calls:

Call Source SIP Register Trunk -- P_Cloud ▼

Inbound Caller Pattern ⓘ :

DID Number ⓘ : 92.

DID Associated Number ⓘ :

Enable Callback : No ▼ [Callback Settings](#)

Incoming Calls Processing:

Call Destination: Mobile -- Trunk1 ▼

Hotline:

Two Stage Dial : No ▼

Outbound Dial Pattern ⓘ :

Strip ⓘ : 0

Prepend these digits ⓘ : before dialing

Figure 2. 'IP to Mobile' route for carrier B

New Route

X

Simple Mode ⓘ : No

Route Name ⓘ : To-CarrierB

Match Incoming Calls:

Call Source SIP Register Trunk -- P_Cloud

Inbound Caller Pattern ⓘ :

DID Number ⓘ : 10.

DID Associated Number ⓘ :

Enable Callback : No [Callback Settings](#)

Incoming Calls Processing:

Call Destination: Mobile -- Trunk2

Hotline:

Two Stage Dial : No

Outbound Dial Pattern ⓘ :

Strip ⓘ : 0

Prepend these digits ⓘ : before dialing

Step 3. Make test calls from Yeastar PBX system

Examples:

- Dial number 921234567, the call will be made through GSM trunk1.
- Dial number 108192837, the call will be made through GSM trunk 2.

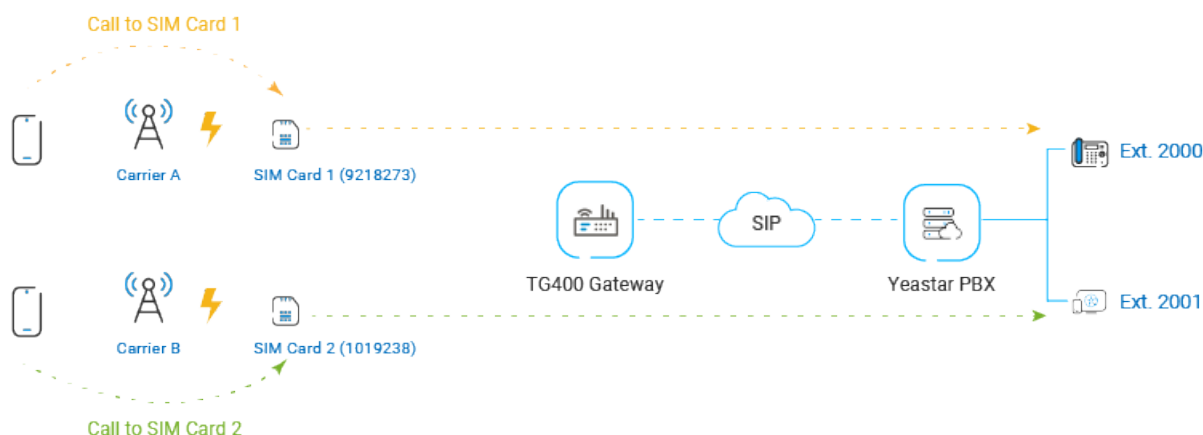
Route Calls from Different Carriers to Different Destinations

When external users call to GSM trunks of different carriers, the calls will reach different destinations. This topic describes how to route calls from different carriers to different destinations.

Scenario

The instructions provided in this topic are based on the following scenario:

| Carrier | Trunk | Destination |
|-----------|----------------------|----------------|
| Carrier A | GSM trunk 1: 9218273 | Extension 2000 |
| Carrier B | GSM trunk 2: 1019238 | Extension 2001 |



Procedure

- [Step 1. Create two 'Mobile to IP' routes on Yeastar TG400 gateway](#)
- [Step 2. Create two inbound routes on Yeastar PBX system](#)
- [Step 3. Make test calls to the GSM trunks](#)

Step 1. Create two 'Mobile to IP' routes on Yeastar TG400 gateway

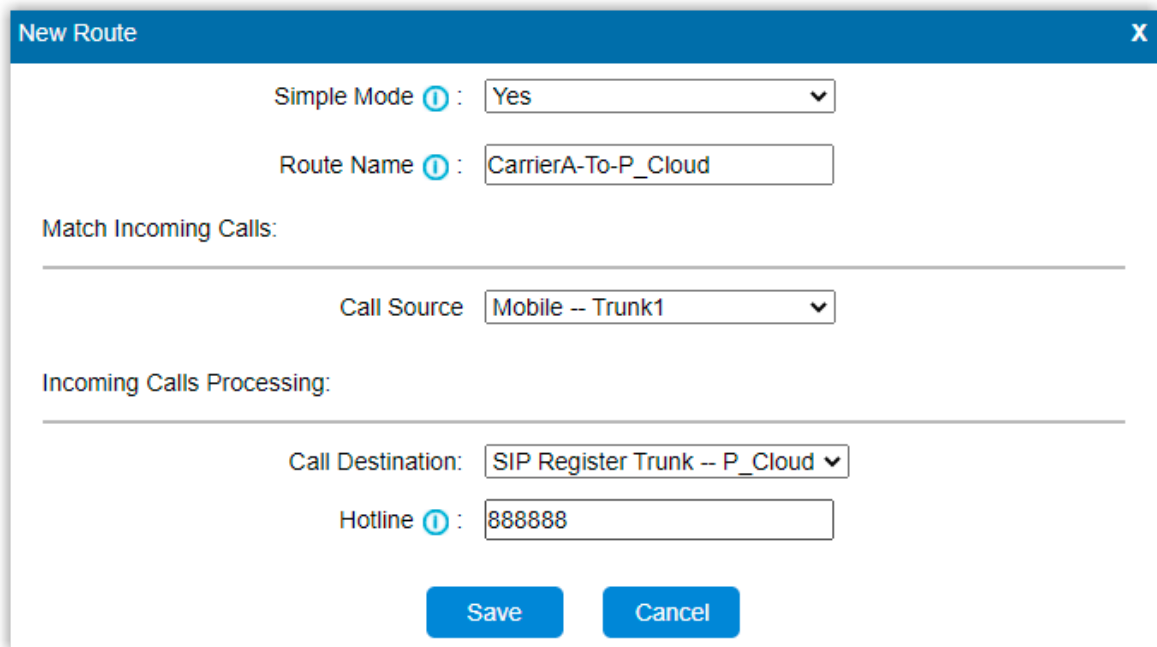
On Yeastar TG400 gateway, create an 'Mobile to IP' route for carrier A, and create another one for carrier B, so as to route incoming calls to Yeastar PBX system.

1. Log in to gateway web interface, go to **Gateway > Route Settings > Mobile to IP**, click **Add Mobile to IP Route**.
2. In the pop-up window, configure the route, then click **Save** and **Apply Changes**.

The following table shows the required configurations for carrier A and carrier B.

| Setting | Description | For Carrier A | For Carrier B |
|------------------|---|------------------------------|------------------------------|
| Simple Mode | To keep simple mode with basic settings or to expand more settings. | Yes | Yes |
| Route Name | Enter a name to help you identify it. | CarrierA-To-P_-Cloud | CarrierB-To-P_Cloud |
| Call Source | Select which trunk the call comes from. | Mobile -- Trunk 1 | Mobile -- Trunk 2 |
| Call Destination | Select the SIP trunk that is connected to Yeastar PBX system. | SIP Register Trunk - P_Cloud | SIP Register Trunk - P_Cloud |
| Hotline | Enter a hotline number to avoid two-stage dialing. <div data-bbox="527 991 579 1041"></div> Note: The hotline number will be sent to the PBX as a DID number, which can be configured on PBX's inbound route to distinguish calls from different carriers. | 888888 | 999999 |

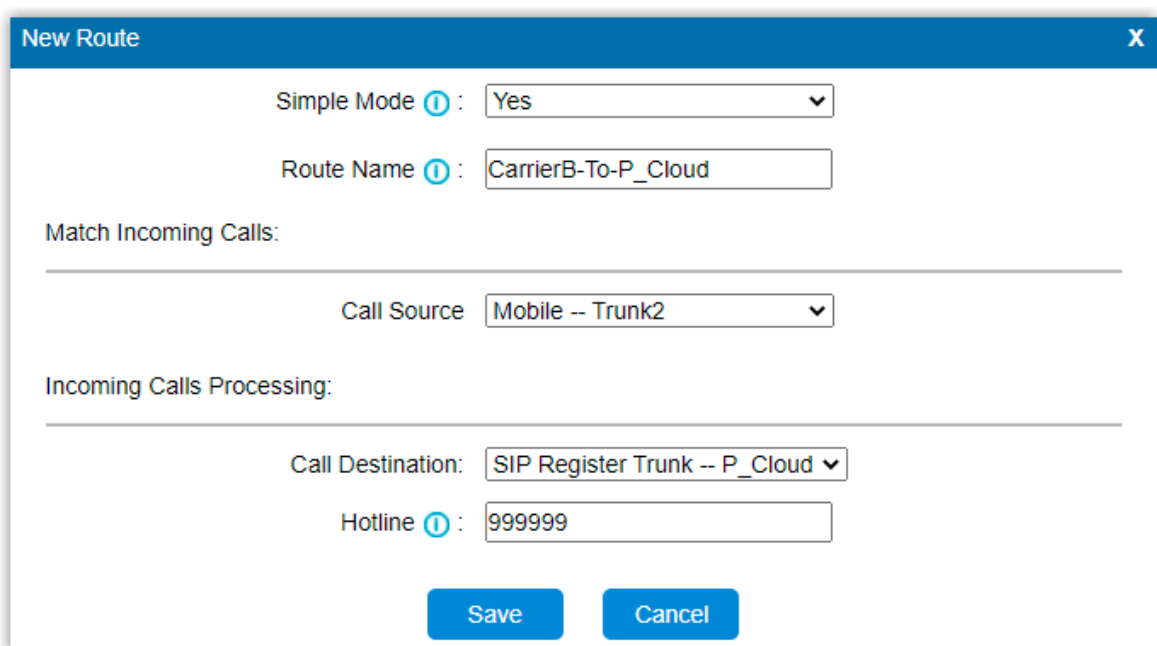
Figure 3. 'Mobile to IP' route for carrier A



The 'New Route' window has a blue header with the title 'New Route' and a close button 'X'. The configuration is as follows:

- Simple Mode** (with an information icon): A dropdown menu set to 'Yes'.
- Route Name** (with an information icon): A text input field containing 'CarrierA-To-P_Cloud'.
- Match Incoming Calls:** A section header followed by a horizontal line.
- Call Source**: A dropdown menu set to 'Mobile -- Trunk1'.
- Incoming Calls Processing:** A section header followed by a horizontal line.
- Call Destination**: A dropdown menu set to 'SIP Register Trunk -- P_Cloud'.
- Hotline** (with an information icon): A text input field containing '888888'.
- At the bottom, there are two blue buttons: 'Save' and 'Cancel'.

Figure 4. 'Mobile to IP' route for carrier B



The 'New Route' window has a blue header with the title 'New Route' and a close button 'X'. The configuration is as follows:

- Simple Mode** (with an information icon): A dropdown menu set to 'Yes'.
- Route Name** (with an information icon): A text input field containing 'CarrierB-To-P_Cloud'.
- Match Incoming Calls:** A section header followed by a horizontal line.
- Call Source**: A dropdown menu set to 'Mobile -- Trunk2'.
- Incoming Calls Processing:** A section header followed by a horizontal line.
- Call Destination**: A dropdown menu set to 'SIP Register Trunk -- P_Cloud'.
- Hotline** (with an information icon): A text input field containing '999999'.
- At the bottom, there are two blue buttons: 'Save' and 'Cancel'.

Step 2. Create two inbound routes on Yeastar PBX system

On Yeastar PBX system, create two inbound routes to distinguish calls from carrier A and carrier B, and route calls to different destinations.

1. Log in to PBX web portal, go to **Call Control > Inbound Route**, click **Add**.
2. Configure the following settings for the inbound route and leave other settings as default, then click **Save** and **Apply**.

The following table shows the required configurations for carrier A and carrier B.


| Setting | Description | For Carrier A | For Carrier B |
|---------------------|---|----------------|----------------|
| Name | Enter a name to help you identify it. | From-CarrierA | From-CarrierB |
| DID Matching Mode | Select a mode according to the rule of DID numbers. | DID Pattern | DID Pattern |
| Pattern | Enter a DID number to match the incoming calls. <div>  Note: Enter the same hotline number that is set on Yeastar TG400 gateway. </div> | 888888 | 999999 |
| Trunk | Select the SIP account trunk that is connected to Yeastar TG400 gateway. | TG400 | TG400 |
| Default Destination | Select a destination for the inbound route. | Extension 2000 | Extension 2001 |

Figure 5. 'IP to Mobile' route for carrier A

General

Name: From-CarrierA

Inbound Alert Info:

DID Pattern

DID Matching Mode: DID Pattern

Pattern: 888888

Operations:

Trunk

0 item Available

1 item Selected

Search here

| Name | Trunk Type |
|-------|---------------|
| TG400 | Account Trunk |

Default Destination

Default Destination: Extension

Time Condition:

2000-Leo Ball

Figure 6. Inbound route for carrier B

General

Name: From-CarrierB

Inbound Alert Info:

DID Pattern

DID Matching Mode: DID Pattern

Pattern: 999999

Operations:

Trunk

0 item Available

1 item Selected

Search here

| Name | Trunk Type |
|-------|---------------|
| TG400 | Account Trunk |

Default Destination

Default Destination: Extension

Time Condition:

2001-Phillip Huff

Step 3. Make test calls to the GSM trunks

Examples:

- Dial the number of GSM trunk1 (9218273), the call will be routed to extension 2000.
- Dial the number of GSM trunk 2 (1019238), the call will be routed to extension 2001.