



YEASTAR CERTIFIED

INTERGRATION SPECIALIST



Agenda

1. Advanced Features on P-Series
2. Integration Tools on P-Series
3. Integrate P-Series with Legacy PBX
4. Interconnect 2 P-Series PBXs
5. Integrate P-Series with Gateways
6. Integrate P-Series with CRMs
7. Integrate P-Series with Intercoms
8. Integrate P-Series with Microsoft Solutions

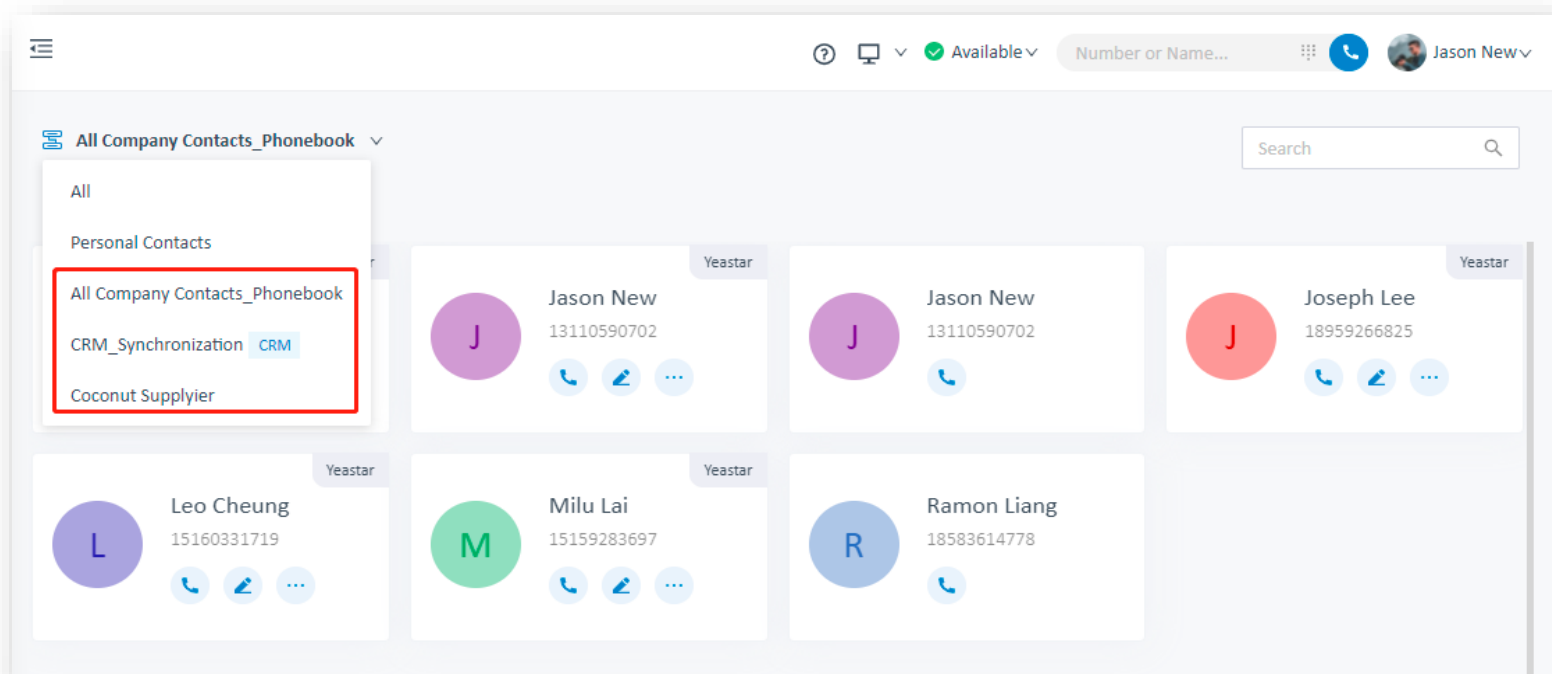
Part 1

Advanced Features on P-Series PBX System

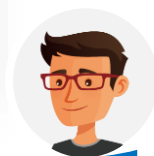
- P-Series PBX system provides some advanced features, helping customers to get a better experience.
- Features like Phonebooks, LDAP, AutoCLIP & Voicemail Transcription makes it more powerful



1.1 Phonebooks Configuration



The screenshot displays a user interface for managing contacts. At the top, there is a navigation bar with a menu icon, a status indicator (Available), a search bar (Number or Name...), and a user profile (Jason New). Below this, a dropdown menu is open, showing a list of phonebook groups: All, Personal Contacts, All Company Contacts_Phonebook (highlighted with a red box), CRM_Synchronization CRM, and Coconut Supplier. The main area shows a grid of contact cards. Each card includes a circular profile picture with a letter, the contact's name, a phone number, and a 'Yeastar' label. The cards are for Jason New (13110590702), Joseph Lee (18959266825), Leo Cheung (15160331719), Milu Lai (15159283697), and Ramon Liang (18583614778). Each card also has icons for calling, editing, and deleting.



Phonebooks feature is an advanced solution to manage contacts, which makes it more specific. Now we can even set different groups to manage our external contacts with different user permissions.

1.1.1 Grant Permissions for Phonebooks

The screenshot shows the Yeastar web interface. The left sidebar contains a navigation menu with items like Dashboard, Extension and Trunk, Extension, Extension Group, Client Permission, Trunk, Role, Contacts, Auto Provisioning, Call Control, Call Features, PBX Settings, and System. The main content area is titled 'Extension and Trunk / Client Permission'. It features two tabs: 'Extension Visibility Permission' and 'Contact Visibility Permission'. The 'Contact Visibility Permission' tab is selected. Below the tabs, there is a '+ Add rule' button and a table of existing rules. Each rule row includes a checkbox, a user name, a permission level, a group name, and edit/delete icons.

Checkbox	User	Permission	Group	Actions
<input type="checkbox"/>		Allow view		Save Delete
<input type="checkbox"/>	Marta Yates	Allow manage	VIP Customers	Edit Delete
<input type="checkbox"/>	Marta Yates	Allow manage	VIP Customers	Edit Delete
<input type="checkbox"/>	Horace Shu	Allow manage	All Company Con...	Edit Delete
<input type="checkbox"/>	Sue	Allow view		Edit Delete
<input type="checkbox"/>	Sue Ramon	Allow view		Edit Delete

1. Click Extension and Trunk
2. Check Client Permission
3. Click Contact Visibility Permission
4. Add a new rule to set user permission for contacts/phonebooks managing

1.1.1 Grant Permissions for Phonebooks

The screenshot shows the 'Client Permission' configuration page. The 'Contact Visibility Permission' tab is active. A table lists permissions for different users. The first row is highlighted with a red box, and a dropdown menu is open for the 'Permission Type' column, showing 'Allow view' and 'Allow manage' options. The 'Allow view' option is selected.

<input type="checkbox"/>	* Extension/Extension Group	* Permission Type	* Objects	Operation
<input type="checkbox"/>		Allow view		Save
<input type="checkbox"/>	Marta Yates	Allow manage	VIP Customers	Edit Delete
<input type="checkbox"/>	Horace Shu	Allow manage	All Company Con...	Edit Delete
<input type="checkbox"/>	Sue	Allow view		Edit Delete
<input type="checkbox"/>	Sue Ramon	Allow view		Edit Delete

1. Select a user
2. Set the permission
(Allow View / Allow Manage)
1. Pick Phonebooks

View Phonebooks

Allows users to view all the Phonebooks Contacts, yet not to edit, delete or add the info.

Manage Company contacts:

Allows users to view, edit, delete and add all the contacts info.

1.1.1 Grant Permissions for Phonebooks

Check phonebooks from Linkus UC Clients if the permissions are granted

The screenshot displays the Yeastar web interface. On the left is a navigation menu with 'Contacts' highlighted. The main area shows a 'Sales' dropdown menu with options: 'All', 'Personal Contacts', 'All Company Contacts_Phonebook', 'Sales', and 'Tech_Support'. A red box highlights 'Personal Contacts' with an arrow pointing to the text 'Personal Contact'. Another red box highlights 'All Company Contacts_Phonebook' with an arrow pointing to the text 'There's no Company Contact selection, will be listing phonebooks instead'. To the right, a contact card for 'Kyo' is shown. On the far right, a contact details modal for 'Jason New' is open, showing fields for 'Remark' (containing 'abc') and 'Mobile' (containing '13110590702'). A red box highlights the 'Remark' field. The text 'Put remarks if you need' is written in red below the modal.

There's no Company Contact selection, will be listing phonebooks instead

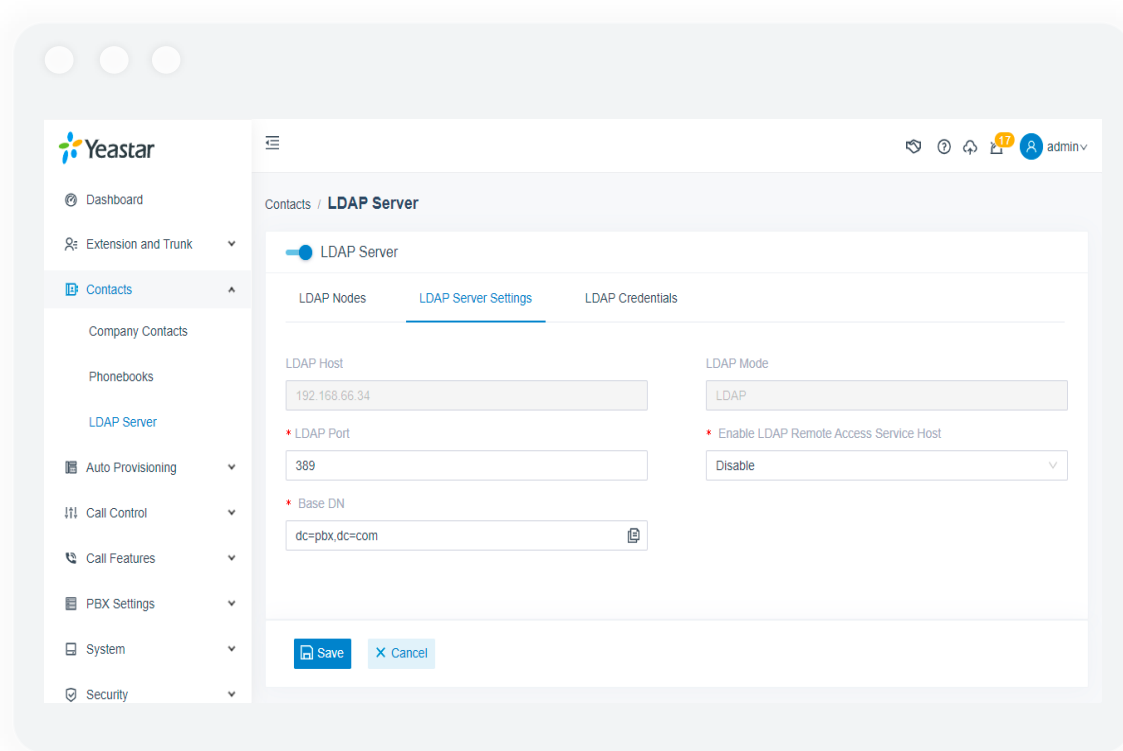
Put remarks if you need

1.2 LDAP Configuration

Lightweight Directory Access

Protocol, it's a client-server protocol for accessing a directory service.

Yeastar P-Series PBX System can be set as an LDAP Server, which provides centralized phonebook management. With this feature, you can store the contact information on the PBX, and quickly launch calls without wasting time finding a contact's number and subsequently entering it on your phone, thus greatly improving work efficiency.



1.2.1 LDAP Configuration

Log in to PBX management portal, go to Contacts > LDAP Server. On the top of the page, turn on LDAP Server. Click the LDAP Server Settings tab to check the LDAP Server settings or change the settings according to your needs.

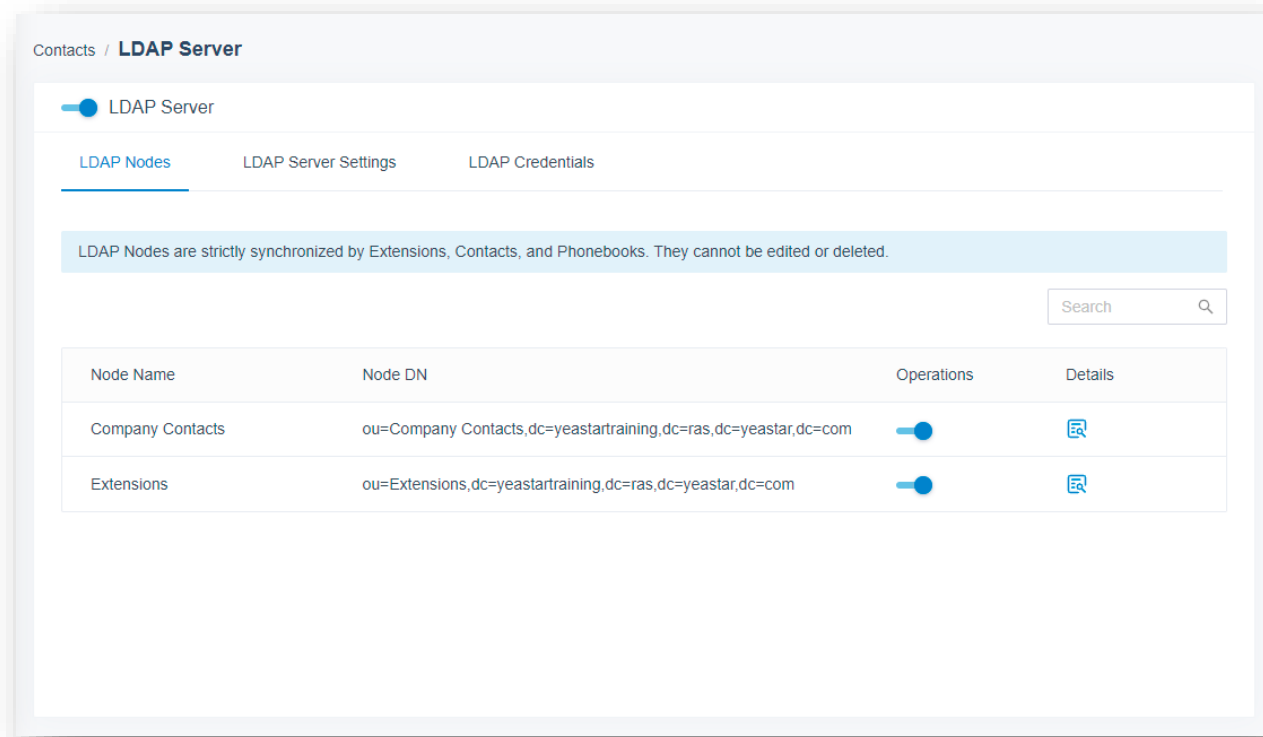
The screenshot displays the Yeastar management interface for LDAP configuration. The left sidebar shows the navigation menu with 'LDAP Server' highlighted. The main content area is titled 'Contacts / LDAP Server' and features three tabs: 'LDAP Server', 'LDAP Server Settings', and 'LDAP Credentials'. The 'LDAP Server' tab is active, showing a toggle switch turned on. Below the tabs, the configuration is organized into two columns. The left column contains fields for 'LDAP Host' (192.168.28.35), 'LDAP Port' (389), 'LDAP Remote Access Service Host' (yeastartraining.ras.yeastar.com), 'LDAP Remote Access Service Port' (13012), and 'Base DN' (dc=yeastartraining,dc=ras,dc=yeastar,dc=com). The right column contains 'LDAP Mode' (LDAP), 'Enable LDAP Remote Access Service Host' (Enabled), 'LDAP Remote Access Service Mode' (LDAP & LDAPS), and 'LDAPs Remote Access Service Port' (13013). At the bottom, there are 'Save' and 'Cancel' buttons.

1.2.2 Descriptions

Setting	Description
LDAP Host	The LDAP Server address of Yeastar P-Series PBX System.LDAP Client connects to the LDAP Server via the address.
LDAP Mode	The connection protocol used between the LDAP Server and the LDAP Clients.
LDAP Port	The LDAP Server port.
Enable LDAP Remote Access Service Host	Set whether to enable the LDAP Remote Access Service. If enabled, LDAP Clients will be able to connect to the LDAP Server via Remote Access Service remotely. Note: To enable this feature, make sure you have configured the LDAP port for remote access. For more information, see Configure Network for Remote Access by a Yeastar FQDN .
Base DN	Set up the base entry of the directory. For example, dc=pbx,dc=com. Note: If the LDAP remote access is enabled, the Base DN is based on the domain name of Yeastar P-Series PBX System.

1.2.3 Enable/Disable LDAP Nodes

If a node is disabled, you can not query the information under this node.



Contacts / **LDAP Server**

LDAP Server

LDAP Nodes LDAP Server Settings LDAP Credentials

LDAP Nodes are strictly synchronized by Extensions, Contacts, and Phonebooks. They cannot be edited or deleted.

Search

Node Name	Node DN	Operations	Details
Company Contacts	ou=Company Contacts,dc=yeastartraining,dc=ras,dc=yeastar,dc=com	<input type="checkbox"/>	Details
Extensions	ou=Extensions,dc=yeastartraining,dc=ras,dc=yeastar,dc=com	<input type="checkbox"/>	Details

1.2.4 Set up a LDAP Client

You can configure the LDAP for IP phone via Auto Provisioning, which is more convenient & easier to operate.

Prerequisites

Make sure the PBX version is 37.6.0.24 or later.

The phone is connected to Yeastar P-Series PBX System via Auto-Provisioning, and it has been assigned with an extension. For more information, see the following topics:

- [Auto Provision IP Phones in Local Network \(PnP Method\)](#)
- [Auto Provision IP Phones in Local Network \(DHCP Method\)](#)
- [Auto Provision IP Phones Remotely \(RPS Method\)](#)

1.2.4 Set up a LDAP Client

Log in to PBX management portal, go to Auto Provisioning > Phones, click to edit the phone. Under Phone tab, scroll down to the LDAP Directory section, set up the LDAP feature according to your needs. Click Save. The page returns to Auto Provisioning > Phones. Click beside the phone to re-provision the settings. In the pop-up dialog box, click OK.

LDAP Directory

* Enable LDAP Directory
Enable

LDAP Server Address
192.168.5.150

LDAP Name Filter
((displayName=%)(givenName=%)(sn=%)(mail=%)(company=%))

LDAP Name Attributes
displayName

LDAP Display Name
%displayName

* LDAP Lookup for Incoming Calls
Enable

* LDAP Sorting Results
Disable

Directory Name
PBX_Contacts

LDAP Mode
LDAP

LDAP Number Filter
((telephoneNumber=%)(mobile=%)(homePhone=%)(facsimileTelephoneNumber=%))

LDAP Number Attributes
telephoneNumber mobile homePhone facsimileTelephoneNumber

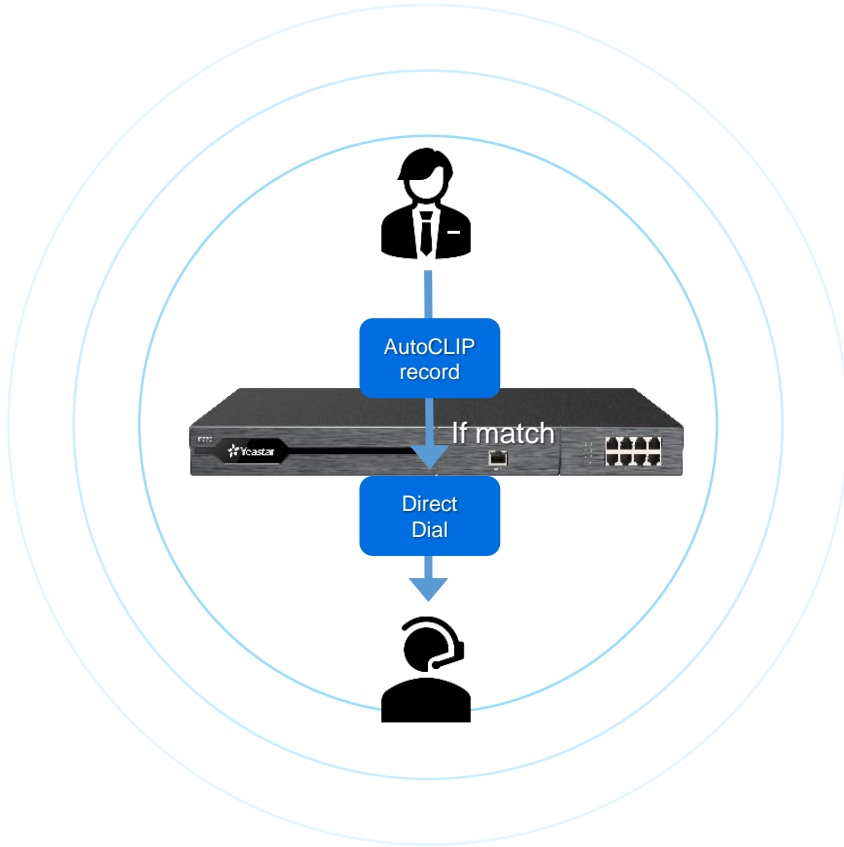
* Max Number of Search Results
50

* LDAP Lookup for Dialing
Enable

1.2.5 Descriptions

Setting	Description	Example
Enable LDAP Directory	Enable or disable the LDAP directory feature.	Enable
Directory Name	Specify a name for the LDAP directory.	PBX_Contacts
LDAP Server Address	Enter the LDAP Server address of Yeastar P-Series PBX System.	192.168.5.150
LDAP Mode	Select the connection mode between the LDAP Server and the IP phone. Note: You can only select LDAP when using a local host.	LDAP
LDAP Name Filter	<ul style="list-style-type: none"> Specify the name attributes for LDAP contact name lookup.Note:The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. 	((displayName=%)(givenName=%)(sn=%)(mail=%)(company=%))
LDAP Number Filter	<ul style="list-style-type: none"> Specify the number attributes for LDAP searching.Note:The * symbol in the filter stands for any character. The % symbol in the filter stands for the entering string used as the prefix of the filter condition. 	((telephoneNumber=%)(mobile=%)(homePhone=%)(facsimileTelephoneNumber=%))
LDAP Name Attributes	Specify the name attributes of each record to be returned by the LDAP Server. The user can configure multiple name attributes separated by space.	displayName
LDAP Number Attributes	Specify the number attributes of each record to be returned by the LDAP Server. The user can configure multiple number attributes.	telephoneNumber mobile homePhone
LDAP Display Name	Specify the display name of the contact record displayed on the LCD screen. Note: This parameter must start with % symbol.	%displayName
Max Number of Search Results	Specify the maximum number of search results to be returned by the LDAP Server.	50
LDAP Lookup for Incoming Call	Enable or disable IP phone to perform an LDAP search when receiving an incoming call.	Enabled
LDAP Lookup for Callout	Enable or disable IP phone to perform an LDAP search when placing a call.	Enabled
LDAP Sorting Results	Enable or disable IP phone to sort out search results in alphabetical and numerical order.	Enabled

1.3 AutoCLIP Configuration



PBX automatically stores information about outgoing calls. When there is call back, it will be routed directly to the original extension (e.g. receptionist) that made the former mentioned outgoing call.

1.3.1 The Way AutoClip Works

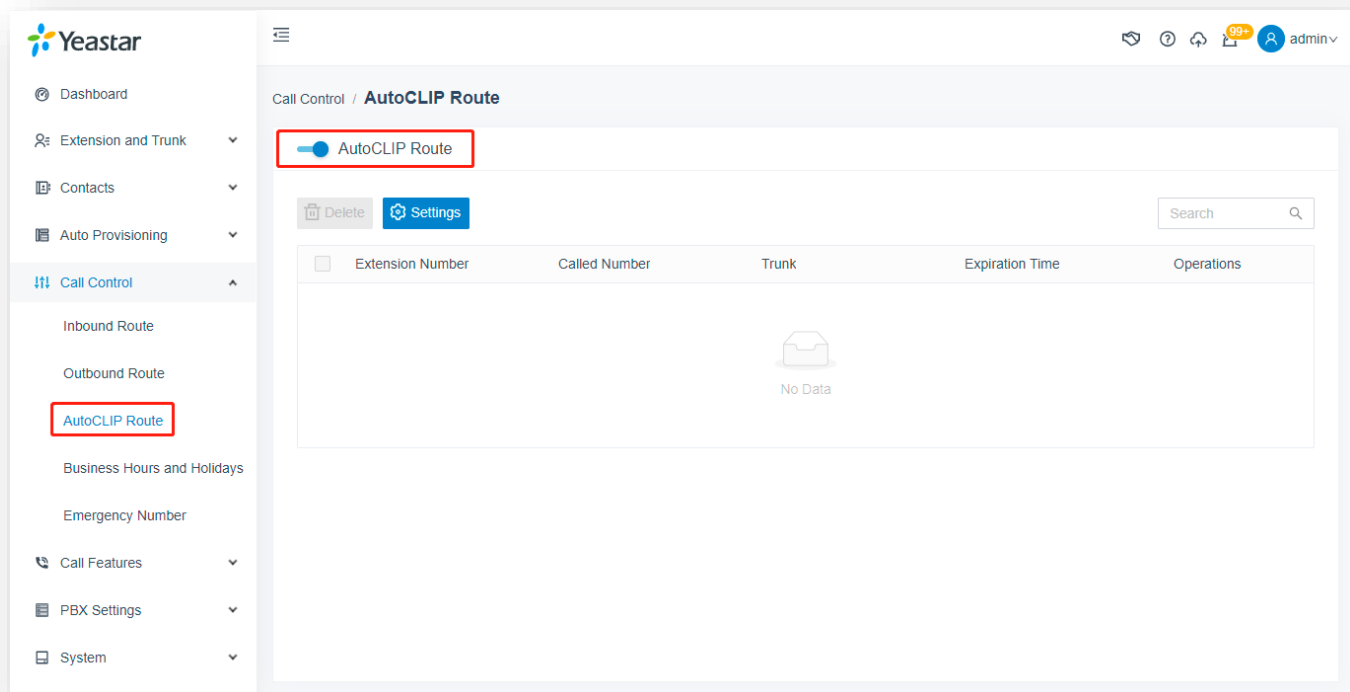
1. When extension users make outbound calls, the PBX automatically stores the records to AutoCLIP list, including extension number, called number, and the used trunk.
2. When customers call back to the PBX system, PBX will compare the phone numbers with the records in the AutoCLIP list.
 1. If there're matched records in AutoCLIP list, the calls will be routed to corresponding extensions, bypassing any receptionists or business auto attendant.
 2. If there're not matched records in AutoCLIP list, the calls will be routed to the destination specified in inbound routes.

1.3.2 Enable AutoCLIP

Log in to PBX management portal, go to Call Control > AutoCLIP Route.

On the top of the page, enable the AutoCLIP Route feature.

Click Settings to set up rules for AutoCLIP route.



The screenshot displays the Yeastar PBX management portal interface. The left sidebar contains a navigation menu with the following items: Dashboard, Extension and Trunk, Contacts, Auto Provisioning, Call Control (expanded), Inbound Route, Outbound Route, AutoCLIP Route (highlighted with a red box), Business Hours and Holidays, Emergency Number, Call Features, PBX Settings, and System. The main content area is titled "Call Control / AutoCLIP Route". At the top of this area, there is a toggle switch for "AutoCLIP Route" which is currently turned on, also highlighted with a red box. Below the toggle are "Delete" and "Settings" buttons. A search bar is located on the right side of the main content area. The main content area features a table with the following columns: Extension Number, Called Number, Trunk, Expiration Time, and Operations. The table is currently empty, displaying a "No Data" message with a folder icon.

1.3.2 Enable AutoCLIP

Configure the AutoCLIP settings according to your needs.

Call Control / AutoCLIP Route / **Settings**

* Record Keep Time * Digits Match

8 hours 7

Delete Used Records

Only Keep Missed Call Records

Match Outgoing Trunk

Trunk

15 items Available

Search here

<input type="checkbox"/>	Name	Trunk Type
<input type="checkbox"/>	DIGIT1	E1
<input type="checkbox"/>	FXO2-3	FXO

0 item Selected

Search here

<input type="checkbox"/>	Name	Trunk Type
--------------------------	------	------------

↑
^

>

Save Cancel

1.3.2 Enable AutoCLIP

In the Trunk section, select which trunks will use AutoCLIP Route. Select the desired trunk(s). Add the desired trunk(s) from Available box to Selected box.

Call Control / AutoCLIP Route / **Settings**

Trunk

15 items Available


Search here

<input type="checkbox"/>	Name	Trunk Type
<input type="checkbox"/>	DIGIT1	E1
<input type="checkbox"/>	FXO2-3	FXO
<input type="checkbox"/>	FXO2-4	FXO
<input type="checkbox"/>	PBX	Peer Trunk
<input type="checkbox"/>	to_TB	Peer Trunk
<input type="checkbox"/>	to_Cloud_1	Register Trunk
<input type="checkbox"/>	to_Cloud_2	Register Trunk

> <

0 item Selected

Search here

<input type="checkbox"/>	Name	Trunk Type
 No Data		

↑ ↓

Extensions/Extension Groups

Save **Cancel**

1.3.2 Enable AutoCLIP



In the Extensions/Extension Groups, select which extensions can use AutoCLIP Route. Select the desired extension(s)/extension group(s). Add the extension(s)/extension group(s) from Available box to Selected box. Click Save.

Call Control / AutoCLIP Route / **Settings**

Extensions/Extension Groups

63 items Available		0 item Selected	
Search here		Search here	
<input type="checkbox"/>	Number Name	<input type="checkbox"/>	Number Name
<input type="checkbox"/>	Extension Group Tech Support		
<input type="checkbox"/>	Extension Group Sales_Dept		
<input type="checkbox"/>	Extension Group HR		
<input type="checkbox"/>	Extension Group Accounting		
<input type="checkbox"/>	Extension Group Yeastar Training		
<input type="checkbox"/>	Extension Group Indonesia_Yeostar		
<input type="checkbox"/>	Extension Group Training Team		

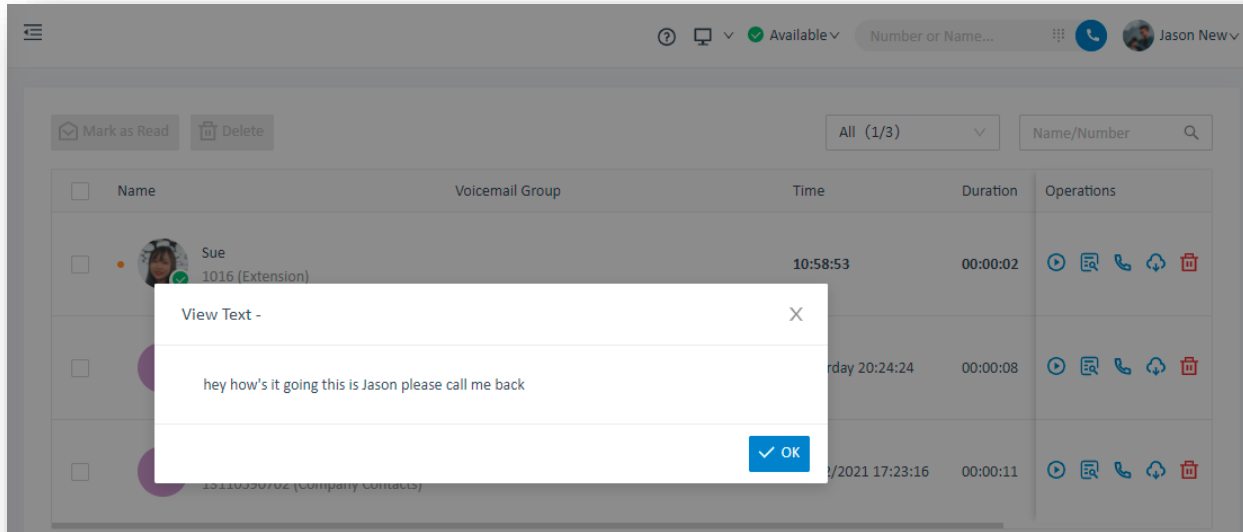
No Data

1.3.3 Description

Setting	Description
Record Keep Time	Set how long records can be kept in AutoCLIP list. If keep time of a record exceeds the value, PBX will automatically delete the record. Tip: You can check the expiration time in the AutoCLIP record list directly.
Digits Match	Define how many digits from the last digit of the incoming Call ID will be used to match the AutoCLIP list. Note: If the number has fewer digits than the value defined here, it will be matched in full length.
Delete Used Records	If enabled, when an AutoCLIP record is matched, it will be deleted from the record list automatically after the original extension has answered the redirected customer call.
Only Keep Missed Call Records	If enabled, only when the outbound call is not answered will it be recorded in the AutoCLIP list. Note: All calls made through PSTN lines will be recorded in the AutoCLIP list, regardless of the setting.
Match Outgoing Trunk	If enabled, the PBX will route the call to the original extension only when the trunk number dialed by external users matches the trunk that was used to place the call earlier.

1.4 Voicemail Transcription



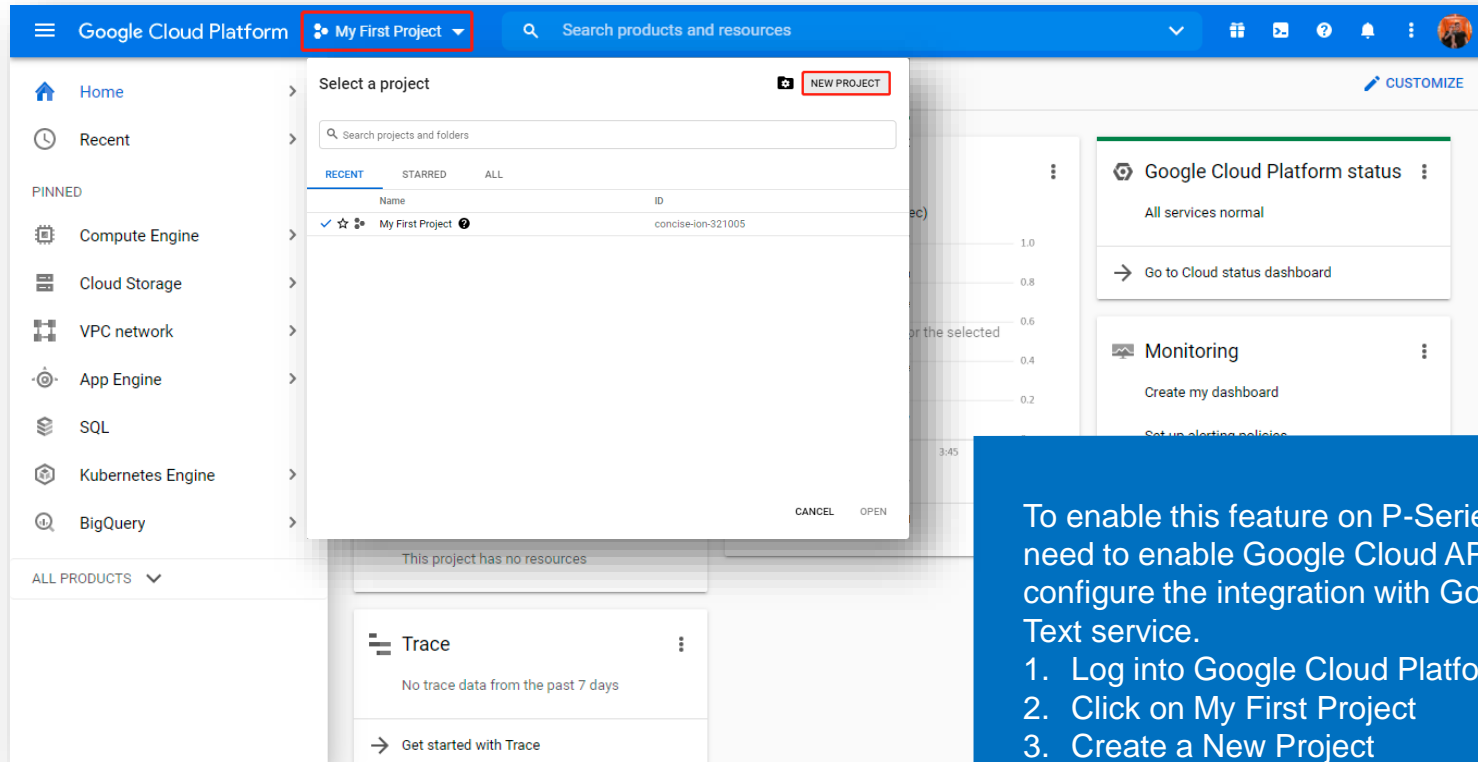
The screenshot displays a voicemail management interface. At the top, there's a status bar with a help icon, a monitor icon, a green 'Available' status, a search field containing 'Number or Name...', and a user profile for 'Jason New'. Below this, there are 'Mark as Read' and 'Delete' buttons, a filter dropdown set to 'All (1/3)', and a search field for 'Name/Number'. The main area is a table with columns: Name, Voicemail Group, Time, Duration, and Operations. A modal window titled 'View Text -' is open over the first row, showing the transcription: 'hey how's it going this is Jason please call me back'. The modal has a close 'X' button and a blue 'OK' button.

Name	Voicemail Group	Time	Duration	Operations
Sue 1016 (Extension)		10:58:53	00:00:02	Play, Transcribe, Forward, Refresh, Delete
		Monday 20:24:24	00:00:08	Play, Transcribe, Forward, Refresh, Delete
		2021 17:23:16	00:00:11	Play, Transcribe, Forward, Refresh, Delete



Voicemail Transcription is a feature available on P-Series PBX which helps user to check the voicemail by a text version directly. Providing a simplified user experience.

1.4.1 Google Cloud API Configuration



The screenshot displays the Google Cloud Platform (GCP) console interface. At the top, the navigation bar shows 'Google Cloud Platform' and a dropdown menu for 'My First Project'. A search bar is also present. The left sidebar lists various services like Compute Engine, Cloud Storage, VPC network, App Engine, SQL, Kubernetes Engine, and BigQuery. The main content area is partially obscured by a 'Select a project' dialog box. This dialog box has a 'NEW PROJECT' button and a search field. Under the 'RECENT' tab, a table lists projects, with 'My First Project' (ID: concise-ion-321005) selected. The background dashboard shows a 'Google Cloud Platform status' section indicating 'All services normal' and a 'Monitoring' section with options to 'Create my dashboard' and 'Set up alerting policies'. A 'Trace' section at the bottom indicates 'No trace data from the past 7 days'.



To enable this feature on P-Series PBX, you'll need to enable Google Cloud API. Then configure the integration with Google Speech-to-Text service.

1. Log into Google Cloud Platform
2. Click on My First Project
3. Create a New Project
4. Enable APIs & Services

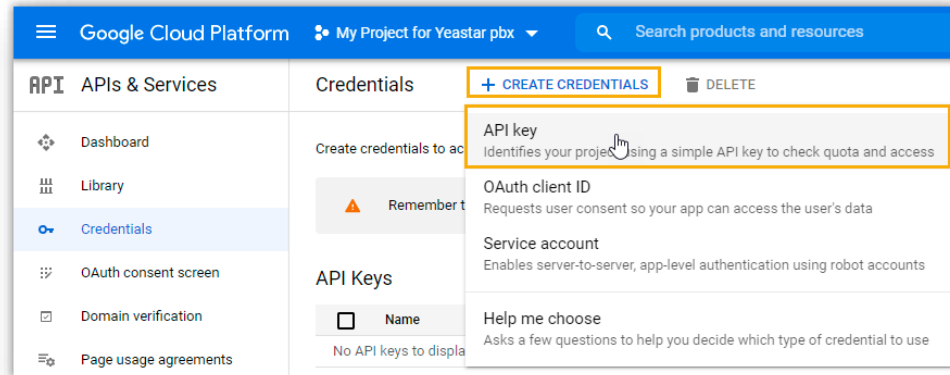
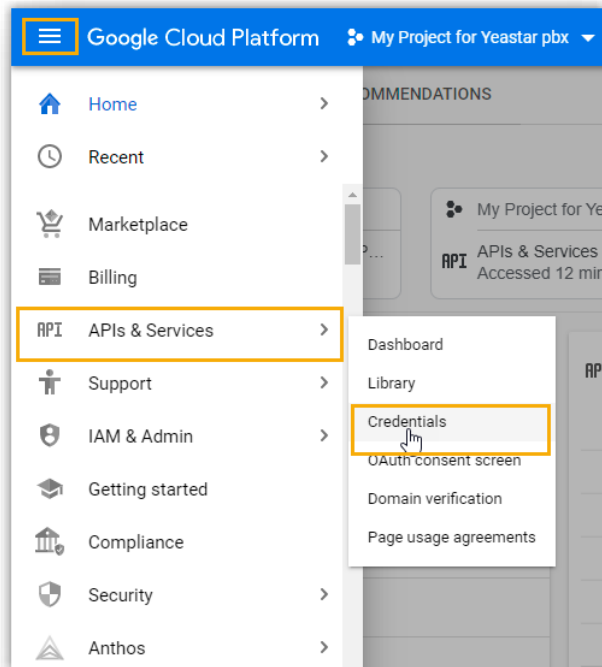
1.4.1 Google Cloud API Configuration

The screenshot shows the Google Cloud Platform API Library interface. At the top, there is a blue navigation bar with the text "Google Cloud Platform", "My Project 33882", and a search bar containing "Speech-To-Text". Below the navigation bar, the page title is "API Library". On the left side, there is a "Filter by" section with a "CATEGORY" list: "Analytics (1)", "Google Enterprise APIs (3)", and "Machine learning (2)". The main content area is titled "Speech" and shows "4 results". The first result, "Cloud Speech-to-Text API", is highlighted with a red box. It is a "Google Enterprise API" and is described as "Converts audio to text by applying powerful neural network models." The second result is "Cloud Text-to-Speech API", which is described as "Synthesizes natural-sounding speech by applying powerful neural network models."

The screenshot shows the configuration page for the "Cloud Speech-to-Text API". The page header includes "Google Cloud Platform", "My Project 33882", and a search bar. The main content area features the API icon, the title "Cloud Speech-to-Text API", and the text "Google Enterprise API" and "Speech recognition". At the bottom of the page, there are two buttons: "ENABLE" and "TRY THIS API".

Enable Speech-
To-Text API

1.4.2 Create API credentials on Google Cloud Platform



In the left navigation panel, go to **API & Services > Credentials**

1.4.3 Create API Key



Important:

For security purpose, you need to restrict your API key, ensuring only authorized requests are made with your API key.

API key created

Use this key in your application by passing it with the `key=API_KEY` parameter.

Your API key

AIzaSyB4jS9k7101jD1L1r1r-11079k74g78



Restrict your key to prevent unauthorized use in production.

CLOSE

RESTRICT KEY

API restrictions

API restrictions specify the enabled APIs that this key can call

- Don't restrict key
This key can call any API
- Restrict key

1 API

Selected APIs:

Cloud Speech-to-Text API

Note: It may take up to 5 minutes for settings to take effect

SAVE




CANCEL

On the **Restrict and rename API key** page, complete the following configurations.

1. In the **Name** field, specify the API key name.
2. In the **Application restrictions** section, select **None**.
3. In the **API restrictions** section, select **Restrict key**.
4. Enter "**speech**" in the search box below to search and select the **Cloud Speech-to-Text API**, then click **OK**.
5. Click **Save** to apply your configuration.

1.4.4 Pair API Key

API Keys

<input type="checkbox"/>	Name	Creation date ↓	Restrictions	Key		
<input type="checkbox"/>	<input checked="" type="checkbox"/> API key for Yeastar test	Jun 22, 2021	Cloud Speech-to-Text API	AIzaSyByav...957ju7ytVY		 

Integrations / **Speech to Text**

Speech to Text is an intelligent recognition application that can be used for voicemail transcription. To use the service, you will need to purchase or create API on the STT API service platform first. After the purchase, please come back to this page and fill in the authentication key, then enable the Voicemail Transcription feature in the **Call Feature > Voicemail Settings**.

STT API Integration Disconnect

Status:

Service:

* API Key:

Settings

* Language:

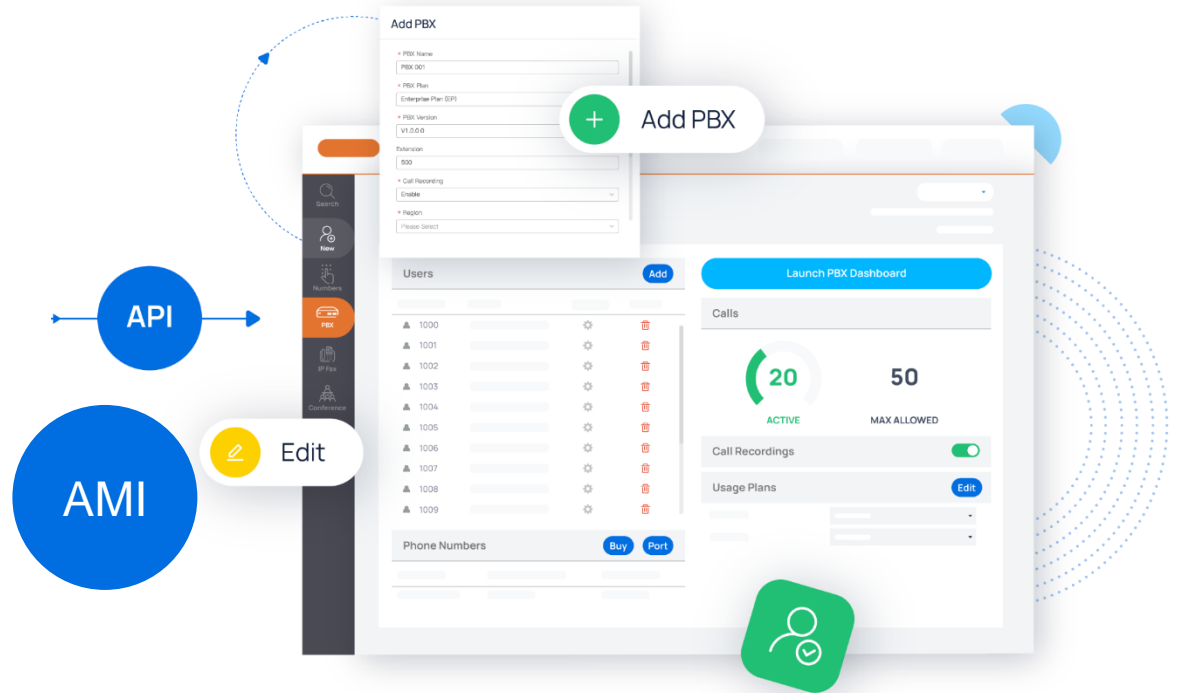
back to the **Credentials** page, in the **API key** section. Copy the restricted API key.

1. Log in to PBX management portal, go to **Integrations > Speech to Text**.
2. In **STT API Integration** section, fill in the required API credentials.
Service: Select **Google Cloud**.
API Key: Paste the restricted API key copied in the former procedure
3. In **Settings** section, select the transcription language. The audio messages will be transcribed to text in the selected language.
4. Click on "**Save**". If the integration succeeds, the **Status** in the **STT API Integration** section will display **Connected**.

Part 2

Integration Tools on P-Series PBX System

P-Series PBX System provides rich integration solutions with some functional & easy-to-use integration tools, such as AMI, API, etc.



2.1 AMI Integration

AMI stands for Asterisk manager interface

Our PBX is Asterisk based(13.7.0) you can use the AMI to receive the event and send request to the PBX

You can do thing like below:

- Develop customize app to control or monitor calls
- CRM integration



2.1.1 Configure PBX AMI Settings

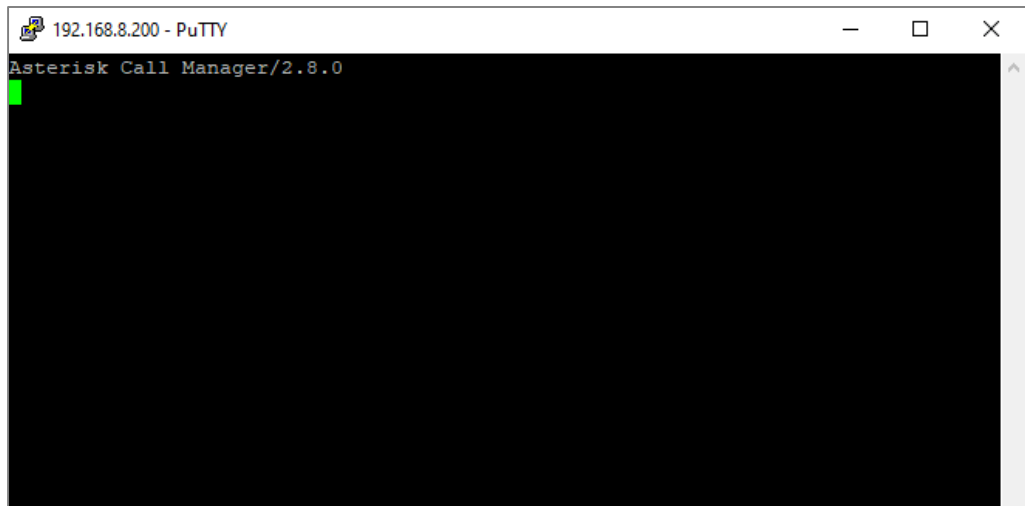
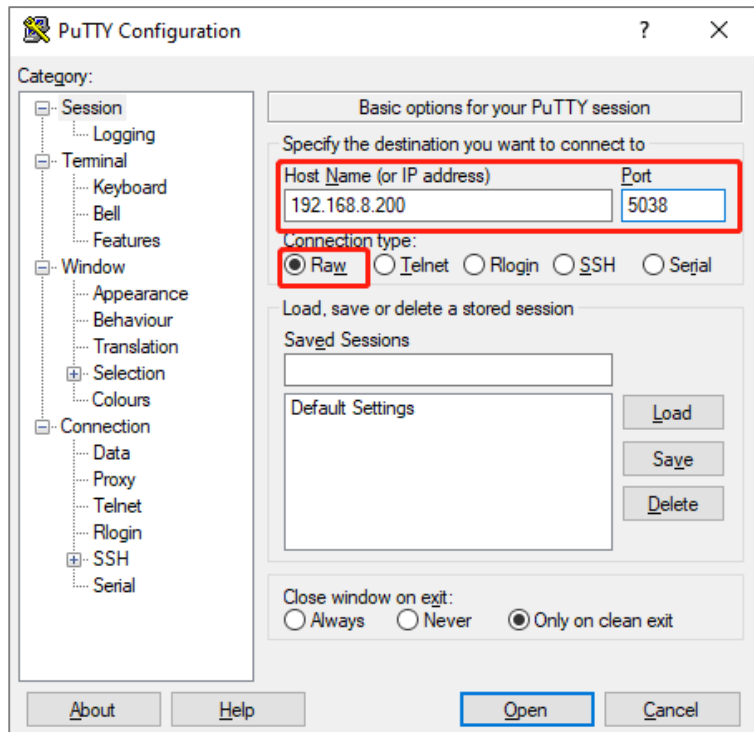
Step1: enable AMI and configure the password and permitted IP address in the PBX

The screenshot shows the Yeastar PBX configuration interface. The left sidebar contains a menu with 'Integrations' highlighted in red. The main content area is titled 'Integrations / AMI'. At the top, there is a toggle switch for 'AMI' which is turned on and highlighted with a red box. Below this, there are three input fields: 'Username' with the value 'ZuHtcov6', 'Password' (empty), and 'Port' with the value '5038'. Below these fields is a section titled 'Permitted IP' which contains a table with columns for 'IP Address', 'Subnet Mask', and 'Operations'. The table is currently empty and displays 'No Data' with a folder icon. At the bottom of the interface, there are 'Save' and 'Cancel' buttons.

1. Click Integration
2. Check AMI
3. Enable AMI
4. Set Username
5. Set Password
6. Add permitted IP

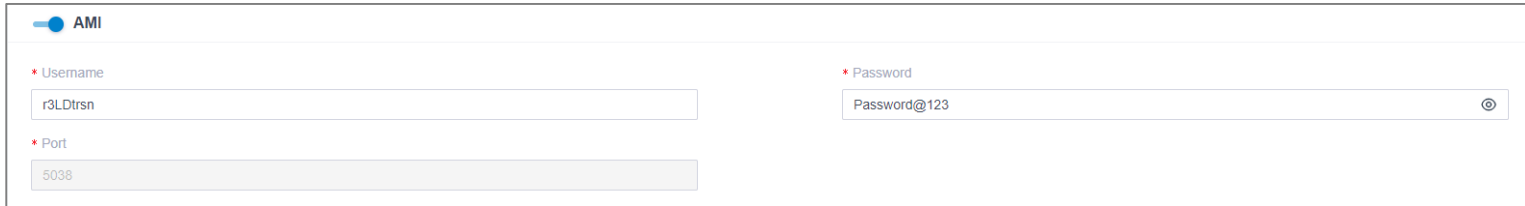
2.1.2 Configure AMI Client Settings

Step2: Fill in PBX' IP address and the AMI port to the putty, use the raw connection type.

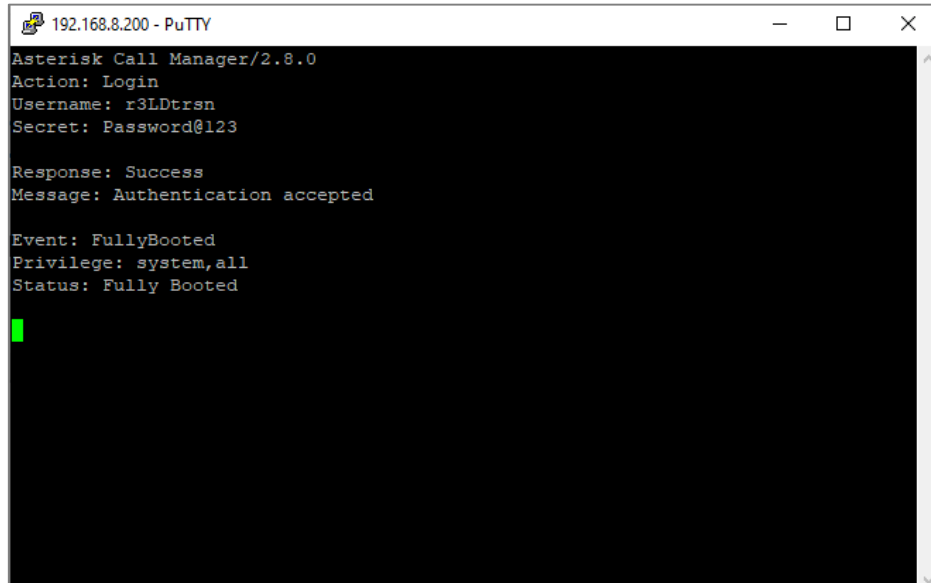


2.1.3 Connect to the AMI

Step3: Put the login command to the window, we get the username and password from the PBX setting.



A screenshot of a web form titled "AMI". It contains three input fields: "Username" with the value "r3LDtrsn", "Password" with the value "Password@123", and "Port" with the value "5038". Each field is preceded by a red asterisk indicating it is a required field.



A screenshot of a PuTTY terminal window titled "192.168.8.200 - PuTTY". The terminal output shows the Asterisk Call Manager login process:

```
Asterisk Call Manager/2.8.0
Action: Login
Username: r3LDtrsn
Secret: Password@123

Response: Success
Message: Authentication accepted

Event: FullyBooted
Privilege: system,all
Status: Fully Booted
```

A green cursor is visible at the end of the last line of output.

Action: Login

Username: r3LDtrsn

Secret: Password@123

2.2 API Integration

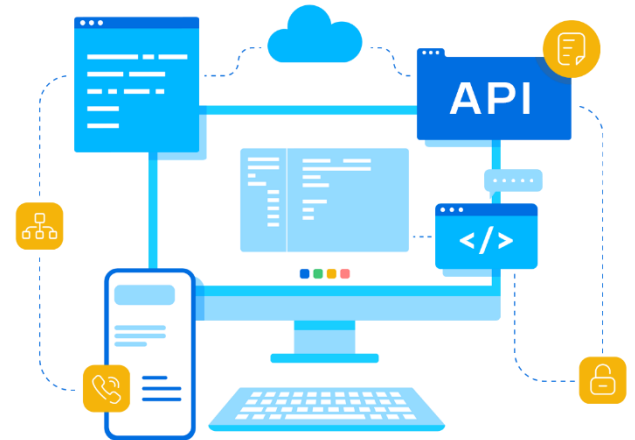
Yeastar P-Series PBX System provides API (Application Programming Interface) to integrate with third-party applications, such as call center, hotel, CRM (Customer Relationship Management), etc.

You can achieve the followings on a third-party application through Yeastar P-Series PBX System APIs.

- *Query the PBX parameters and status*
- *Configure PBX features*
- *Control calls of the PBX*
- *Monitor events on the PBX*

Requirement

- PBX firmware version: 37.7.0.16 or later.
- PBX plan: Enterprise Plan or Ultimate Plan.
- API feature on PBX is enabled.



2.2.1 Communication Methods

After connected to the PBX using the API interface, a third-party application can implement bidirectional communications with Yeastar P-Series PBX System:

API request and response

The third-party application can call APIs to query features, configure parameters, control calls, etc. Every time the application sends an API request, the PBX will return a response with the requested resources.

Event subscription and event notification

The third-party application can send messages to subscribe to desired PBX events. In this way, the PBX will proactively send the subscribed events to notify the third-party application about the changes in real-time.

2.2.2 API Interfaces on P-Series PBX

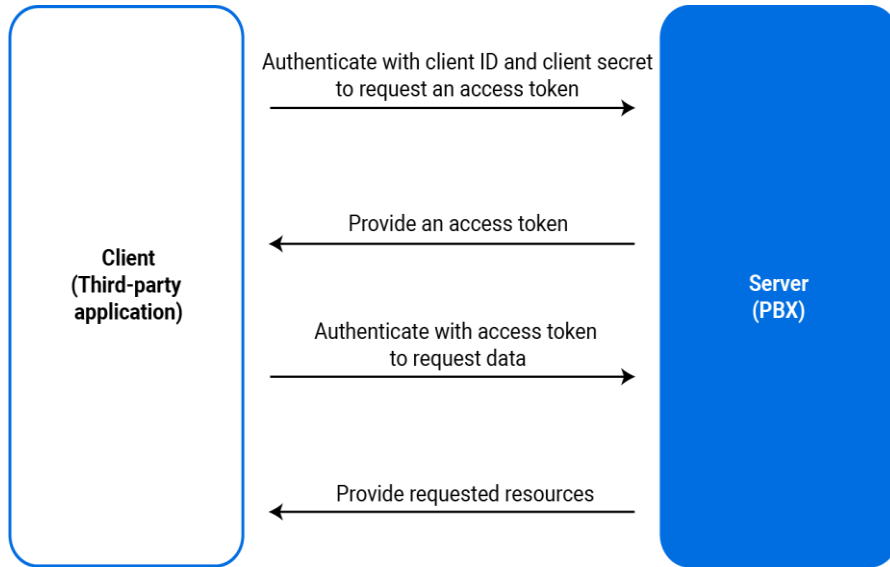
The following interfaces are supported by P-Series PBX API

- System
- Extension
- Organization
- Trunk
- Contacts
- Phonebook
- Events
- Inbound Route
- Outbound Route
- Recording
- CDR
- Call Report
- Call Control
- uaCSTA Call Control

2.2.3 API Authorization Rule

Yeastar P-Series PBX System API uses the OAuth 2.0 protocol for authentication and authorization. This topic introduces the authorization process and the token expiration time.

Authorization Process



1. Third-party application authenticates with credentials to request an access token.
2. After an application obtains credentials (Client ID and Client Secret) from the PBX web portal (Path: Integrations > API), the application sends the credentials to request an access token.
3. PBX provides an access token.
4. The PBX validates the Client ID and Client Secret, and responds with an access token.
5. Third-party application uses the access token to call an API.
6. The third-party application sends API requests carrying the obtained access token to make authenticated API calls.
7. PBX provides requested resources.
8. The PBX authenticates the access token and returns the requested data.
9. Refresh the access token if necessary.
10. The access token expires after 30 minutes. You can refresh access token to obtain a new access token for API calls.

2.2.4 API Configuration on P-Series PBX

The screenshot displays the PBX administration interface. On the left is a navigation menu with categories: Call Control, Call Features, PBX Settings, System, Security, Maintenance, Integrations, Reports and Recordings, and Plan. The 'Integrations' category is expanded, and the 'API' option is highlighted with a red box. The main content area is titled 'Integrations / API' and features a toggle switch for 'API' which is currently turned off. Below this, there are fields for 'Client ID' (containing 'GVQgwgMVx4hzRM8Y0wrjAdmS4BzhFzWj') and 'Client Secret' (masked with dots). An 'IP Restriction' checkbox is present and unchecked. The 'Advanced Settings' section includes tabs for 'Extension Status Monitor' and 'Trunk Status Monitor', a search bar, and a table with columns for 'Extension Number', 'Extension Name', 'Registration Status Monitor', 'Call Status Monitor', and 'Presence Status Monitor'. The table lists two extensions: 1000 (Leo Ball) and 1001 (Phillip Huff), each with three status monitor toggle switches. At the bottom, there are 'Save' and 'Cancel' buttons.

Integrations / API

API

Client ID: GVQgwgMVx4hzRM8Y0wrjAdmS4BzhFzWj

Client Secret:

IP Restriction

Advanced Settings

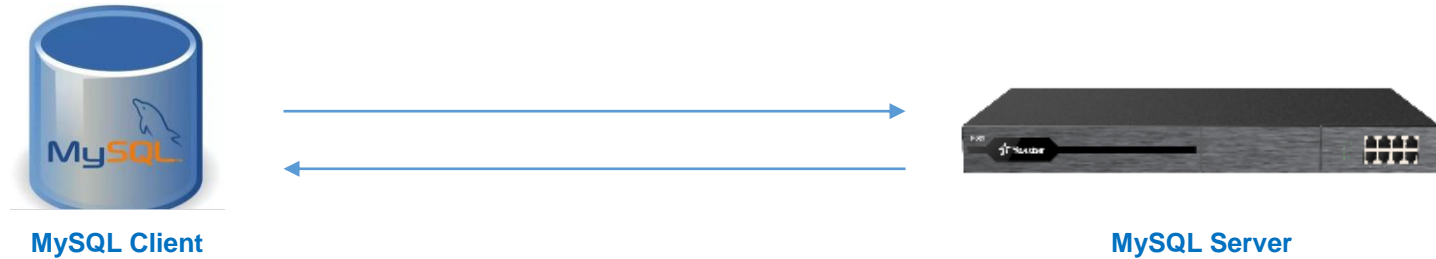
Extension Status Monitor | Trunk Status Monitor | Search

Extension Number	Extension Name	Registration Status Monitor	Call Status Monitor	Presence Status Monitor
1000	Leo Ball	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1001	Phillip Huff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Save | Cancel

2.3 Database Grant

Database Grant provides a way for other apps to connect to the PBX to get the CDR data. The P series PBX use MySQL database, you can connect to it and use the MySQL commands to query the CDR.



2.3.1 Configure Database Grant settings

Step1: enable the Database Grant, configure the password and add permitted IP address for the connection

The screenshot shows a web application interface for configuring Database Grant settings. On the left is a navigation menu with categories like Call Control, Call Features, PBX Settings, System, Security, Maintenance, Integrations, CRM, Speech to Text, AMI, API, Database Grant, Reports and Recordings, and Plan. The 'Integrations' category is expanded, and 'Database Grant' is highlighted. The main content area is titled 'Integrations / Database Grant'. At the top right of the main area, there are icons for help, refresh, and a user profile labeled 'admin'. The 'Database Grant' section has a toggle switch that is turned on. Below this, there are three input fields: 'User Name' with the value 'b9LrjNnu', 'Password' (empty), and 'Port' with the value '3306'. Below these is a 'Permitted IP' section with a table for adding IP addresses. The table has columns for 'IP Address', 'Subnet Mask', and 'Operations'. At the bottom of the form are 'Save' and 'Cancel' buttons.

1. Click Integration
2. Check Database Grant
3. Enable Database Grant
4. Set Username
5. Set Password
6. Add permitted IP

2.3.2 Configure the MySQL Client settings

Step2: enable the Database Grant, configure the password and add permitted IP address for the connection

Database Grant

* User Name

* Password

* Port

Connect to MySQL Host

New... Clone... Save Rename... Delete

Saved Connections F Series FBX

MySQL HTTP SSH SSL Advanced

MySQL Host Address

Username

Password Save Password

Port

Database(s)

(Use ';' to separate multiple databases. Leave blank to display all) ?

Use Compressed Protocol

Session Idle Timeout Default 28800 (seconds) Keep-Alive Interval (seconds)

Connect Cancel Test Connection

Step3: connect and check the cdr table data

The screenshot displays a database management interface with a tree view on the left and a table view on the right. The tree view shows a hierarchy of tables and views under the 'cdr' schema. The table view shows a list of records with columns for id, datetime, timestamp, uid, clid, src, srcname, srcaddr, dst, dstname, and d. The records represent call data entries.

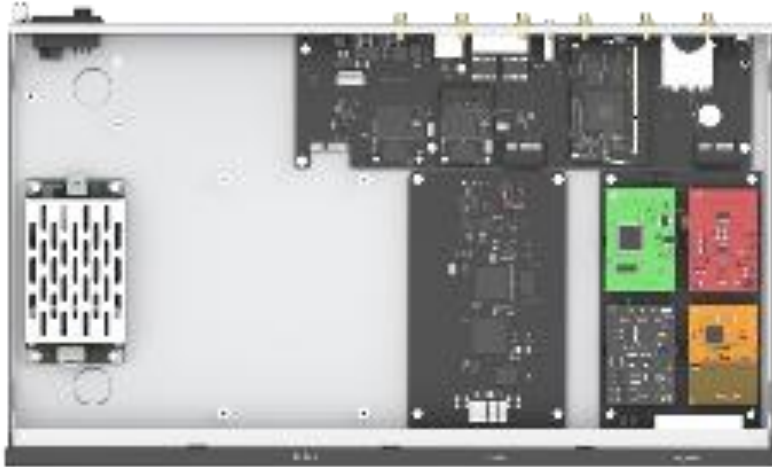
Filter tables in cdr
Filter (Ctrl+Shift+B)

Query
Autocomplete: [Tab]->Next Tag. [Ctrl+Space]->List All Tags. [Ctrl+Enter]->List Matching Tags. [Ctrl+Shift+Space]->List Function and Routine Parameters.
1 'cdr'

id	datetime	timestamp	uid	clid	src	srcname	srcaddr	dst	dstname	d
1	2021-05-08 10:36:49	1620441409	2021050810364912F78	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.46:5060	1005	tonnie3 feng	DI
2	2021-05-08 10:37:04	1620441424	2021050810370441EE1	"6400:5691name" <5691>	5691	5691name		1000	tonnie1 feng	or
3	2021-05-08 10:37:04	1620441424	2021050810370441EE1	"6400:5691name" <5691>	5691	5691name		1005	tonnie3 feng	or
4	2021-05-08 10:37:03	1620441423	2021050810370441EE1	"6400:5691name" <5691>	5691	5691name		6400	6400	qu
5	2021-05-08 10:37:58	1620441478	202105081037583EA88	"tonnie1 feng" <550330235>	1000	tonnie1 feng	192.168.8.46:5060	22222222		DI
6	2021-05-08 10:41:15	1620441675	202105081041153DC03	"6400:5691name" <5691>	5691	5691name		1000	tonnie1 feng	or
7	2021-05-08 10:41:15	1620441675	202105081041153DC03	"6400:5691name" <5691>	5691	5691name		8002	tonnie2 feng	or
8	2021-05-08 10:41:15	1620441675	202105081041153DC03	"6400:5691name" <5691>	5691	5691name		1005	tonnie3 feng	qu
9	2021-05-08 10:41:14	1620441674	202105081041153DC03	"6400:5691name" <5691>	5691	5691name		6400	6400	qu
10	2021-05-08 10:45:11	1620441911	202105081045115D084	"tonnie3 feng" <1005>	1005	tonnie3 feng		*93		DI
11	2021-05-08 10:50:30	1620442230	20210508105030FF6E4	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.46:5060	1005	tonnie3 feng	DI
12	2021-05-08 10:51:57	1620442317	202105081051570E096	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.46:5060	1005	tonnie3 feng	DI
13	2021-05-08 10:57:47	1620442667	202105081057472DBD	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.46:5060	1005	tonnie3 feng	DI
14	2021-05-08 11:30:07	1620444607	20210508113007C451E	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.46:5060	1005	tonnie3 feng	DI
15	2021-05-08 11:32:07	1620444727	20210508113207952F7	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.46:5060	1005	tonnie3 feng	DI
16	2021-05-08 11:32:31	1620444751	20210508113231D337C	"tonnie3 feng" <1005>	1005	tonnie3 feng		*93		DI
17	2021-05-08 11:32:46	1620444766	2021050811324651890	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.46:5060	1005	tonnie3 feng	DI
18	2021-05-08 11:35:32	1620444932	2021050811353245AD0	"tonnie3 feng" <1005>	1005	tonnie3 feng		1000	tonnie1 feng	DI
19	2021-05-08 11:35:32	1620444932	2021050811353245AD0	"tonnie3 feng" <1005>	1005	tonnie3 feng		1000	tonnie1 feng	vb
20	2021-05-08 11:36:16	1620444976	202105081136168D4A7	"tonnie3 feng" <1005>	1005	tonnie3 feng	192.168.8.47:5062	1000	tonnie1 feng	DI
21	2021-05-08 11:36:24	1620444984	202105081136244A715	"tonnie1 feng" <1000>	1000	tonnie1 feng		*93		DI
22	2021-05-08 11:36:32	1620444992	2021050811363269EF5	"tonnie3 feng" <1005>	1005	tonnie3 feng		1000	tonnie1 feng	DI
23	2021-05-08 11:37:07	1620445027	202105081137079617B	"tonnie3 feng" <1005>	1005	tonnie3 feng		*93		DI
24	2021-05-08 11:37:16	1620445036	202105081137164E4430	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.46:5060	1005	tonnie3 feng	DI
25	2021-05-08 11:38:40	1620445120	202105081138400CF94	"tonnie1 feng" <1000>	1000	tonnie1 feng		*93		DI
26	2021-05-08 11:39:05	1620445145	20210508113905F5B3D	"tonnie3 feng" <1005>	1005	tonnie3 feng		1000	tonnie1 feng	DI
27	2021-05-08 11:39:20	1620445160	20210508113920B7CFE	"tonnie1 feng" <1000>	1000	tonnie1 feng	192.168.8.47:5062	*93		DI

Part 3

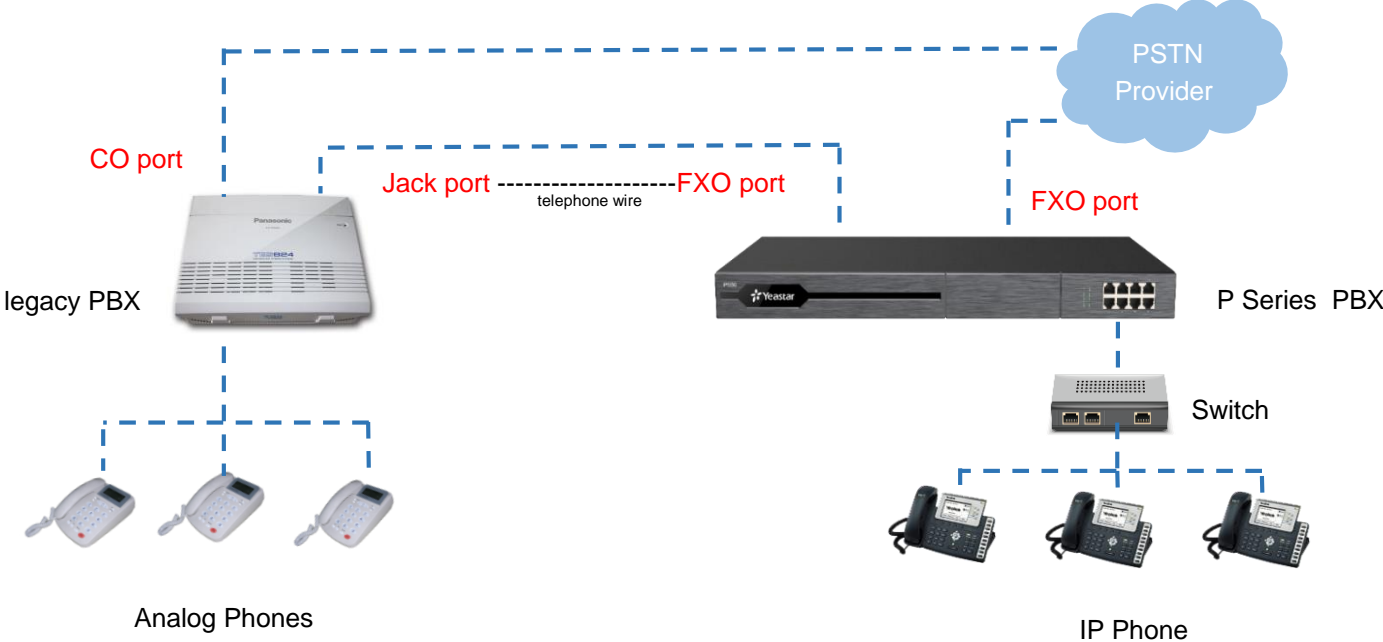
Integrate P-Series with Legacy PBX



P-Series can be customized with modules to enable either analog or digital interface for integration with the Legacy PBX

3.1 Connect P-Series PBX with Analog PBX

A traditional analog PBX is one of the legacy system, even the VoIP has become a mainstream nowadays, there are still some traditional PBX in use, some of them are still working well, we may not want to give up them.



3.1.1 Introduction

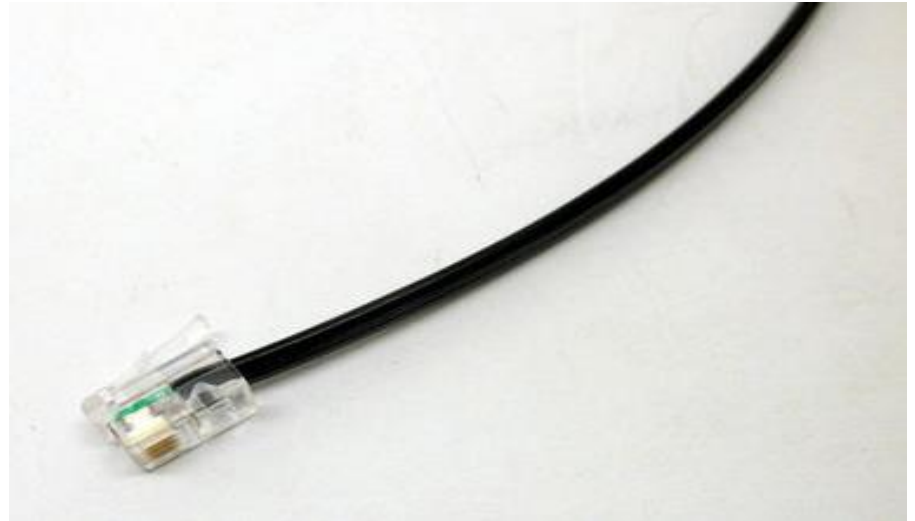
After connect the legacy PBX with a P Series PBX,

we can :

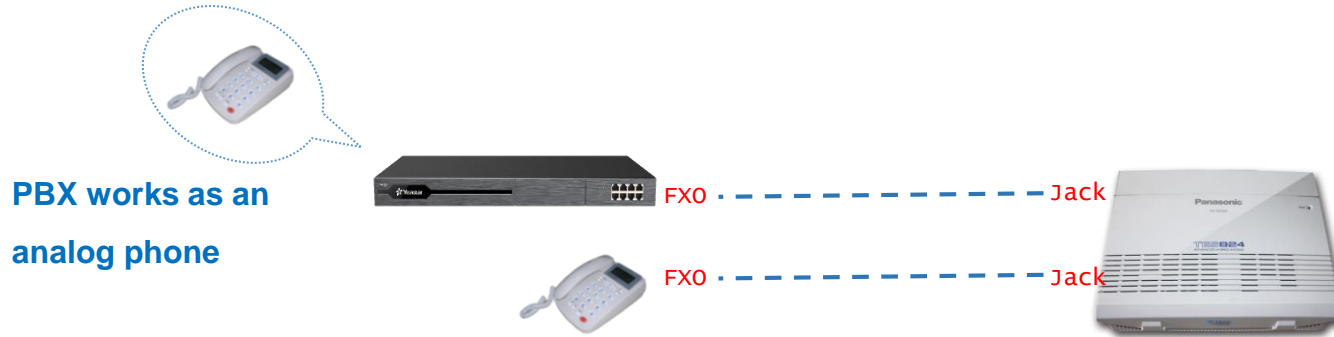
- Keep existing analog PBX and phones
- Reach each other's extensions
- Share the trunks with each other
- Convert to an IP solution

Jack/CO port in legacy PBX

- Jack port is similar to FXS port
- CO port is similar to FXO port



3.1.2 Make the P-Series as an Analog Phone



In this case, A P-Series PBX/legacy PBX works as an analog phone, so we need :

- Connect a FXO port of P Series PBX with a Jack port of a Legacy PBX
- Connect a CO port of Legacy PBX with a FXS port of P Series PBX

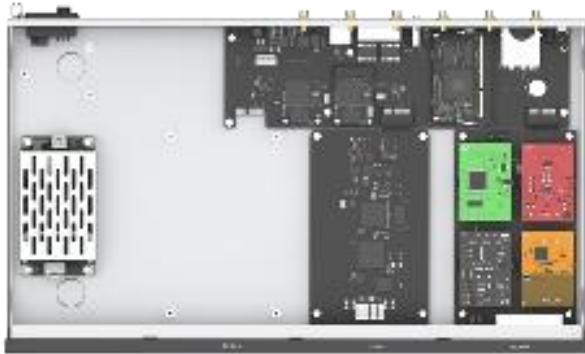
Note: The other direction is the same, the CO port connect with FXS port, legacy PBX works as an analog extension in P Series PBX

3.1.3 Hardware installation

P Series PBX:

Plan A: 1 SO module offers 1 FXS port and 1 FXO port.

Plan B: 1 S2 module works with 1 O2 module offer total 2 FXS port and 2 FXO port.

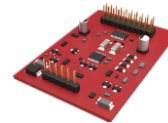


Plan A



SO module

Plan B



O2 module

+



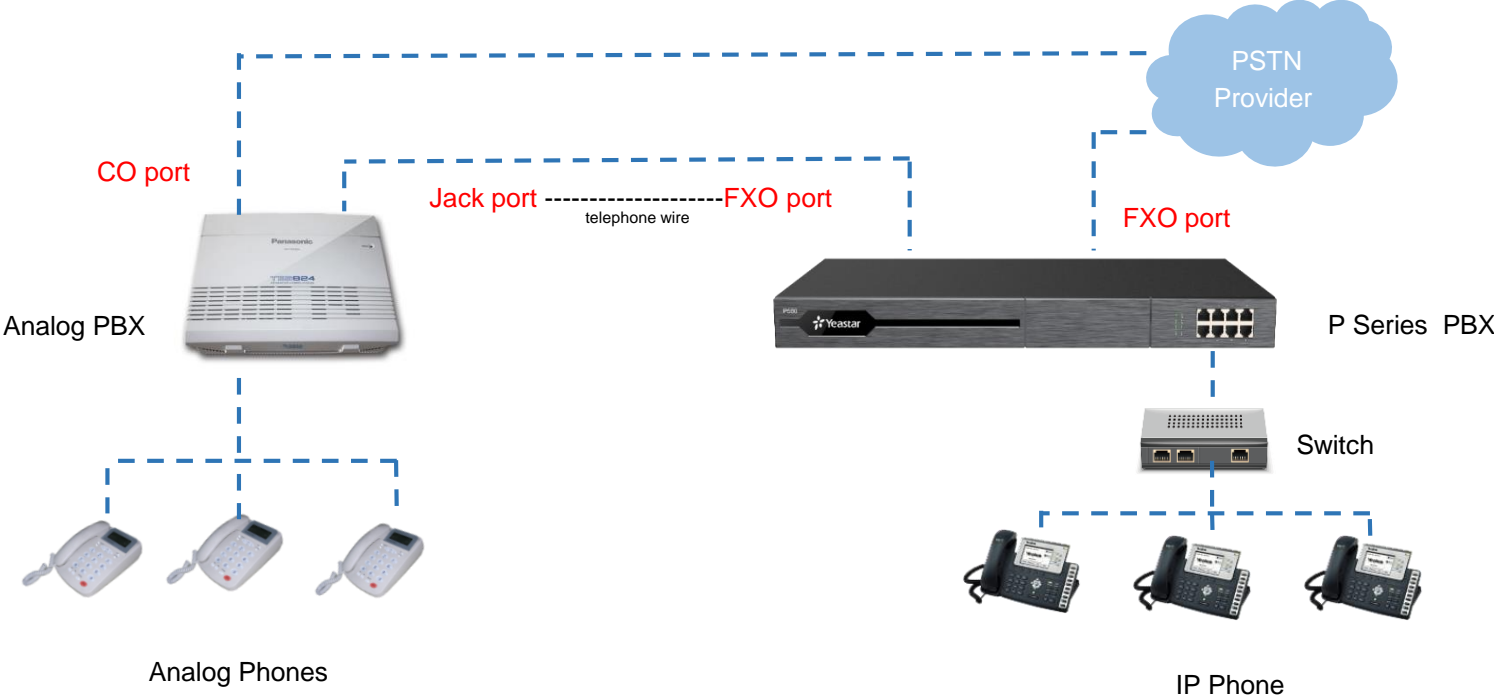
S2 module

Legacy PBX:

No need to do anything.

3.1.4 Diagram

Follow the diagram below to establish the connection between a legacy PBX and a P Series PBX



3.1.5 Configurations

Goal 1 reach each other's extensions

Configuration

Create an outbound trunk(select the FXO trunk that connected with legacy PBX), So extensions of P Series PBX can call to the extensions of legacy PBX.

Goal 2 share trunks with legacy PBX

Configuration

Create an outbound trunk(select the trunk you want to share),and allow the analog extension (legacy PBX)to call out through this outbound route.

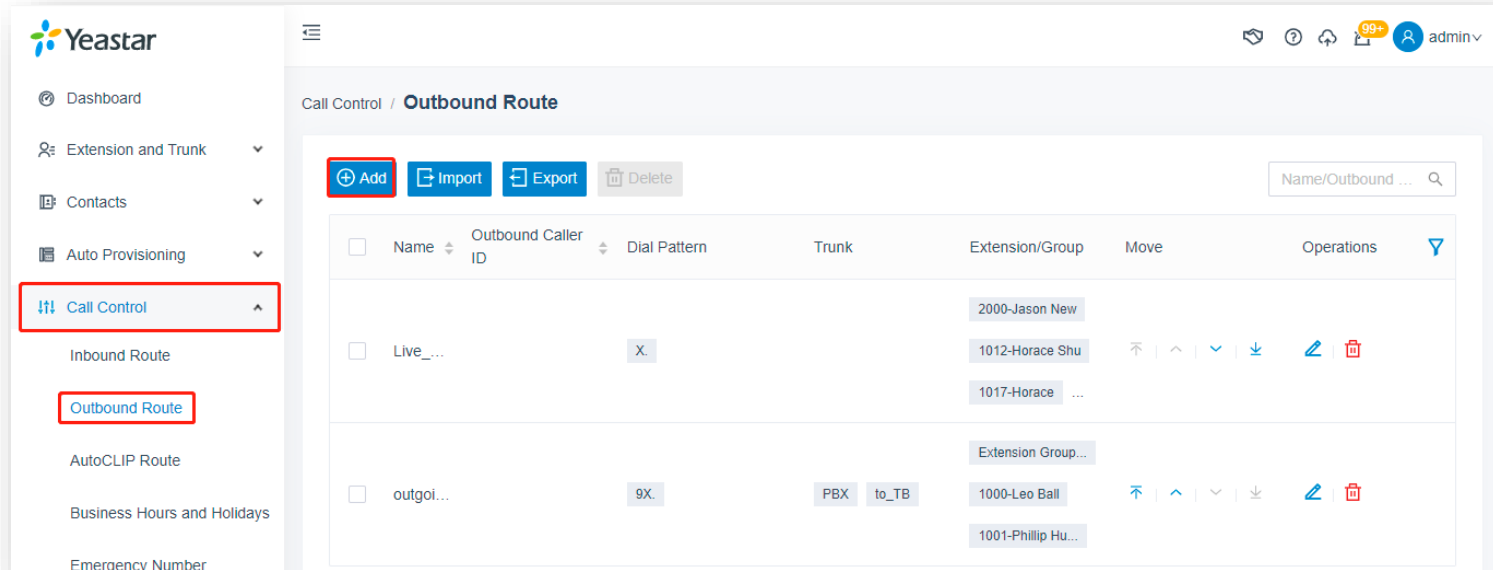


We suppose you are familiar with legacy PBX. So we don't discuss legacy PBX configuration here

Note: the legacy PBX works as an analog extension of P Series PBX, so just need create an outbound route to share the trunk with legacy PBX.

3.1.5 Configurations

Step 1 Open the web GUI of a P Series PBX. Add a new outbound Route



The screenshot displays the Yeastar web GUI interface for configuring Outbound Routes. The left sidebar contains a navigation menu with the following items: Dashboard, Extension and Trunk, Contacts, Auto Provisioning, **Call Control** (highlighted with a red box), Inbound Route, **Outbound Route** (highlighted with a red box), AutoCLIP Route, Business Hours and Holidays, and Emergency Number. The main content area is titled "Call Control / Outbound Route" and features a toolbar with "Add", "Import", "Export", and "Delete" buttons. The "Add" button is highlighted with a red box. Below the toolbar is a search bar labeled "Name/Outbound ..." and a table listing existing routes. The table has columns for Name, Outbound Caller ID, Dial Pattern, Trunk, Extension/Group, Move, and Operations. The table contains two rows of data:

<input type="checkbox"/>	Name	Outbound Caller ID	Dial Pattern	Trunk	Extension/Group	Move	Operations
<input type="checkbox"/>	Live_...		X.		2000-Jason New 1012-Horace Shu 1017-Horace ...	↕ ^ v ↓	✎ 🗑️
<input type="checkbox"/>	outgoi...		9X.	PBX to_TB	Extension Group... 1000-Leo Ball 1001-Phillip Hu...	↕ ^ v ↓	✎ 🗑️

3.1.5 Configurations

Step 2 Name the trunk, set up a pattern, choose the trunk that connected with the legacy PBX

The screenshot shows a configuration interface for a trunk, divided into three main sections: General, Dial Pattern, and Trunk. Red arrows and text annotations highlight specific steps in the configuration process.

General

- Name:** ToLegacyPBX (Annotated with "3.name the trunk")
- Outbound Caller ID:** (Empty field)
- Role:** (Dropdown menu)

Dial Pattern

- Dial Matching Settings:**
- Pattern:** 9X. (Annotated with "4.setup a pattern,like 9X. means any numbers starts with 9 will be matched and strip 1 means delete the first number when dial out")
- Strip:** 1 (Annotated with "4.setup a pattern,like 9X. means any numbers starts with 9 will be matched and strip 1 means delete the first number when dial out")
- Prepend:** (Empty field)
- Operations:** (Icon)
- + Add:** (Button)

Trunk

- 1/5 Items Available:**
- Search here:** (Search bar)
- Table:**

Name	Trunk Type
<input type="checkbox"/> LTE1-1	LTE
<input checked="" type="checkbox"/> FXO1-5	FXO
<input type="checkbox"/> FXO1-legacy	FXO
<input type="checkbox"/> account212	Account Trunk
<input type="checkbox"/> peer213	Peer Trunk

- 0 item Selected:**
- Search here:** (Search bar)
- Table:**

Name	Trunk Type
No Data	

- + Outbound Route Password:** (Field)
- Buttons:** Save, Cancel

3.1.5 Configurations

Step 3 Select the extensions you would like to make calls to the legacy PBX.

Extension / Extension Group

9 items Available

Search here

<input type="checkbox"/>	Number	Name
<input type="checkbox"/>	1001	1001
<input type="checkbox"/>	1002	1002
<input type="checkbox"/>	1003	1003
<input type="checkbox"/>	1004	1004
<input type="checkbox"/>	1005	1005
<input type="checkbox"/>	1006	1006
<input type="checkbox"/>	5000	5000

0 item Selected

Search here

<input type="checkbox"/>	Number	Name
No Data		

Time Condition

* Available Time

Always





























Save Cancel

6.select the extensions you would like to make calls to the legacy PBX

7.click save

After doing so,the extensions of P Series PBX can reach make calls to the legacy pbx

3.1.5 Configurations

<input type="checkbox"/>	Online Status	Presence	Extension Number	Caller ID Name	User Role	Email Address	Mobile Number	Operations
<input type="checkbox"/>	 	Available	1000	1000				 
<input type="checkbox"/>	 	Available	1001	1001				 
<input type="checkbox"/>	 	Available	1002	1002				 
<input type="checkbox"/>	 	Available	1003	1003				 
<input type="checkbox"/>	 	Available	1004	1004				 
<input type="checkbox"/>	 	Available	1005	1005				 
<input type="checkbox"/>	 	Available	1006	1006				 

Analog extensions

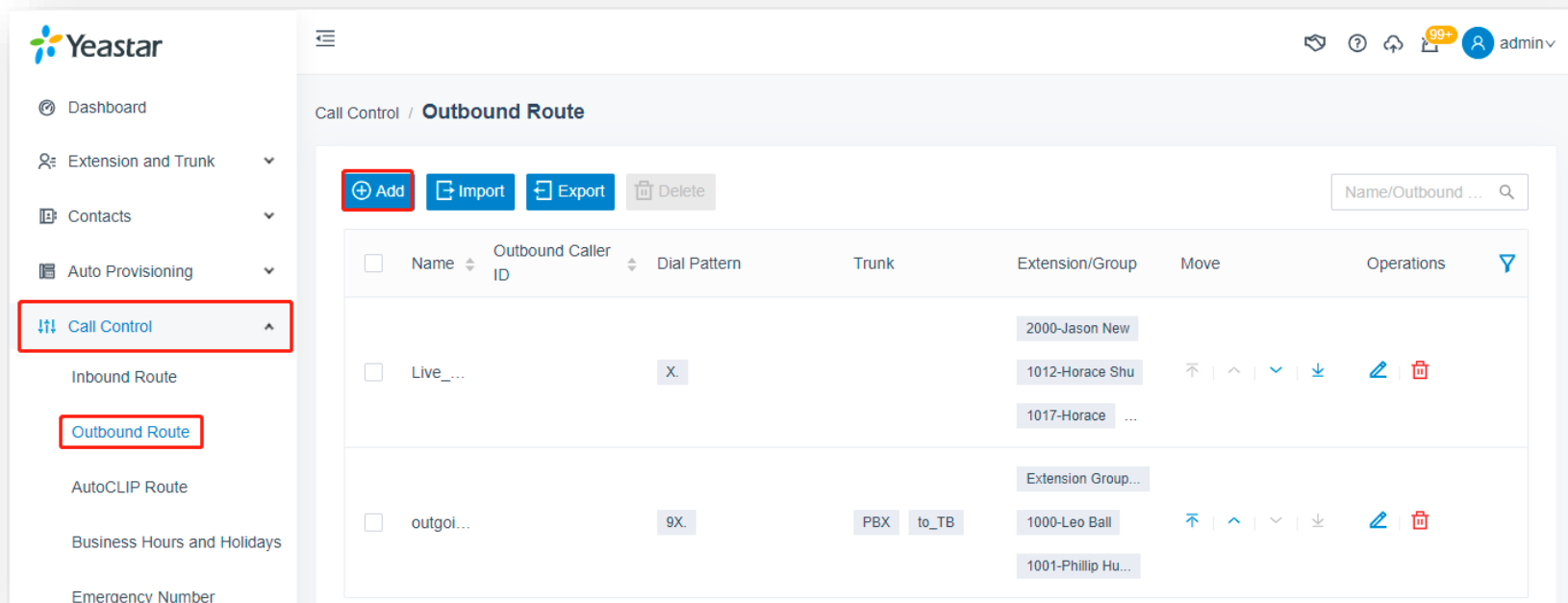
SIP extension

The legacy PBX is an analog extension of P Series PBX





Total :7 < 1 > 20 / page

3.1.5 Configurations

Step 1 Open the web GUI of P Series PBX, add a new outbound route.



The screenshot displays the Yeastar web GUI interface for configuring Outbound Routes. The left sidebar contains a navigation menu with the following items: Dashboard, Extension and Trunk, Contacts, Auto Provisioning, **Call Control** (highlighted with a red box), Inbound Route, **Outbound Route** (highlighted with a red box), AutoCLIP Route, Business Hours and Holidays, and Emergency Number. The main content area is titled "Call Control / Outbound Route" and features a toolbar with "Add", "Import", "Export", and "Delete" buttons. The "Add" button is highlighted with a red box. A search bar labeled "Name/Outbound ..." is located in the top right corner. Below the toolbar is a table listing existing outbound routes.

<input type="checkbox"/>	Name	Outbound Caller ID	Dial Pattern	Trunk	Extension/Group	Move	Operations
<input type="checkbox"/>	Live_...		X.		2000-Jason New 1012-Horace Shu 1017-Horace ...	↕ ^ v ↓	 
<input type="checkbox"/>	outgol...		9X.	PBX to_TB	Extension Group... 1000-Leo Ball 1001-Phillip Hu...	↕ ^ v ↓	 

3.1.5 Configurations

Step 2 Name the trunk, setup a pattern, choose the trunk you want to share with the legacy PBX

The screenshot displays a configuration interface for a trunk, divided into three main sections: General, Dial Pattern, and Trunk.

General

- Name:** ShareWithLegacyPBX (indicated by a red arrow and the text "3.name the trunk")
- Outbound Caller ID:** (empty field)
- Role:** (dropdown menu)

Dial Pattern

4.setup a pattern,such as 9X. means any numbers starts with 9 will be matched,strip 1 means delete the first number when dial out

Dial Matching Settings

Pattern	Strip	Prepend	Operations
9X.	1		

+ Add

Trunk

5.select the trunk you would like to share with the legacy PBX

1/5 items Available

Name	Trunk Type
<input type="checkbox"/> LTE1-1	LTE
<input type="checkbox"/> FXO1-5	FXO
<input type="checkbox"/> FXO1-legacy	FXO
<input type="checkbox"/> account213	Account Trunk
<input checked="" type="checkbox"/> peer213	Peer Trunk

0 item Selected

No Data

* Outbound Route Password

3.1.5 Configurations

Step 3 Select the analog extension(legacy PBX) to allow it make calls through the trunk.

Extension / Extension Group

8 items Available

0 item Selected

Search here

Number	Name
<input type="checkbox"/>	Extension Group
<input type="checkbox"/>	Default_All_Extensions
<input type="checkbox"/>	1000
<input type="checkbox"/>	1001
<input type="checkbox"/>	1002
<input type="checkbox"/>	1003
<input type="checkbox"/>	1004
<input type="checkbox"/>	1005

Search here

Number	Name
No Data	

Time Condition

* Available Time

Always

Save **Cancel**

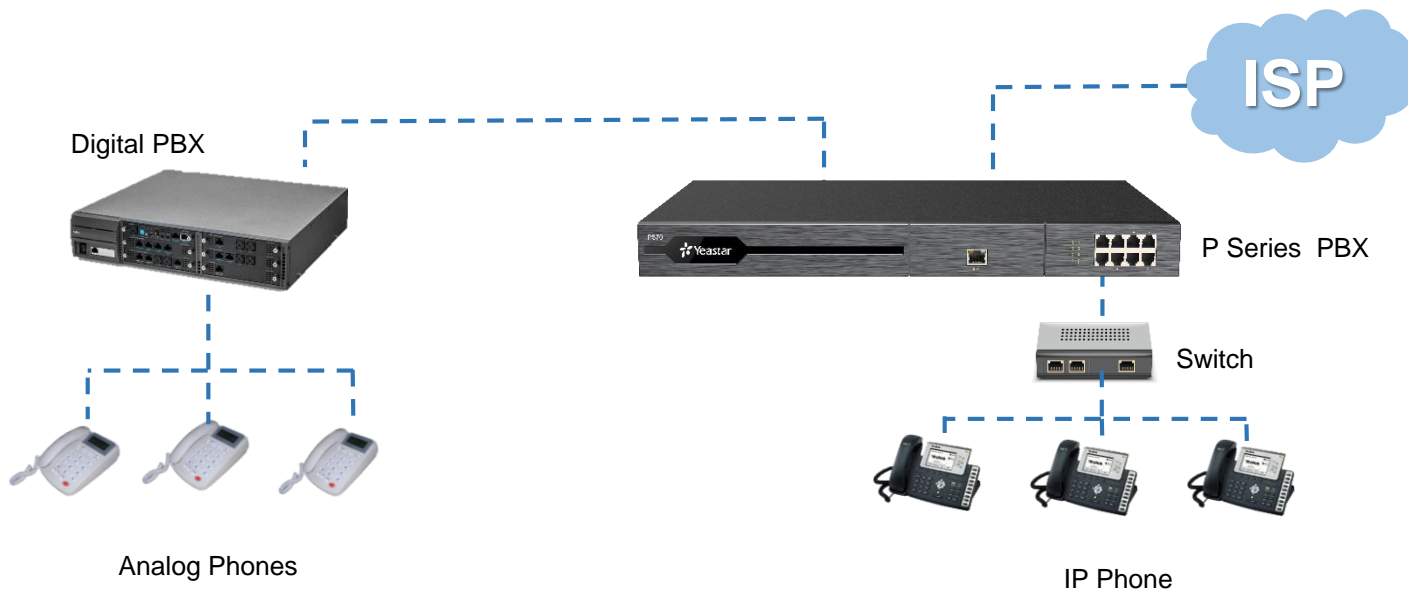
6. Select the analog extension (connected with legacy PBX)

7. Click Save

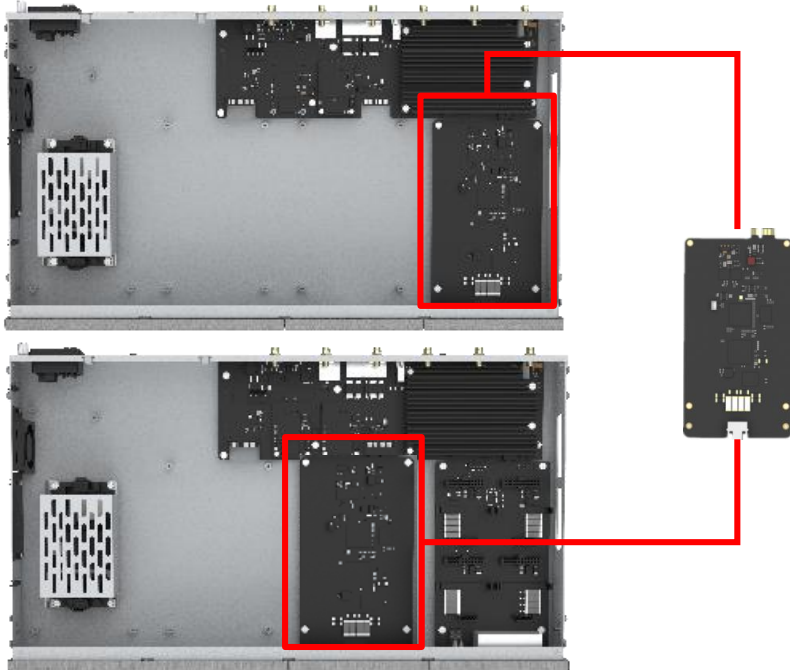
After doing so, the extensions of legacy pbx can use the shared trunk to call out.

3.2 Connect P-Series PBX with Digital PBX

A traditional digital PBX is one of the legacy system. With the improving process of IP-Migration, more and more TSP stop providing ISDN service, instead, SIP becomes more popular. Integrate P-Series PBX with digital PBX can help some customers to realize IP-Migration seamlessly.



3.2.1 Preparation for the Integration



Fix EX30 expansion card on the mother board of P560 & P570 (EX30 cannot be supported on P550)

The installation is totally Plug and Play supported, without any additional configuration on the system

After the installation, P-Series PBX is capable with PRI interface which is ready to use.

3.2.2 Configurations

The screenshot displays a configuration page for 'Extension and Trunk / Trunk'. At the top, there are buttons for '+ Add', 'Import', 'Export', and 'Delete', along with a search bar. Below this is a table with columns: Status, Name, Type, Hostname/Port, Username, Outbound Caller ID, and Operations. The first row, 'DIGIT1' of type 'E1' on 'Span1', is highlighted with a red box. An edit icon in the Operations column is also highlighted with a red box. Below the table, an 'Edit (DIGIT1)' dialog is open, showing various configuration options. The 'Signaling Role' dropdown is set to 'User' and is highlighted with a red box. At the bottom of the dialog, the 'Save' button is highlighted with a red box.

Status	Name	Type	Hostname/Port	Username	Outbound Caller ID	Operations
<input checked="" type="checkbox"/>	DIGIT1	E1	Span1			
<input type="checkbox"/>	FXO2-3	FXO	Span2-Port3			
<input type="checkbox"/>	FXO2-4	FXO	Span2-Port4			

Extension and Trunk / Trunk / **Edit (DIGIT1)**

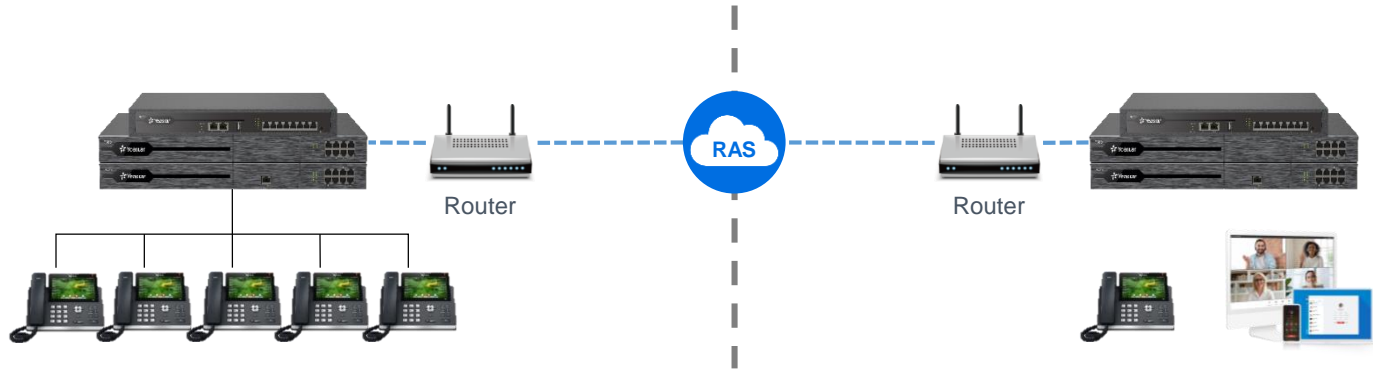
Basic | Advanced | DIDs/DDIs | Inbound Caller ID Reformatting | Outbound Caller ID

- Framing: Disable CRC4
- Codec: a-law
- D Channel: 16
- Switch Type: EuroISDN
- Overlap Dial: Disable
- Line Code: HDB3
- Echo Cancellation
- Signaling Role: User

1. Find the PRI interface on the P-Series PBX
2. Click Edit of the E1 trunk
3. Make sure the Signaling Role of the P-Series E1 interface is User
4. Click on Save
5. Connect the E1 Interface on the P-Series PBX with the digital PBX PRI interface

Part 4


Interconnect 2 P-Series PBXs



P-Series PBX can provide a Branch-Office solution for multiple offices interconnections. Based on SIP Trunking, we can create a SIP trunk between 2 units of P-Series PBX to realize communication without any additional cost. Besides, the FQDN can totally enhance the security of the remote networking.

4.1 Configurations

Basic Plan




Included in your P-Series appliance.

- Designed for elevated business communications
- Reinforced call control
- Enriched PBX features
- Enhanced team collaboration
- Ultimate ease of use

[ADMIN GUIDE](#)

Enterprise Plan

HOT



Add Call Center, Remote Access Service and More.

Remote Access Service

- Yeastar Supplied Domain Name
- Custom & Securer Remote Access
- Bring Teams Together Everywhere

Call Center

- Real-time Wallboard & SLA Monitor
- Switchboard-type Queue Panel
- Queue Callback
- Advanced Reports

Call Accounting

Instant Messaging

Phonebooks


CRM Integration

Advanced API **NEW**

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Ultimate Plan

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Add Video Communications and more.

All in the Enterprise Plan plus

Video Conferencing

- Bulk Email & Instant Link Invitation
- HD Audio and Video
- Screen Sharing
- In-meeting Team Chat
- Full Meeting Control
- No Installs or Downloads

Web Video Call

- Integrated 1:1 Video on Web Client
- Seamless Video-audio Switch
- HD Audio and Video
- Resizable Call Window

[BUY](#)

Subscribe either Enterprise Plan or Ultimate Plan on P-Series PBX to activate Remote Access Service. Then we can start to set the FQDN on this particular PBX.

4.1 Configurations

System / **Network**

< Basic Settings Web Server Service Ports **Yeastar FQDN** Public IP and Ports Static Routes DHC >


Yeastar FQDN

Remote Access Service is a subscription-based service designed to set your team up for anywhere-anytime productivity instantly and securely. It provides an easy-to-access domain name, safeguards PBX remote web access, and allows the remote workforce to enjoy a consistent in-office unified communications experience with Linkus UC Clients anywhere on any device. [Buy Plan](#)

Status

● Successfully connected to the tunnel server.

Fully Qualified Domain Name (FQDN)

ysit.ras.yeastar.com 

ⓘ The domain name can be configured only once and cannot be altered after the configuration.

* Expiration Date

04/28/2023

Enable Yeastar FQDN
Configure the Domain Name

4.1 Configurations

Detailed Configuration

* Trunk Type	* Transport
Account Trunk	UDP
* Username	* Password
6701
* Authentication Name	
4NRmMVhC9b	

Create an Account Trunk on the Headquarter PBX
Copy the Account Information

4.1 Configurations

Detailed Configuration

* Trunk Type
Register Trunk

* Transport
UDP

* Hostname/IP
ystr.ras.yeastar.com

* Port
5060

* Domain

* Username
6701

* Password
oktawYMjX5

Authentication Name
4NRmMVhC9b

Enable Outbound Proxy

Create a Register Trunk on the Branch Office PBX
Enter the Account Information to finish the registration

Part 5

Integrate P-Series with Gateways

A complete portfolio of VoIP Gateways that bridge the gap between FXS, FXO, PRI, BRI, GSM/3G/4G and IP networks to reduce operating costs and deliver the convenience of traditional telephony circuits to a wide range of VoIP phone systems.



TA Series
Analog VoIP Gateways

- 1-32 FXS Ports
- 1-16 FXO Ports



TG Series
VoIP GSM Gateways

- 1-16 Wireless Channels
- Support 2G, 3G, 4G



TE Series
PRI VoIP Gateway

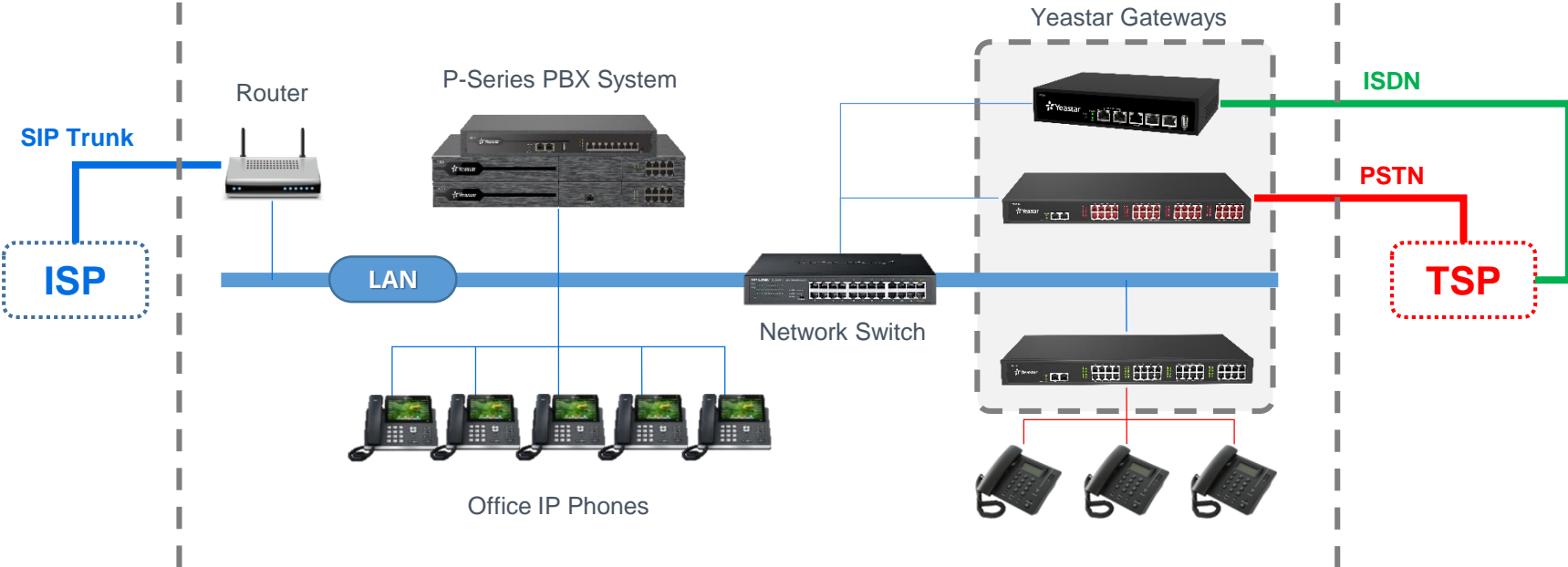
- 1/2 E1/ T1/ J1 ports
- Support PRI, E&M



TB Series
BRI VoIP Gateway

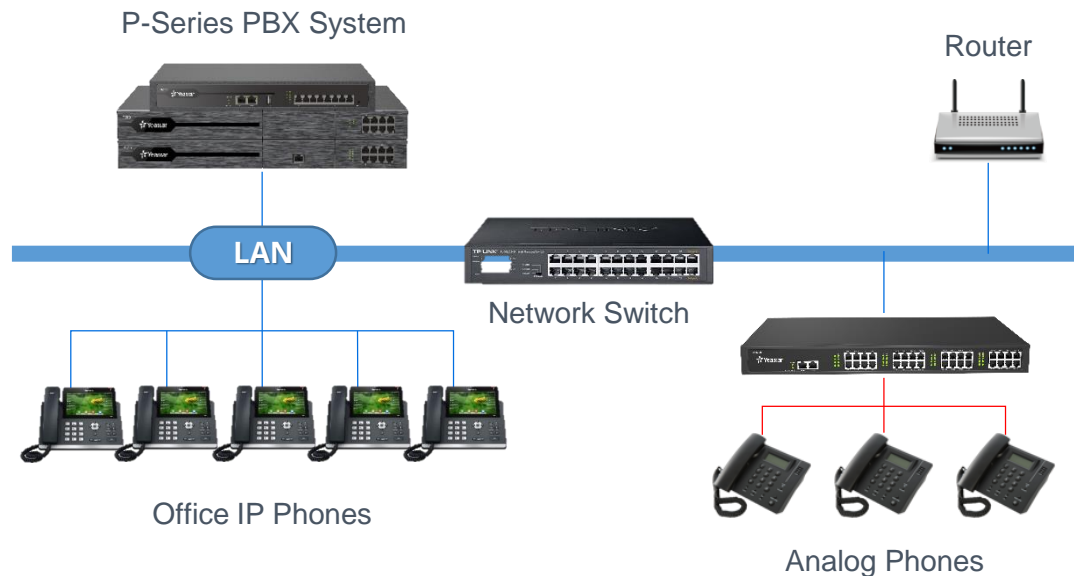
- 2/4 BRI ports

5.1 Solution Overview



5.2 Integrate P-Series with TA FXS Gateway

TA FXS gateway is used to expand the FXS extensions on P-series IPPBX. With the connection of TA FXS gateway and P-series IPPBX you can keep the old analog phones and used them like a SIP extensions.



5.2.1 Configuration Tips

First, we need to ensure TA FXS Gateway is accessible to the P-Series PBX
Either under the same local area network or through the Internet

Configuration Steps

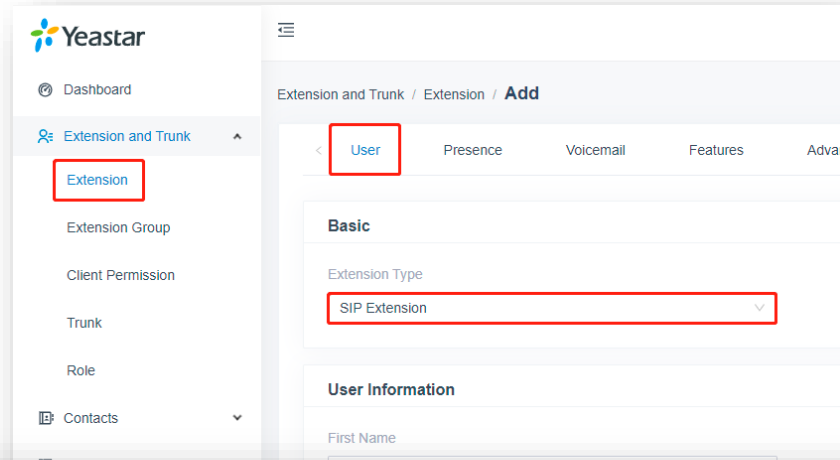
1. Create sip extensions on P series PBX
2. Configure VOIP server settings on the TA gateway
3. Set a dial pattern template if necessary
4. Configure the FXS port setting

Tips: What is port register mode?

- It is not a sip trunk
- Each FXS port use that VOIP Server setting will register to the PBX extension

You can regard every FXS port as a SIP extension that's how we convert the analog device to SIP.

5.2.2 Create a SIP extension on the P series PBX



Step 1

Click Extension and Trunk, Select Extension

Step 2

Click [+ Add](#)

Step 3

Select SIP Extension

Step 4

Fill in Username

Step 5

Define an extension number

Step 6

Click Save

Extension Information

* Extension Number	* Caller ID
<input type="text" value="1024"/>	<input type="text" value="1024"/>
* Registration Name	* Registration Password
<input type="text" value="PzY3YiNVYF"/>	<input type="password" value="....."/>
IP Phone Concurrent Registrations	
<input type="text" value="1"/>	

5.2.3 Configure VOIP Server settings on TA FXS gateway

The screenshot shows the Yeastar web interface for configuring VoIP server settings. The left sidebar contains a menu with 'VoIP Settings' selected and 'VoIP Server Settings' highlighted. The main area displays a table of VoIP servers and a modal window for editing server 1.

Server ID	Name	SIP/IAX	Transport	Hostname/IP
1	Edit VoIP Server - VoIPServer1			4.181
2				
3				
4				

The 'Edit VoIP Server - VoIPServer1' modal window is open, showing the following configuration fields:

- Server ID: 1
- Server Name: ToP570
- Type: SIP
- Transport: UDP
- Hostname/IP: 192.168.8.239
- Port: 5060
- Domain: 192.168.8.239
- Enable Outbound Proxy Server:
- Fallover Hostname/IP:
- Port: 5060
- Register Mode: Port Register
- Buttons: Save, Cancel

Step 1

Click Gateway

Step 2

Click VoIP Server Settings

Step 3

Set up for each ports

Step 4

Define the Server Name

Step 5

Fill in P570 IP and Port

Step 6

Select Port Register as example here

Step 7

Click Save

5.2.4 Configure FXS port settings

Step 1
Click Gateway

Step 2
Click Port List

Step 3
Enter extension number
8001 as example

Step 4
Select the VoIP server
and enter the registration
information

Step 5
Select a dial pattern

Step 6
Fill in extension number
to the DID setting

Step 7
Click Save

Step 1

Click Gateway

Step 2

Click Port List

Step 3

Enter extension number
8001 as example

Step 4

Select the VoIP server
and enter the registration
information

Step 5

Select a dial pattern

Step 6

Fill in extension number
to the DID setting

Step 7

Click Save

5.2.5 Edit the Dial Pattern Template

The screenshot displays the Yeastar management interface. At the top, there is a navigation bar with icons for Status, System, Gateway, and Logout. The Gateway icon is highlighted with a red box and labeled '1.'. On the left sidebar, the 'VoIP Settings' menu item is highlighted with a red box and labeled '2.', and the 'Dial Pattern Template' sub-item is highlighted with a red box and labeled '3.'. The main content area shows a table of dial pattern templates. An 'Edit Dial Pattern Template - DialPatternTemplate1' dialog box is open, showing fields for Template ID (1) and Template Name (DialPatternTemplate1). Below these fields is a table with columns for Dial Pattern, Strip, and Prepend. The Dial Pattern field contains a period (.) and is highlighted with a red box and labeled '4.'. At the bottom of the dialog, the Save button is highlighted with a red box and labeled '5.', along with a Cancel button.

Step 1

Click Gateway

Step 2

Click VoIP settings

Step 3

Dial Pattern Template

Step 4

We keep the default dial pattern "." here in this case

Step 5

Dial Pattern Template

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.

5.2.6 Check the FXS port status

Port	UP/Down/Break	Name	Status	Voice Mail(New/Old)	Off-hook/On-hook	Phone Status
1	Up	8001	OK	--	On Hook	Connected
2	Up	--	--	--	On Hook	Failed
3	Up	--	--	--	On Hook	Failed
4	Up	--	--	--	On Hook	Failed

- The Status indicates the registration status of this FXS port. “OK” means registered
- The phone status is the physical connection status of this FXS port. “Connected” means the analog phone is connected to the port

Now the integration settings are finished and you can add outbound/inbound route for the extensions to give permission to make and receive calls from the outside.

5.3 Integrate P-Series with TA FXO Gateway



TA FXO gateway is used to expand the FXO ports for the P-series IPPBX. You can keep the old PSTN lines and extend sip trunk in the future.

5.3.1 Configuration Tips

First, we need to make sure TA FXO accessible to P-series (in the same local network or via the Internet)

Configuration Steps

1. Create sip peer trunk in both TA FXO gateway and P series PBX
2. Create outbound & inbound route in the P series PBX to send and receive calls from the gateway
3. Create IP->Port & Port->IP routes in the TA FXO gateway to convert calls between SIP and analog signal

The Service provider trunk is the sip peer trunk in the gateway setting

5.3.2 Create Service provider trunk to the PBX in TA FXO gateway

The screenshot displays the NEIGATE web interface for configuring a VoIP trunk. The interface includes a top navigation bar with icons for Status, System, Gateway, and Logout. A left sidebar contains various settings categories. The main content area shows the 'VoIP Trunk' configuration page with a table of existing trunks and an 'Add New Trunk' button. A modal window titled 'Add New VoipTrunk' is open, displaying the 'General' tab with fields for 'Server ID', 'Trunk Type', 'Type', 'Provider Name', and 'Hostname/IP'. Red boxes and numbers 1 through 6 highlight the steps: 1. Gateway icon, 2. VoIP Trunk link, 3. Add New Trunk button, 4. Trunk Type dropdown, 5. Provider Name and Hostname/IP fields, and 6. Save button.

Step 1

Click Gateway

Step 2

Click VoIP Trunk

Step 3

Click Add New Trunk

Step 4

Select 'Service Provider'

Step 5

Fill in P570 IP and Port

Step 6

Click Save

5.3.3 Check Trunk Status on TA FXO Gateway

The screenshot displays the NEIGATE web interface. The top navigation bar includes the NEIGATE logo and several icons: 'Status' (highlighted with a red box and an arrow), 'System', 'Gateway', and 'Logout'. The left sidebar contains a menu with 'System Status' and 'Reports' sections. The main content area is titled 'Port/Trunk Status' and contains two tables.

Port	UP/Down	Available Duration (s)	Status
1	Up	Unlimited	Disconnected
2	Up	Unlimited	Disconnected
3	Up	Unlimited	Disconnected
4	Up	Unlimited	Disconnected
5	Up	Unlimited	Disconnected
6	Up	Unlimited	Disconnected
7	Up	Unlimited	Disconnected
8	Up	Unlimited	Disconnected

Status	Trunk Name	Type	User Name	Hostname/IP	Reachability
Auth. Sent	P560_1	SIP	6700	192.168.8.237	OK
OK (5 ms)	ToP570	SP-SIP	--	192.168.8.239	OK

Status	Account	Type
Unregistered	340	SIP
Unregistered	5-SP012	SIP

Check Status if connect to P570

5.3.4 Create Peer Trunk on P series PBX

The screenshot shows the Yeastar PBX management interface. The left sidebar contains a navigation menu with the following items: Dashboard, Extension and Trunk (selected), Extension, Extension Group, Client Permission, Trunk (highlighted with a red box), Role, Contacts, Auto Provisioning, Call Control, Call Features, PBX Settings, and System. The main content area is titled 'Extension and Trunk / Trunk / Add'. It features several tabs: Basic (selected), Advanced, DIDs/DDIs, Inbound Caller ID Reformatting, Outbound Caller ID, and SIP Headers. The 'Basic' tab contains the following fields: 'Name' (text input with value 'To_TA410'), 'Trunk Status' (dropdown menu with value 'Enabled'), and 'Select ITSP Template' (dropdown menu with value 'General'). The 'Detailed Configuration' section contains: 'Trunk Type' (dropdown menu with value 'Peer Trunk'), 'Transport' (dropdown menu with value 'UDP'), 'Hostname/IP' (text input), 'Port' (text input with value '5060'), and 'Domain' (text input). At the bottom of the form are 'Save' and 'Cancel' buttons.

Step 1

Click Extension and Trunk

Step 2

Click Trunk

Step 3

Fill in the Name

Step 4

Select 'Peer Trunk' here since from local network

5.3.4 Create Peer Trunk on P series PBX

Detailed Configuration

* Trunk Type	<input type="text" value="Peer Trunk"/>	* Transport	<input type="text" value="UDP"/>
* Hostname/IP	<input type="text" value="192.168.28.39"/>	* Port	<input type="text" value="5060"/>
		* Domain	<input type="text"/>

Step 5

Fill in IP and Port
of TA410

Step 6

Click Save

5.3.5 Check the Peer Trunk Status



The screenshot displays a web-based network management interface. At the top right, there are navigation icons and a user profile for 'admin'. The main heading is 'Extension and Trunk / Trunk'. Below this is a table with one row highlighted in red. The table columns are: a checkbox (checked), a green checkmark icon, the ID 'TA810', the name 'Peer Trunk', the IP address '192.168.8.223:5060', and two action icons (edit and delete). Below the table, there is a pagination control showing 'Total :15', a page number '1' in a blue box, and '20 / page'.

<input type="checkbox"/>		ID	Name	IP Address	Actions
<input checked="" type="checkbox"/>		TA810	Peer Trunk	192.168.8.223:5060	

Total :15 < 1 > 20 / page

Check the trunk status if connected to TA810

5.3.6 Create an Outbound Route

Call Control / Outbound Route / Add

General

* Name: ToTA810

Outbound Caller ID: []

Dial Pattern

Dial Matching Settings

* Pattern	Strip	Prepend	Operations
X	[]	[]	[]

+ Add

Trunk

11 items Available

Name	Trunk Type
test-230	Peer Trunk
Shay-Trunk1	Register Trunk
To191	Peer Trunk

1 item Selected

Name	Trunk Type
ToTA810	Peer Trunk

Save Cancel

Activate Windows
Go to Settings to activate Windows.

Step 1

Click Call Control

Step 2

Click Outbound Route

Step 3

Fill in the Name

Step 4

Set up a Dial Pattern, here we are use X. which let any number go through.

Step 5

Select ToTA810 Trunk you just created

5.3.6 Create an Outbound Route

Call Control / Outbound Route / Add

Extension / Extension Group

25 items Available

Number	Name
<input type="checkbox"/>	6666 Shay Zhu
<input type="checkbox"/>	6667 Tom James
<input type="checkbox"/>	7777 tonnie feng
<input type="checkbox"/>	8002 8002
<input type="checkbox"/>	8888 Shay1 Zhu1
<input type="checkbox"/>	9999 9999 feng2

2 items Selected

Number	Name
<input type="checkbox"/>	8000 Ted
<input type="checkbox"/>	8001 Ted1

Time Condition

Available Time

Always

7.

Activate Windows
Go to Settings to activate Windows.

Step 6

Select the
extensions

Step 7

Click save

5.3.7 Create a Port Group on TA FXO Gateway

The screenshot shows the NEIGATE web interface. The top navigation bar includes 'Status', 'System', 'Gateway', and 'Logout'. The left sidebar has 'Port List' (with 'Port Group' selected) and 'VoIP Settings'. The main content area shows the 'Add Port Group' dialog box with the following elements:

- Group ID: 1
- Group Name: AllPortsGroup
- Strategy: Least used
- Group Members: Available FXO Port (empty) and Selected (FXO1(Port1) through FXO8(Port8))
- Buttons: Save and Cancel

Step 1

Click Gateway

Step 2

Select Port Group

Step 3

Define a Group

Name

Step 4w

Select one strategy

Step 5

Select all ports

Step 6

Click save

- * **Round-robin:** select the next available port in line
- * **Least used:** select the port that is least used

5.3.8 Map IP-Port on TA FXO Gateway

The screenshot shows the NEIGATE web interface. The top navigation bar includes 'Status', 'System', 'Gateway', and 'Logout'. The left sidebar has 'Routes Settings' selected, with 'IP->Port' highlighted. The main content area is titled 'IP->Port' and contains a table with columns: Route ID, Route Name, Simple Mode, Call Source, and Call Destination. A form for adding a route is displayed, with the following fields and values:

Route ID	Route Name	Simple Mode	Call Source	Call Destination
1	FromP570	Yes	SPS -- ToP570	Port Group1 -- AllPortsGroup

Red boxes and numbers 1-8 indicate the following steps:

1. Gateway icon in the top navigation bar.
2. Routes Settings in the sidebar.
3. IP->Port in the sidebar.
4. Add IP->Port Route button.
5. Route Name field.
6. Call Source dropdown.
7. Call Destination dropdown.
8. Save button.

Step 1

Click Gateway

Step 2

Click Routes Settings

Step 3

Click IP-Port

Step 4

Add IP-Port Route

Step 5

Define a name

Step 6

Select the Trunk to P570

Step 6

Select Port Group just created

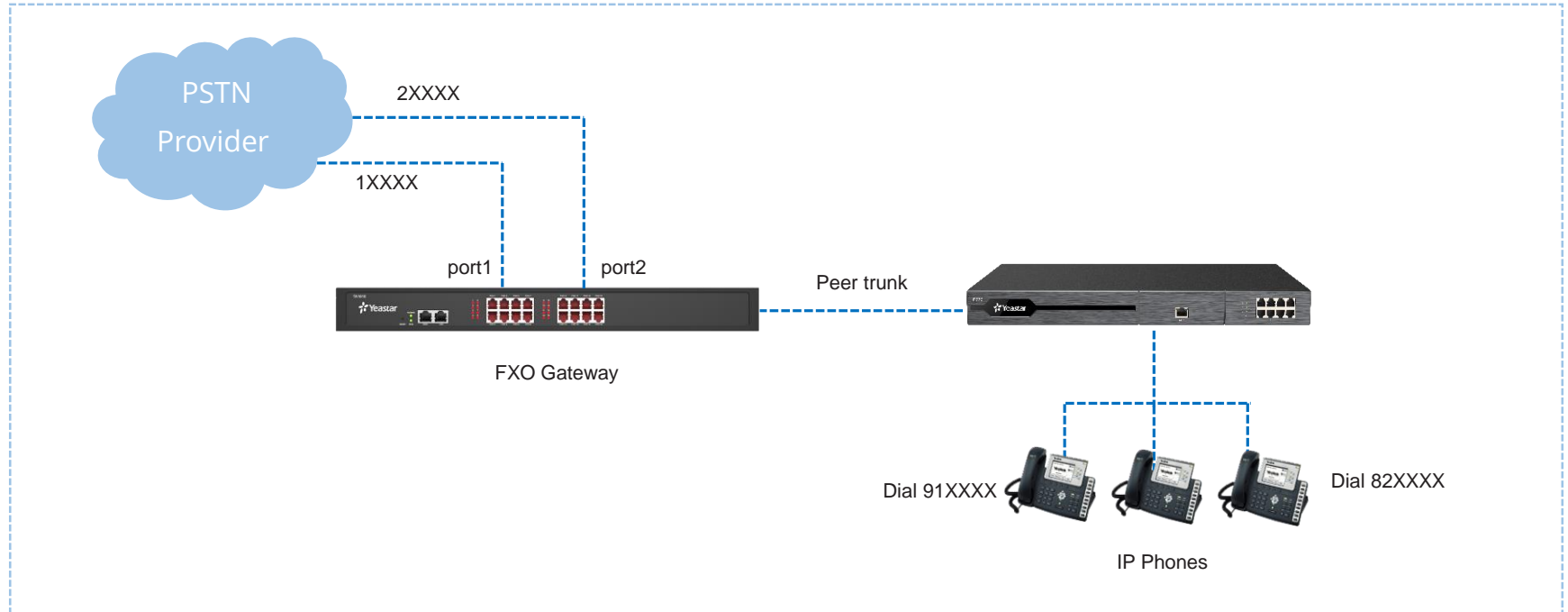
Step 6

Click save

Now, you can use PBX extension to call any external number through the PSTN trunks on TA FXO gateway.

5.3.9 Call Out from a Selected Port

In some cases, client want to use a specific port to make outbound calls and we can achieve that by adding a prefix when dialing the external numbers. In the example below we can select port 1 when dialing the number with prefix 9 and use port 1 with the prefix 8



5.3.9 Call Out from a Selected Port

The screenshot displays the NEORATE web interface for configuring an IP-to-Port route. The interface is divided into a sidebar on the left and a main configuration area. The sidebar contains several sections: 'Port List', 'VoIP Settings', 'Routes Settings', 'Gateway Settings', 'Audio Settings', and 'Advanced Setting'. The 'Routes Settings' section is highlighted with a red box and the number 2. The main configuration area is titled 'Add IP->Port Route' and contains the following fields and options:

- Route ID:** 2
- Simple Mode:** No
- Route Name:** FromPort1
- Match Incoming Calls:**
 - Call Source:** SPS -- ToP570
 - Inbound Caller Pattern:** (empty)
 - DID Number:** 9
 - DID Associated Number:** (empty)
 - Enable Callback:** No
- Incoming Calls Processing:**
 - Call Destination:** Port1 -- FXO1
 - Hotline:** (empty)
 - Two Stage Dial:** No
 - Outbound Dial Pattern:** (empty)
 - Strip:** 1
 - Prepend these digits:** (empty)
- Buttons:** Save, Cancel

- Step 1**
Click Gateway
- Step 2**
Click Routes Settings
- Step 3**
Click IP-Port
- Step 4**
Select Simple Mode to "No"
- Step 5**
Define a route name
- Step 6**
Select the Trunk to P570
- Step 7**
Define the DID
- Step 8**
Select Outgoing Port
- Step 9**
Strip 1 digit from left
- Step 10**
Click save

Here we finish the configuration for outbound calls, how to receive calls from the FXO gateway will coming from the next page.

5.3.10 Create an Inbound Route on P series PBX

The screenshot shows the Yeastar web interface for configuring an Inbound Route. The left sidebar contains the following menu items: Dashboard, Extension and Trunk, Contacts, Auto Provisioning, Call Control (highlighted with a red box and '1.'), Inbound Route (highlighted with a red box and '2.'), Outbound Route, Business Hours and Holidays, Emergency Number, Call Features, PBX Settings, System, Security, Maintenance, Integration, and Reports and Recordings. The main content area is titled 'Call Control / Inbound Route / Add' and contains the following sections:

- General**: Includes a 'Name' field with the value 'ToTA810' (highlighted with a red box and '3.') and an 'Inbound Alert Info' field.
- DID Pattern**: Includes a 'DID Matching Mode' dropdown menu with the value 'DID Pattern' (highlighted with a red box and '4.'). Below this is a table with columns 'Pattern' and 'Operations'. The 'Pattern' column contains the value '8888' (highlighted with a red box and '5.'). There is a trash icon in the 'Operations' column and a '+ Add' button at the bottom.
- Caller ID Pattern**: Includes a 'Caller ID Matching Settings' section with a 'Pattern' field and an 'Operations' column.

At the bottom of the form, there are 'Save' and 'Cancel' buttons.

Step 1

Click Call Control

Step 2

Click Inbound Route

Step 3

Define route name

Step 4

Select DID Pattern

Step 5

Set pattern to same as FXO port hotline number

5.3.11 Map Port-IP in TA FXO Gateway

NEIGATE

Status System Gateway Logout

Port List

- FXO Port List
- Port Group

VoIP Settings

- VoIP Trunk
- Trunk Group
- SIP Settings
- IAX Settings

Routes Settings 2.

- IP->Port
- Port->IP/Port 3.
- Blacklist
- Callback Settings

Gateway Settings

- General Preferences

Audio Settings

- Custom Prompts

Advanced Setting

- Tone Zone Settings
- DTMF Settings

Port->IP/Port 4.

+ Add Port->IP/Port Route Delete The Selected

Route ID	Route Name	Simple Mode	Call Source	Call Destination
Port->IP/Port				ToP570

Route ID: 1

Simple Mode: Yes

5. Route Name: ToP570

Match Incoming Calls:

6. Call Source: Port Group1 -- AllPortsGroup

Incoming Calls Processing:

7. Call Destination: SPS -- ToP570

8. Hotline: 8888

9. Save Cancel

Step 1

Click Gateway

Step 2

Click Route Settings

Step 3

Click Port-IP

Step 4

Add Port-IP

Step 5

Define Route Name

Step 6

Select Port Group

Step 7

Select ToP570 Trunk

Step 8

Define a Hotline number

Step 9

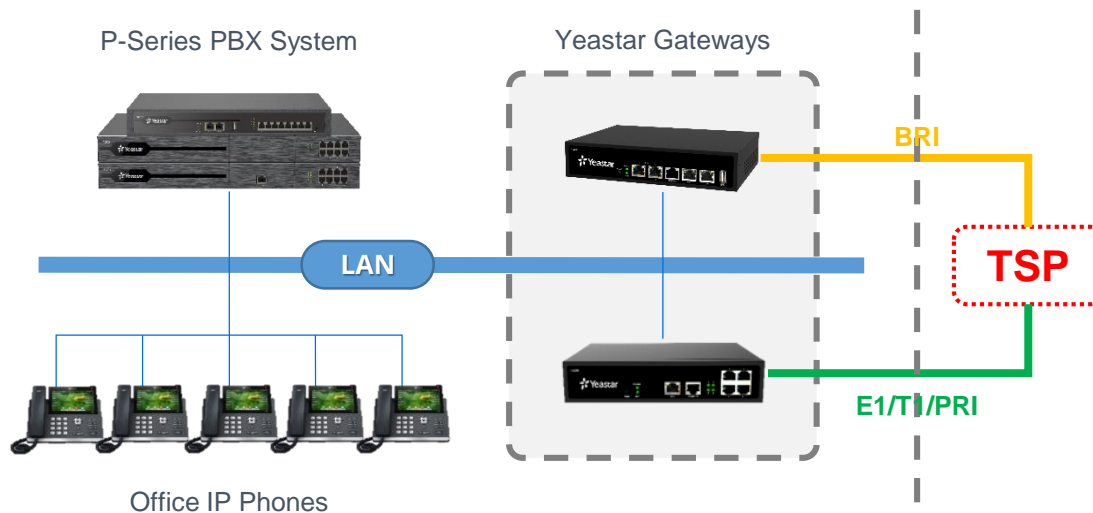
Click Save

* Hotline: Since PSTN/GSM doesn't carry the DID(called number) so we need to configure the Hotline as the DID number otherwise the PBX will not accept this call

5.4 Integrate P-Series with TB/TE Gateway

Why do we need a TB/TE gateway ?

If you just bought our pbx and want to keep your old TE/TB trunk,that's a good idea to buy our TE/TB gateway to connect your old TE/TB trunk with the PBX.or you are deploying pbx and TE/TB trunk in different locations,install TE/TB gateway in one location and connect them with PBX by VoIP trunk is a good solution.



5.4.1 Configuration Tips

How does TE/TB communicate with P series PBX?

Connecting TE/TB with P series PBX with network cable, then we can establish sip trunk between PBX and Gateway, then passing sip message between them to realize receiving and making calls from each side.

Now you know the basic about communication between TE/TB and P series PBX.

(we suppose you have already connected TE/TB with PBX by network cable)

Step 1

Create sip trunk at both gateway and PBX and establish connection

Step 2

Create route in gateway to route calls from E1/BRI trunk to PBX, create inbound trunk on PBX, then you should be able to receive calls from gateway on PBX

Step 3

Create outbound route on PBX, create route in gateway to route calls from PBX to E1/BRI trunk, then you should be able to make calls to gateway on PBX

5.4.2 Preparation for the Configuration

Before we establish connection between them, we need set up E1/BRI trunk

There is a little difference in these 3 type of trunks ,when you are using account trunk or trunk trunk,you should make sure you have set DOD number associated account(extensions in PBX).

What's DOD numbers in TE/TB ?

Not like analog trunk,it only has one phone number bind with it,the digital line E1/BRI has many channels which can support many phone numbers,so we need to decide when we make a call on pbx to outside through TE,which number should we use ? so we bind the DOD numbers with extensions of PBX in E1/BRI trunk setting.when using an extension to make a call,the callee will see the DOD number we bind with that extension.
Find the example in next page.

Not like SIP trunk send both caller number and callee number,the E1/BRI trunk only send caller number,because the callee number is bind with the E1/B1 trunk.just like your sim card bind with your mobile-phone number.

5.4.2 Preparation for the Configuration

Edit Digital Trunk E1Trunk1

General Settings

Mode Type: E1
Linecoding: HDB3
Echo Cancellation: On
Signaling: PRI
Codec: alaw
Framing: Disable CRC

PRI Basic option

Switch Type: national
Switch Side: Network

PRI Advanced option

Enable Facility: Enabled
Reset Interval: 3600 s
Remote Dialplan: unknown
Location Dialplan: ISDN/telepho
Screen Indicator: User-provide
Ns: none
Overlap Dial: Disable
PRI Indication: Inband
Remote Number Type: unknown
Location Number Type: national
Presentation Indicator: allowed

Caller ID Prefix

International Prefix:
Local Prefix:
Unknown Prefix:
National Prefix:
Private Prefix:

E1/BRI settings from trunk provider

DOD Settings

Global DOD:

DOD : 5551001	Associated Account : 1001	✕
DOD : 5551002	Associated Account : 1002	✕
DOD : 5551003	Associated Account : 1003	✕

bind DOD with extension

DOD: Associated Account:

Step 1

Open Web of TE/TB gateway

Step 2

Gateway -> Digital Trunk -> E1/T1

Those DOD numbers are bought from your trunk provider

5.4.3 Create a Service Provider Trunk on the Gateway

Because there is no much difference in establish connection between 3 type of trunks on TE with P series. So, we take service provider trunk as an example.

Add Service Provider X

General Advanced

Trunk Type: Service Provider ▼

Provider Name: p560

Hostname/IP: 192.168.8.213 : 5060

Save Cancel

select Service Provider

ip and sip port of p series

- Step 1** Open the web gui of TE/TB
- Step 2** Gateway -> VoIP Settings -> VoIP Trunk -> Add VoIP Trunk
- Step 3** Click save ,dont forget to click apply on the top right corner

Apply Changes

5.4.4 Create a Peer Trunk on the PBX

Basic Advanced DIDs/DDIs Inbound Caller ID Reformatting Outbound Caller ID SIP Headers

Basic

* Name **1.name the trunk** * Trunk Status

Select ITSP Template

Detailed Configuration

* Trunk Type **2.select trunk type as Peer Trunk**

* Transport

* Hostname/IP * Port * Domain

4.click save

3.enter the ip address and sip port of TE/TB

Step 4

open web gui of
P series

Step 5

Extension and Trunk

Step 6

Trunk -> Add

Note:

Don't forget to click. Apply
in the top right corner

Apply

5.4.5 Check Trunk Status on PBX & Gateway

1.Extension and Trunk

Extension and Trunk / Trunk

Dashboard

Extension and Trunk

Extension

Extension Group

Trunk

Role

Contacts

Auto Provisioning

+ Add Import Export Delete

Search

<input type="checkbox"/>	Status	Name	Type	Hostname/Port	Username	Outbound Caller ID	Operations
<input type="checkbox"/>		LTE1-1	LTE	Span1-Port1			Edit Delete
<input type="checkbox"/>		FXO1-5	FXO	Span1-Port5			Edit Delete
<input type="checkbox"/>		FXO1-6	FXO	Span1-Port6			Edit Delete
<input type="checkbox"/>		tb200	Peer Trunk	192.168.8.97:5060			Edit Delete

Total: 4 1 20 / page

2.Check the status

Yeastar

2.IP Trunk Status

1.Status

Status System Gateway Logout

System Status

IP Trunk Status

3.Status

IP Trunk Status

Status	Trunk Name	Type	User Name	Hostname/IP	Reachability
OK (2 ms)	p560	SP-SIP		192.168.8.213	OK (2 ms)

IP Trunk Status

E1/T1 status

Network Status

5.4.6 Route Calls - P Series to TB/TE Gateway

After established connection between TE/TB and P series. In order to make calls from P series to TB/TE, we need to create an outbound route on PBX and an inbound route on TE/TB Gateway

Step 1 Open the web GUI of P-Series, add a new outbound route

1.Call Control

2.Outbound Route

3.Add

Call Control / **Outbound Route**

[Add](#) [Import](#) [Export](#) [Delete](#)

Name/Outbound Call... 🔍


<input type="checkbox"/>	Name	Outbound Caller ID	Dial Pattern	Trunk	Extension/Group	Role	Move	Operations
<input type="checkbox"/>	Default...		X.	LTE1-1 FX01-5	Extension...		⬆️ ⬆️ ⬆️ ⬆️	✎ 🗑️

Total:1 < 1 > 20 / page

5.4.6 Route Calls - P Series to TB/TE Gateway

Step 2 name the trunk, set up a pattern, choose the trunk that connected with TE/TB

General

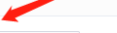
* Name  1.name the outbound route


Outbound Caller ID

Role

Dial Pattern

Dial Matching Settings

* Pattern  2.Setup a pattern,here we use X. which let any numbers go through

Pattern	Strip	Prepend	Operations
X.			

+ Add

Trunk

3.Select the tunk that connected with TE/TB

4 items Available		0 item Selected	
Name	Trunk Type	Name	Trunk Type
<input type="checkbox"/> LTE1-1	LTE		
<input type="checkbox"/> FXO1-5	FXO		
<input type="checkbox"/> FXO1-6	FXO		
<input type="checkbox"/> tb200	Peer Trunk		

No Data

5.4.6 Route Calls - P Series to TB/TE Gateway

Step 3 Select the extensions which allowed to call out by this trunk, then click save

* Outbound Route Password
Disable

Rmemory Hunt

Extension / Extension Group

4. Select which extension can call out by this outbound route

8 Items Available

Search here

<input type="checkbox"/>	Number	Name
<input type="checkbox"/>	1000	1000
<input type="checkbox"/>	1001	1001
<input type="checkbox"/>	1002	1002
<input type="checkbox"/>	1003	1003
<input type="checkbox"/>	1004	1004
<input type="checkbox"/>	1005	1005
<input type="checkbox"/>	1006	1006

0 Item Selected

Search here

Number Name

No Data

Time Condition

* Available Time

Always

5. Click Save

Save Cancel

5.4.6 Route Calls - P Series to TB/TE Gateway

Step 4 Open web GUI of TE/TB, add a new route

The screenshot displays the Yeastar web interface. The top navigation bar contains icons for Status, System, Gateway, and Logout. The left sidebar lists various settings categories, with 'Route Settings' selected. The main content area is titled 'Route List' and features an 'Add New Route' button. A red arrow labeled '4.Add New Route' points to this button. Another red arrow labeled '2.Route Settings' points to the 'Route Settings' menu item in the sidebar. A third red arrow labeled '3.Route List' points to the 'Route List' menu item. A fourth red arrow labeled '1.Gateway' points to the 'Gateway' icon in the top right. The main content area displays 'No Route Defined'. A watermark text 'To enable the WAN port, you should choose the Dual Mode.' is visible in the background.

5.4.6 Route Calls - P Series to TB/TE Gateway

New Route [X]

Simple Mode ⓘ: Yes ▾

Route name ⓘ: fromPseries

Match Incoming Calls:

Call Comes in From: ServiceProvider -- p560 ▾

Handle Matched Incoming Calls:

Send Call Through: Trunk -- E1Trunk1 ▾

[✓] Save [✗] Cancel

trunk connected with P series

E1/BRI trunk to call out

Step 5 Select calls from the trunk that connected with P-series, select the E1/BRI trunk you would like to send the call out.

After doing so, you should be able to dial out in p series through TE/TB

5.4.7 Route Calls - TB/TE Gateway to P-Series

After established connection between TE/TB and P series, In order to make calls from TB/TE to P series, we need to create inbound route in PBX and route in TE/TB

Step 1 Open web GUI of TE/TB, add a new route

The screenshot displays the Yeastar web interface. The top navigation bar contains icons for Status, System, Gateway, and Logout. The left sidebar lists various settings categories: Digital Trunk, VoIP Settings, and Route Settings. The main content area is titled 'Route List' and features an 'Add New Route' button. A red arrow labeled '4.Add New Route' points to this button. Another red arrow labeled '2.Route Settings' points to the 'Route Settings' menu item in the sidebar. A third red arrow labeled '3.Route List' points to the 'Route List' menu item. A fourth red arrow labeled '1.Gateway' points to the 'Gateway' icon in the top right navigation bar. The main content area also displays the text 'No Route Defined'.

5.4.7 Route Calls - TB/TE Gateway to P-Series

Step 2 Select calls from the E1/BRI trunk that you would like to receive the call, select the trunk that connected with P series to send the call.

New Route X

Simple Mode ⁱ: Yes ▾

Route name ⁱ: toPseries

Match Incoming Calls:

Call Comes in From Trunk -- E1Trunk1 ▾

Handle Matched Incoming Calls:

Send Call Through: ServiceProvider -- p560 ▾

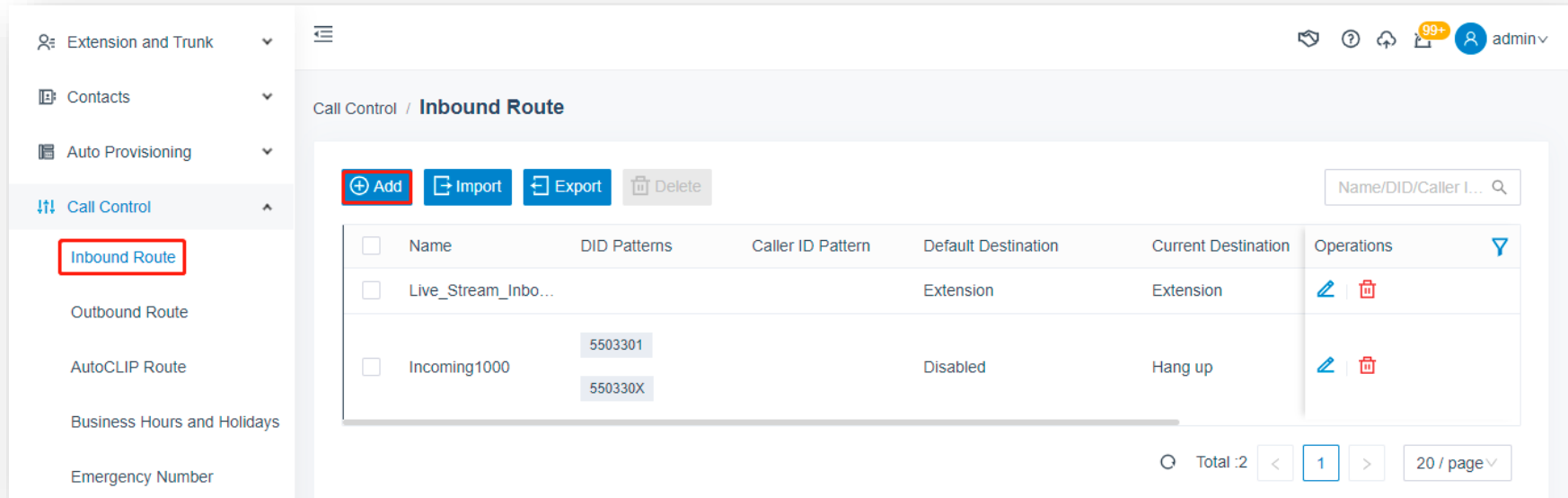
the E1/BRI trunk you would like to receive the call

trunk connected with P series

Save Cancel

5.4.7 Route Calls - TB/TE Gateway to P-Series

Step 3 Add a new inbound route in P series



The screenshot displays the 'Inbound Route' configuration page. The left sidebar shows the navigation menu with 'Inbound Route' selected and highlighted with a red box. The main content area shows a table of existing routes. The 'Add' button is highlighted with a red box. The table has columns for Name, DID Patterns, Caller ID Pattern, Default Destination, Current Destination, and Operations. Two routes are listed: 'Live_Stream_Inbo...' and 'Incoming1000'.

<input type="checkbox"/>	Name	DID Patterns	Caller ID Pattern	Default Destination	Current Destination	Operations
<input type="checkbox"/>	Live_Stream_Inbo...			Extension	Extension	Edit Delete
<input type="checkbox"/>	Incoming1000	5503301 550330X		Disabled	Hang up	Edit Delete

5.4.7 Route Calls - TB/TE Gateway to P-Series

Step 4 Name the trunk and setup a DID pattern to let calls get in

General

* Name ← 1.name the trunk

Inbound Alert Info

DID Pattern

* DID Matching Mode

Pattern	Operations
<input type="text" value="X."/>	
+ Add	

← 2.setup a did pattern,we use X. here which let any calls in

Caller ID Pattern

Caller ID Matching Settings

Pattern	Operations
 No Data	
+ Add	

5.4.7 Route Calls - TB/TE Gateway to P-Series

Step 5 Select the trunk which is connected with TE/TB, select a destination, then click save

After this, you'll be able to receive calls from TE/TB in p series

Trunk

4 Items Available

Search here

<input type="checkbox"/>	Name	Trunk Type
<input type="checkbox"/>	LTE1-1	LTE
<input type="checkbox"/>	FXO1-5	FXO
<input type="checkbox"/>	FXO1-6	FXO
<input type="checkbox"/>	peer212	Peer Trunk

3.select the trunk that connected with TE/TB

1 Item Selected

Search here

<input type="checkbox"/>	Name	Trunk Type
<input type="checkbox"/>	tb200	Peer Trunk

Default Destination

Default Destination

Extension

Time Condition

Fax Detection

Fax Destination

Extension

Extension

5.click save

5.5 Yeastar TG Gateway

Yeastar TG Gateway can support GSM, WCDMA & LTE.

Customers can insert SIM cards on it to get a cordless communication solution for some scenarios.

The SMS feature is also supported on the TG Gateway.



5.5.1 Integrate P-Series with TG Gateway

This screenshot shows the configuration page for a Peer Trunk. The 'Name' field is set to 'to_TG200' and the 'Trunk Status' is 'Enabled'. The 'Select ITSP Template' dropdown is set to 'General'. Under the 'Detailed Configuration' section, 'Trunk Type' is 'Peer Trunk', 'Transport' is 'UDP', 'Hostname/IP' is '192.168.28.40', 'Port' is '5060', and 'Domain' is '192.168.28.40'.

Name	to_TG200	Trunk Status	Enabled
Select ITSP Template	General		
Detailed Configuration			
Trunk Type	Peer Trunk	Transport	UDP
Hostname/IP	192.168.28.40	Port	5060
		Domain	192.168.28.40

This screenshot shows the 'Add Peer Trunk' dialog box with the 'General' tab selected. The configuration is as follows: 'Trunk Type' is 'Peer Trunk', 'Type' is 'SIP', 'Provider Name' is 'P570', and 'Hostname/IP' is '192.168.28.30:5060'. There are 'Save' and 'Cancel' buttons at the bottom.

Trunk Type	Peer Trunk
Type	SIP
Provider Name	P570
Hostname/IP	192.168.28.30:5060

Create Peer Trunks on both sides

Exchange IP addresses of the PBX & the Gateway to enable the Peer Trunk

Check Trunk status to ensure the connectivity

5.5.2 Route Calls – SIM to P-Series

New Route x

Simple Mode ⓘ :

Route Name ⓘ :

Match Incoming Calls:

Call Source

Incoming Calls Processing:

Call Destination:

Hotline ⓘ :

Step 1

Create a Mobile to IP route

Step 2

Select Mobile Trunk as the Call Source

Step 3

Select the Peer Trunk we created for connecting with the PBX before as the Call Destination

Step 4

Set a Hotline Number

Tips: the Hotline Number is a virtual number which helps to route calls to the PBX

5.5.2 Route Calls – SIM to P-Series

General

Name: from_TG200 Inbound Alert Info: [Empty]

DID Pattern

DID Matching Mode: DID Pattern

Pattern	Operations
1234	[Add]

+ Add

Trunk

Available (6 items):

Name	Trunk Type
<input type="checkbox"/> DIGIT1	E1
<input type="checkbox"/> FXO2-3	FXO
<input type="checkbox"/> FXO2-4	FXO
<input type="checkbox"/> LTE2-7	LTE
<input type="checkbox"/> 6700	Account Trunk
<input type="checkbox"/> LTE2-1	LTE

Selected (1 item):

Name	Trunk Type
<input type="checkbox"/> TO570	Peer Trunk

Step 5

Create an Inbound Route on the PBX

Step 6

Add a DID Pattern, set the Pattern as 1234, which is also the Hotline Number on the Gateway

Step 6

Select the Peer Trunk we created for connecting with the Gateway

5.5.3 Route Calls – P-Series to SIM

General

* Name Outbound Caller ID

Dial Pattern

Dial Matching Settings

* Pattern	Strip	Prepend	Operations
<input type="text" value="9X."/>	<input type="text" value="1"/>	<input type="text"/>	

+ Add

Trunk

6 items Available

Search here

<input type="checkbox"/>	Name	Trunk Type
<input type="checkbox"/>	DIGIT1	E1
<input type="checkbox"/>	FXO2-3	FXO
<input type="checkbox"/>	FXO2-4	FXO
<input type="checkbox"/>	LTE2-7	LTE
<input type="checkbox"/>	6700	Account Trunk
<input type="checkbox"/>	LTE2-1	LTE

1 item Selected

Search here

<input type="checkbox"/>	Name	Trunk Type
<input checked="" type="checkbox"/>	TO570	Peer Trunk

Step 1

Create an Outbound Route on the PBX

Step 2

Set a Dial Pattern if it is necessary (depends on how you'd like to manage your calls)

Step 3

Select the Peer Trunk we created for connecting with the Gateway

5.5.3 Route Calls – P-Series to SIM

New Route X

Simple Mode ⓘ :

Route Name ⓘ :

Match Incoming Calls:

Call Source

Incoming Calls Processing:

Call Destination:

Hotline:

Step 1

Create an IP to Mobile route

Step 2

Select the Peer Trunk we created for connecting with the PBX before as the Call Destination

Step 3

Select Mobile Trunk as the Call Source

Step 4

Set a Hotline Number

Tips: the Hotline Number here is supposed to be the SIM card phone number

5.5.4 Send SMS on TG Gateway

Set Country Code & Destination, select a particular SIM card (port)
Edit SMS content, then click on Send.

General Settings

Country Code ⓘ : Do not need the plus sign

Destination ⓘ :

Select Port :

+ Add Contacts

Content :

0/1000

Send

5.5.5 Add SMS Contacts on TG Gateway

Add Contact X

Nick Name:

Mobile Number:

Group: ▼

Part 6

Integrate P-Series with CRMs



Yeastar P-Series PBX can be integrated with some 3rd party CRM directly, based on the official co-operation.



6.1 Integrate P-Series with Zoho CRM



Zoho CRM is a full-featured customer relationship management (CRM) system. The integration of Yeastar P-Series PBX System with Zoho CRM can bring great advantages of the company that will help boost sales and improve business relationships. This topic gives an overview of the integration and describes terminologies of Zoho CRM to help you better understand the integration.

Requirement for the integration

Zoho Editions: Free, Standard, Professional, Enterprise, or Ultimate edition

PBX server

Firmware: Version 37.4.0.17 or later

Plan: Yeastar P-Series Enterprise Plan (EP) or Ultimate Plan (UP)

6.1.1 Key Features



- Click to call
- Call Popup
- Contact Synchronization
- Call Journaling
- Create New Contact for Unknown Caller



6.1.2 Configurations

The screenshot shows the Yeastar web interface for configuring CRM integrations. The left sidebar contains a menu with 'Integrations' expanded and 'CRM' selected. The main content area is titled 'Integrations / CRM' and features a toggle switch for 'Enable Zoho Integration' which is currently turned on. Below this, the status is 'Connected'. There is a button for 'Associate Automatically'. The configuration includes fields for 'Zoho User' (Jason New - jasonnew527@gmail.com) and 'Extension' (2000-Jason New - jasonne...). There are also options for 'Synchronize Contacts Automatically' (checked), 'Synchronize Contacts From' (Contacts), and 'Synchronize to Phonebook' (CRM_Synchronization). A 'Create New Contact Automatically' checkbox is unchecked. At the bottom, there are 'Save' and 'Cancel' buttons.

1. Log into P-Series PBX as the Admin
2. Click Integration, choose CRM
3. Enable Zoho Integration

6.1.2 Configurations

In **Network** section, select the URL from the **Homepage URL** drop-down list.

Note: The Homepage URL is the web page URL of your PBX, Zoho CRM will communicate with the PBX with the selected URL.

A redirect URI according to the selected Homepage URL is automatically generated in the **Authorized Redirect URI** field.

* Homepage URL

https://docs.ras.yeastar.com



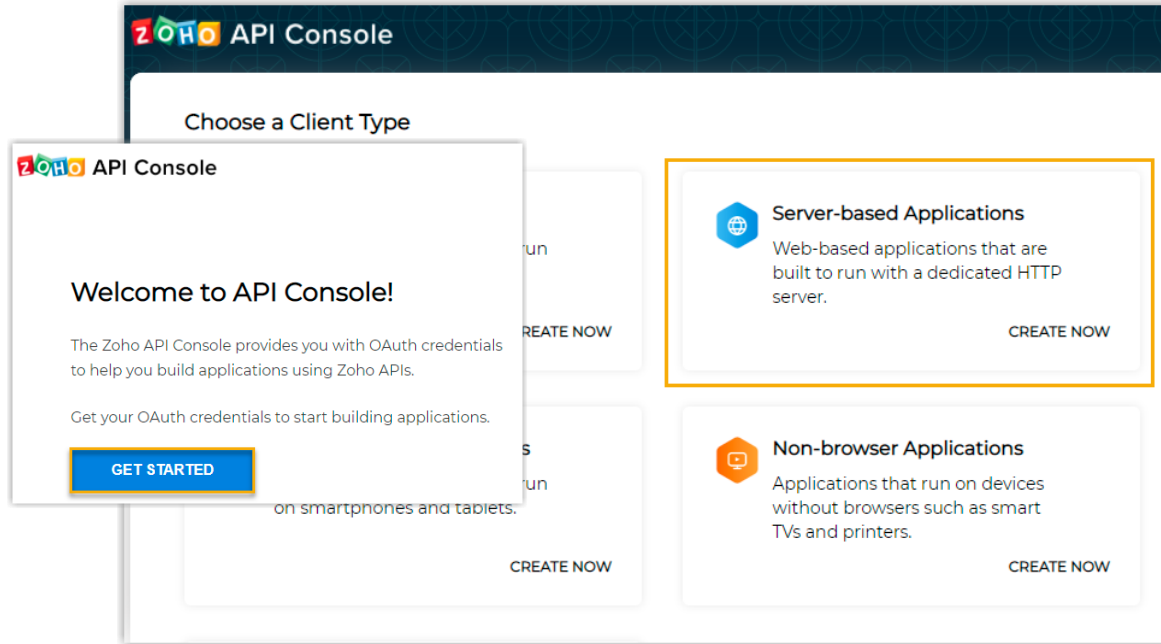
* Authorized Redirect URI

https://docs.ras.yeastar.com/integration/callback/api/crm/zoho/



Take note of the Homepage URL and the redirect URI as you will use them later on Zoho CRM.

6.1.2 Configurations



The screenshot shows the 'Create New Client' form. The form has the following fields and values:

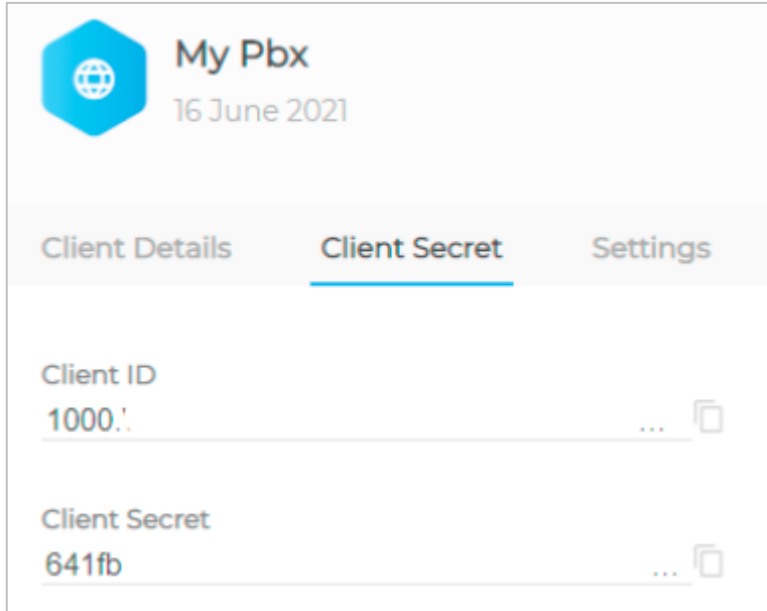
- Client Type:** Server-based Applications (dropdown menu)
- Client Name:** my pbx
- Homepage URL:** https://docs.ras.yeastar.com
- Authorized Redirect URIs:** https://docs.ras.yeastar.com/integration/callba... (with a plus sign to add more)

A blue 'CREATE' button is located at the bottom of the form.

1. Log in to the Zoho API Console, click **GET STARTED**
2. On the **Choose a Client Type** page, select **Server-based Applications**
3. On the **Create New Client** page, enter the PBX information to register as a Zoho CRM client

- Client Name:** Set a client name.
- Homepage URL:** Paste the PBX Homepage URL.
- Authorized Redirect URI:** Paste the PBX authorized redirect URI.

6.1.2 Configurations



The screenshot shows a user interface for 'My Pbx' with a date of '16 June 2021'. It features three tabs: 'Client Details', 'Client Secret' (which is selected and underlined), and 'Settings'. Under the 'Client Secret' tab, there are two fields: 'Client ID' with the value '1000!' and 'Client Secret' with the value '641fb'. Each field has a copy icon to its right.

Client ID	Client Secret
1000!	641fb

Click **CREATE**. A Client ID and a Client Secret are generated. Take note of the Client ID and Client Secret, as you will need them later.

6.1.2 Configurations

Go back to the CRM integration page on the PBX management portal.
In **Authorization** section, fill in the following API authorization information

Authorization

* Account Server Address	* Zoho CRM Address
<input type="text" value="https://accounts.zoho.com"/>	<input type="text" value="https://crm.zoho.com"/>
* Client ID	* Client Secret
<input type="text" value="....."/>	<input type="text" value="....."/>

Account Server Address: Enter the CRM Account Server URL.

Note:The default URL <https://accounts.zoho.com> applies in many cases, but you may need to change it. For example, if your CRM account is based in Europe, you need change the value to .

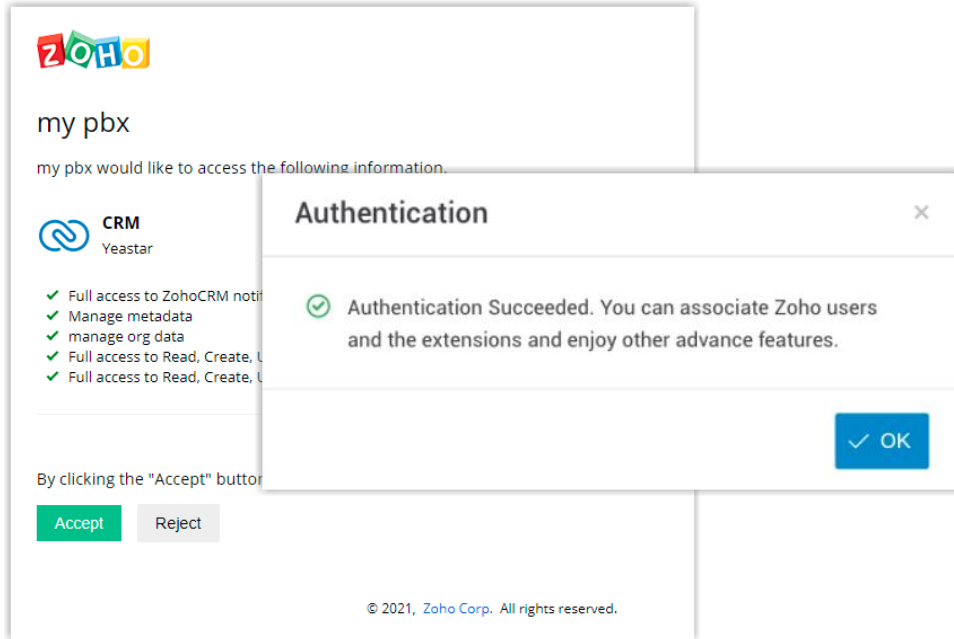
Zoho CRM Address: Enter the Zoho CRM URL.

Note:The default URL <https://crm.zoho.com> applies in many cases, but you may need to change it. For example, if your CRM account is based in Europe, you need change the value to .

Client ID: Paste the Zoho API Client ID.

Client Secret: Paste the Zoho API Client secret.

6.1.2 Configurations



The screenshot shows the Zoho CRM configuration interface. At the top left is the Zoho logo. Below it, the text "my pbx" is displayed. A message states "my pbx would like to access the following information." Below this, the CRM logo and "Yeastar" are shown. A list of permissions is visible, including "Full access to ZohoCRM notifications", "Manage metadata", "manage org data", "Full access to Read, Create, Update", and "Full access to Read, Create, Update". At the bottom, there are "Accept" and "Reject" buttons. An "Authentication" dialog box is overlaid on top, displaying a green checkmark and the text: "Authentication Succeeded. You can associate Zoho users and the extensions and enjoy other advance features." A blue "OK" button is at the bottom right of the dialog. At the bottom of the main page, there is a copyright notice: "© 2021, Zoho Corp. All rights reserved."

Click **Save**. A new browser page will be launched to request for Zoho CRM data access permission.

Click **Accept** to allow the PBX to access data in your Zoho account. If the authorization succeeds, the web page will display "request successful".

Go back to the PBX configuration page, a pop-up window also displays the authorization result. Click **OK** to confirm

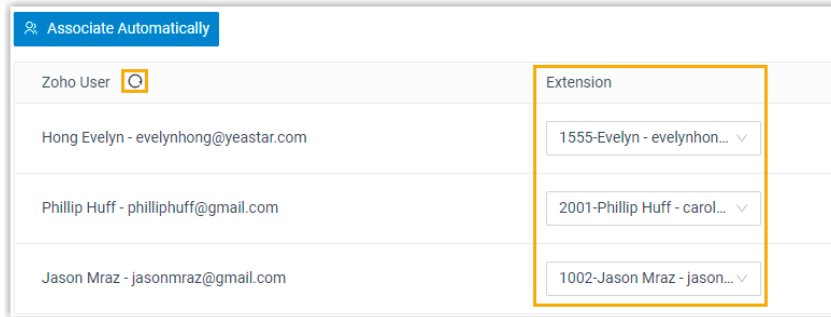


The screenshot shows a "Status" field with a dropdown menu. The dropdown is open, showing a green dot and the text "Connected". Below the dropdown is a blue button with a magnifying glass icon and the text "Associate Automatically".

The **Status** field will display **Connected**, indicating that the Zoho CRM integration is successfully set up.

6.1.2 Configurations

Associate Zoho CRM users with PBX extensions



The screenshot shows a configuration window titled "Associate Automatically". It contains a table with two columns: "Zoho User" and "Extension". The "Zoho User" column lists three users: Hong Evelyn (evelynhong@yeastar.com), Phillip Huff (philliphuff@gmail.com), and Jason Mraz (jasonmraz@gmail.com). The "Extension" column shows dropdown menus for each user, with the following selected options: "1555-Evelyn - evelynhon...", "2001-Phillip Huff - carol...", and "1002-Jason Mraz - jason...". A blue button labeled "Associate Automatically" is located at the top left of the window.

Zoho User	Extension
Hong Evelyn - evelynhong@yeastar.com	1555-Evelyn - evelynhon... ▾
Phillip Huff - philliphuff@gmail.com	2001-Phillip Huff - carol... ▾
Jason Mraz - jasonmraz@gmail.com	1002-Jason Mraz - jason... ▾

On the CRM integration page, click  besides Zoho User to synchronize Zoho CRM users.

Associate the Zoho users with PBX extensions.

Associate automatically

Click the Associate Automatically button.

On the pop-up window, Click OK.

The Zoho users and PBX extensions that share the same email address will be matched and associated with each other automatically.

Associate manually

If a user binds different email addresses to his or her Zoho account and PBX extension, you need to manually associate the user's Zoho User account and PBX extension.

In the Extension drop-down list beside the Zoho user, select the user's PBX extension.

6.2 Integrate P-Series with Salesforce



Salesforce CRM is a cloud-based Customer Relationship Management (CRM) system which is featured with all the elements that are required to run your business on an automation platform. The integration of Yeastar P-Series PBX System with Salesforce CRM can bring great advantages of the company, which will help boost sales and improve business relationships. This topic gives an overview of the integration and describes terminologies of Salesforce CRM to help you better understand the integration.

Requirement for the integration

Salesforce Editions: Enterprise Edition, Unlimited Edition, Developer Edition, Performance Edition

PBX server

Firmware: Version 37.6.0.24 or later

Plan: Yeastar P-Series Enterprise Plan (EP) or Ultimate Plan (UP)

6.2.1 Key Features

Click to Call

Coordinated with the 'Yeastar Linkus for Google' Chrome extension, users can launch calls by a single click on the phone numbers from Salesforce CRM via Yeastar Linkus Web Client or Desktop Client.

Call Popup

Auto bring up the contact's detail information on the web browser when a user receives an inbound call from CRM contacts. This allows users to quickly access the previous interactions and customer demographics of the caller and get more prepared to answer the call.

Call Journal

All the call activities get logged automatically to Salesforce CRM when the user ends calls with CRM contacts, which helps users track conversation easier than ever.

Contact Synchronization

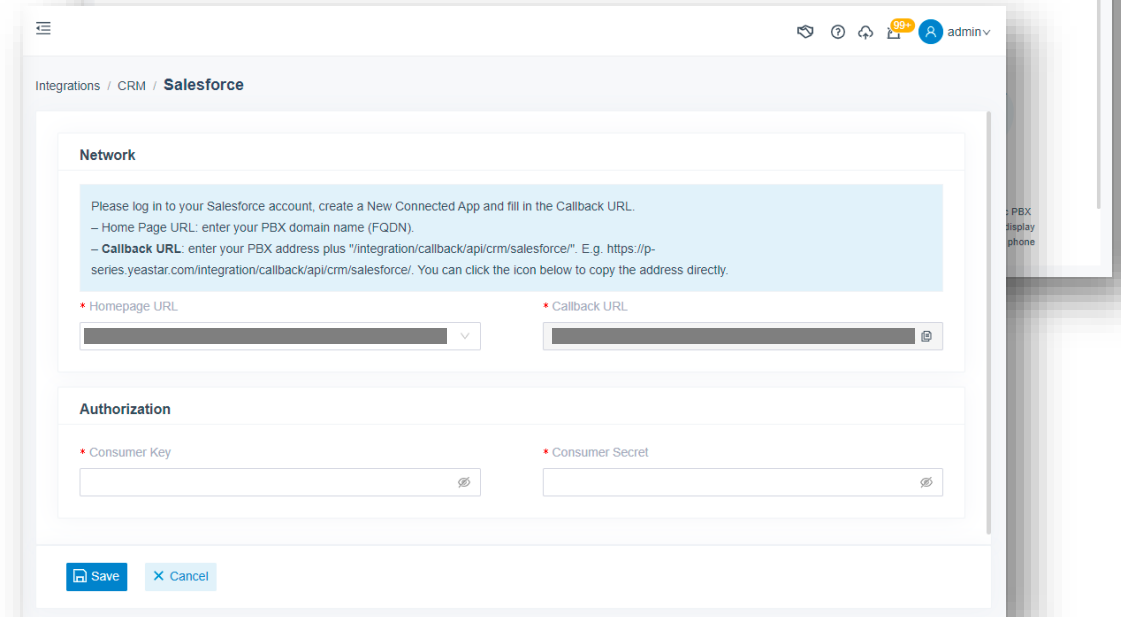
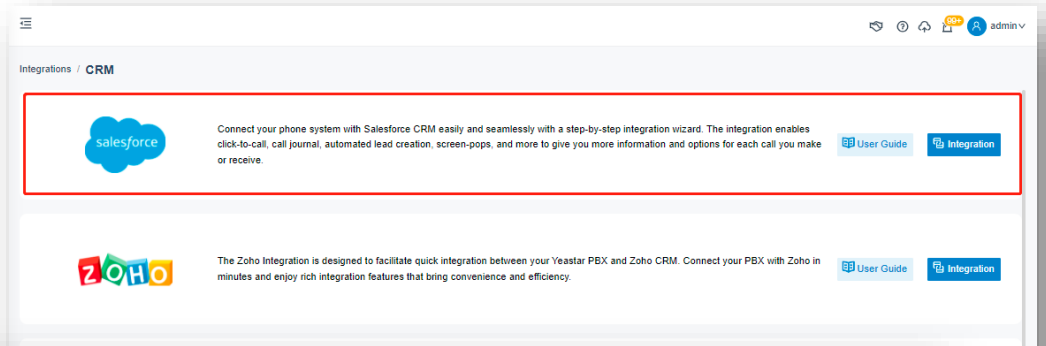
Synchronize your CRM contacts to an associated PBX phonebook when receiving inbound calls from Salesforce CRM contacts. After that, the caller name is automatically shown on the Linkus clients or IP phone when receiving the call.

Automatic Contact Creation

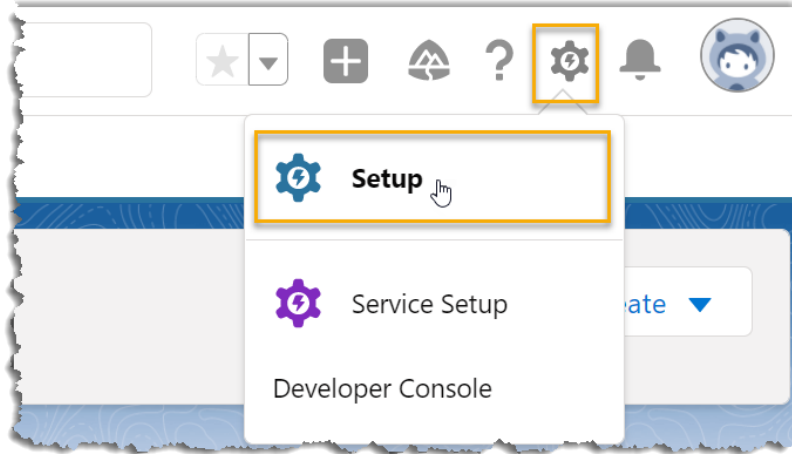
A new contact or lead will automatically be created in CRM for unknown inbound calls or outbound calls.


6.2.2 Configurations

Log in to PBX management portal,
go to Integrations > CRM.
On the right of Salesforce CRM,
click Integration.
In the Network section, take note
of the Callback URL as you will
use it later on the Salesforce CRM



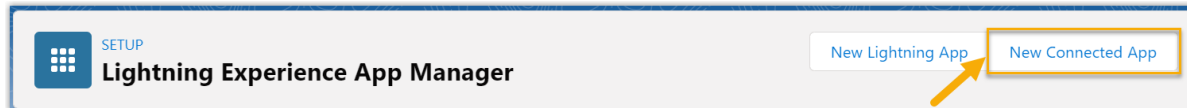
6.2.2 Configurations



Log in to Salesforce CRM. On the top-right corner of the Salesforce page, click , then click Setup to enter the Setup Home page.

On the left navigation bar, go to PLATFORM TOOLS > Apps > App Manager.




On the top-right corner of the App Manager page, click New Connected App to create a new application for integration.



6.2.2 Configurations

In the Basic Information section, complete the following settings.

Basic Information

Connected App Name	<input type="text" value="Yeastar_PBX"/>
API Name	<input type="text" value="Yeastar_PBX"/>
Contact Email	<input type="text" value="example@yeastar.com"/>
Contact Phone	<input type="text"/>
Logo Image URL 	<input type="text"/> Upload logo image or Choose one of our sample logos
Icon URL 	<input type="text"/> Choose one of our sample logos
Info URL	<input type="text"/>
Description 	<input type="text"/>

6.2.2 Configurations

In the Connected App Name field, enter a name to help you identify the application.

The API Name is synchronized with the application name automatically. In the Contact Email field, enter a contact email address. Fill in other information as needed. Scroll down to API (Enable OAuth Settings) section to complete the API configuration.

The screenshot displays the 'API (Enable OAuth Settings)' configuration interface. It includes the following elements:

- Enable OAuth Settings:** A checkbox that is checked, marked with a yellow circle and the number 1.
- Enable for Device Flow:** An unchecked checkbox.
- Callback URL:** A text input field containing the URL 'https://.../integration/callback/api/crm/salesforce/', marked with a yellow circle and the number 2.
- Use digital signatures:** An unchecked checkbox.
- Selected OAuth Scopes:** A list of permissions, with the following items selected and highlighted in grey:
 - Full access (full)
 - Manage user data via APIs (api)
 - Manage user data via Web browsers (web)
 - Perform requests at any time (refresh_token, offline_access)This list is marked with a yellow circle and the number 3.
- Available OAuth Scopes:** A scrollable list of permissions including 'Access Analytics REST API resources (wave_api)', 'Access Connect REST API resources (chatter_api)', 'Access Lightning applications (lightning)', 'Access Visualforce applications (visualforce)', 'Access content resources (content)', 'Access custom permissions (custom_permissions)', 'Manage Pardot services (pardot_api)', 'Manage Salesforce CDP Ingestion API data (cdp_ingest_api)', 'Manage Salesforce CDP profile data (cdp_profile_api)', and 'Perform ANSI SQL queries on Salesforce CDP data (cdp_query_api)'.
- Require Secret for Web Server Flow:** A checked checkbox.
- Require Secret for Refresh Token Flow:** A checked checkbox.

Select the checkbox beside the Enable OAuth Settings. In the Callback URL field, paste the Callback URL obtained from the PBX management portal.

In the Selected OAuth Scopes section, select the following permission options from Available OAuth Scopes box to Selected OAuth Scopes box.

Full access (full)

Manage user data via APIs (api)

Manage user data via Web browsers (web)

Access unique user identifiers (openid)

Access the identity URL service (id, profile, email, address, phone)

Perform requests at any time

(refresh_token, offline_access)


Scroll down to the bottom of the page,



click Save. The web page prompts that the change may take up to 10 minutes to take effect.

Click Continue.

6.2.2 Configurations

Grant the application access permission for all Salesforce users related to this Salesforce organization.

Go to PLATFORM TOOLS > Apps > App Manager, click  beside the new connected application, then click Manage.

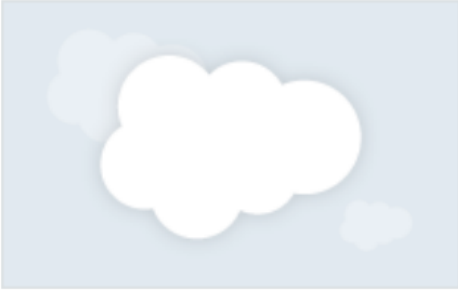
App Name	Developer Name	Description	Last Modifie...	App ...	Vi...
Yeastar_PBX	Yeastar_PBX		12/14/2021, 6:04 PM	Connected	
					View
					Edit
					Manage 

6.2.2 Configurations

In the detail information page of the application, click **Edit Policies**.

Connected App
Yeastar_PBX

Connected App Detail

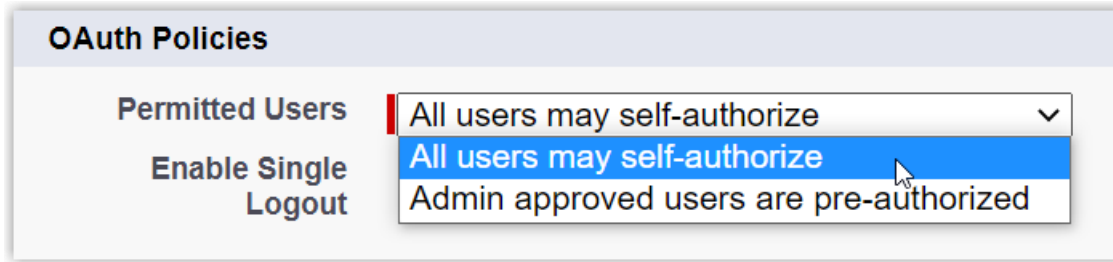


Edit Policies

Version 1
Description

6.2.2 Configurations


Scroll down to the **OAuth Policies**, select **All users may self-authorize** from the drop-down list of **Permitted Users**.




The screenshot shows a configuration panel titled "OAuth Policies". On the left, there are two labels: "Permitted Users" and "Enable Single Logout". To the right of "Permitted Users" is a dropdown menu. The dropdown menu is open, showing three options: "All users may self-authorize", "All users may self-authorize", and "Admin approved users are pre-authorized". The first option is currently selected, and the second option is highlighted in blue with a mouse cursor pointing to it.

Click Save. All Salesforce users related to this Salesforce organization can use the application.

6.2.2 Configurations

Obtain the Authorization information of Salesforce CRM as you will use it later on PBX. Go to PLATFORM TOOLS > Apps > App Manager, click  beside the new connected application, then click View.

App Name	Developer Name	Description	Last ...	App ...	Vi...
Yeastar_PBX	Yeastar_PBX		12/14/2021,...	Connected	 View Edit Manage
...
...
...
...

- Scroll down to **API (Enable OAuth Settings)** section, obtain the API Authorization information. **Consumer Key:** Click **Copy** to take note of the Consumer Key.
- **Consumer Secret:** Click **Click to reveal**, then click **Copy** to take note of the Consumer Secret.

6.2.2 Configurations

Go back to PBX management portal, go to Integrations > CRM.
In the Authorization section, enter the API authorization information.

Authorization

* Consumer Key

* Consumer Secret

Consumer Key: Paste the Salesforce API Consumer Key.

Consumer Secret: Paste the Salesforce API Consumer Secret.

6.2.2 Configurations

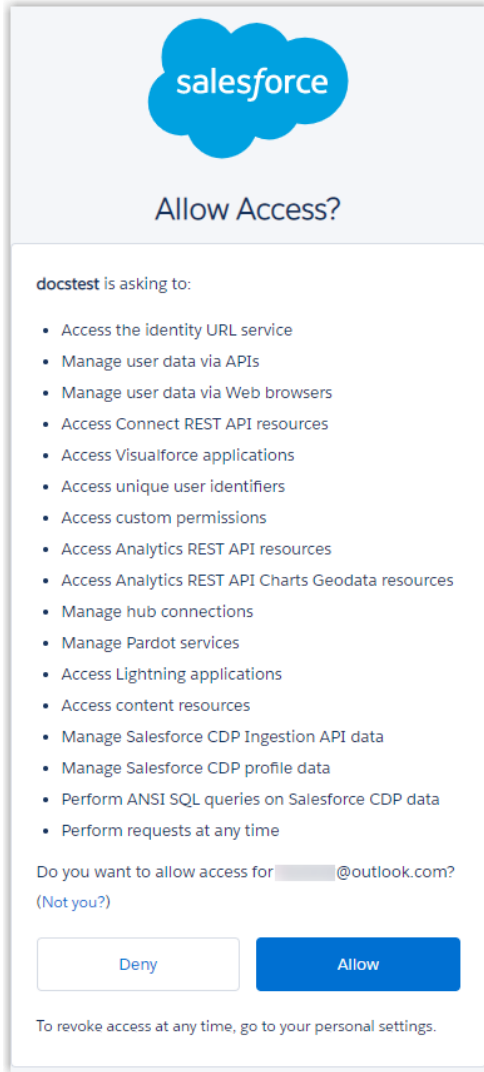
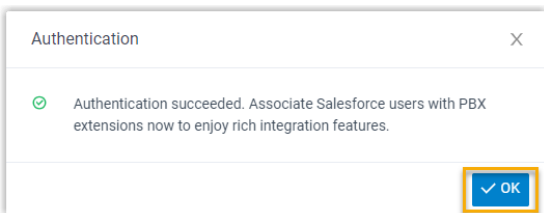
Click **Save**. A new browser page will be launched to request for Salesforce CRM data access permission.

Click **Allow** to allow the PBX to access data in your CRM account. If the authorization succeeds, the web page will display **Authorization succeeded!**


Authorization succeeded!


Please go to the PBX to associate CRM users with PBX extensions and enjoy rich integration features.

Go back to the PBX configuration page, a pop-up window also displays the authorization result. Click **OK** to confirm.



6.2.2 Configurations

On the CRM integration page, click  beside the **Salesforce User** to synchronize the latest list of Salesforce CRM users.

Salesforce User 	Extension
Integration User - integration@example.com	1050-John Smith - integr... ▾
Automated Process - autoproc@00d5e000001afgrgak	1000-Roan - roan@exam... ▾
Platform Integration User - noreply@00d5e000001afgrgak	1002-1002 - noreply@00... ▾

Associate the Salesforce users with PBX extensions.

Associate automatically

Click the Associate Automatically button. On the pop-up window, click OK.


Click Save. The Salesforce users and PBX extensions that share the same email address will be matched and associated with each other automatically.

6.2.2 Configurations

Associate manually

If a user binds different email addresses to his or her Salesforce account and PBX extension, you need to manually associate the user's Salesforce user account and PBX extension.

In the Extension drop-down list beside the Salesforce user, select the user's extension. Click Save.

Note: If users in the organization have been changed, click  to refresh the Salesforce user list, and re-assign extensions.

6.3 Integrate P-Series with Hubspot



HubSpot CRM is a cloud-based Customer Relationship Management (CRM) system, which is featured with all the elements that are required to run your business on an automation platform. The integration of Yeastar P-Series PBX System with HubSpot CRM can bring great advantages of the company, which will help boost sales and improve business relationships. This topic gives an overview of the integration and describes terminologies of HubSpot CRM to help you better understand the integration.

Requirement for the integration

Hubspot Editions: Free CRM tool, Starter plan, Professional plan, Enterprise plan

PBX server

Firmware: Version 37.7.0.16 or later

Plan: Yeastar P-Series Enterprise Plan (EP) or Ultimate Plan (UP)

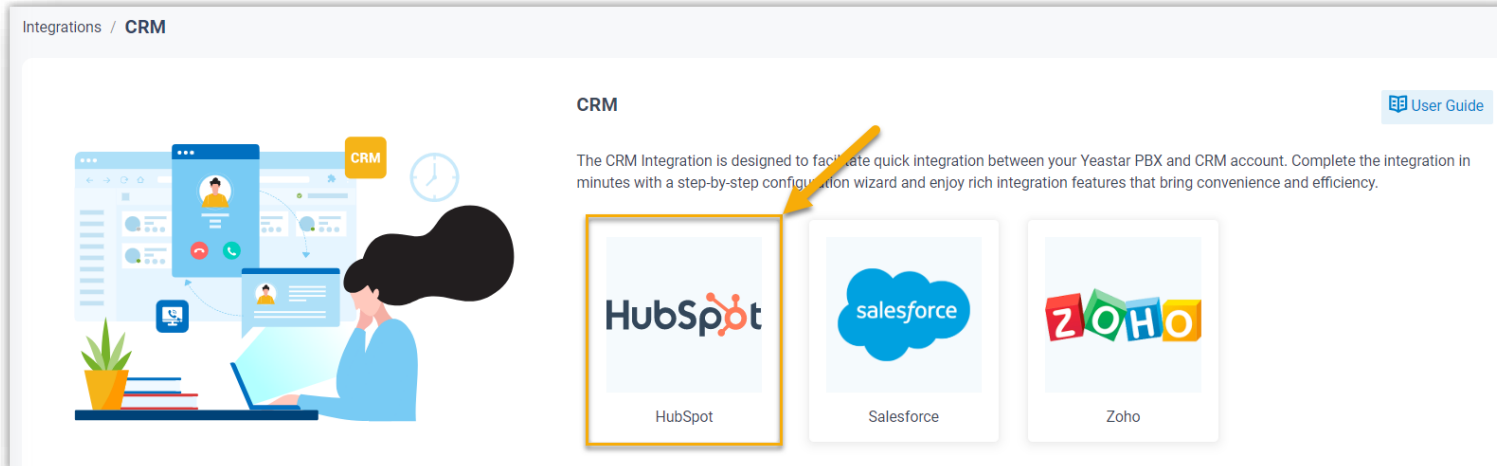
6.3.1 Configurations

Procedure

Step 1. Make Authorization Request to HubSpot CRM

Step 2. Associate HubSpot CRM users with PBX extensions

Log in to PBX web portal, go to Integrations > CRM > HubSpot



The screenshot shows the 'Integrations / CRM' page in the PBX web portal. On the left, there is an illustration of a person at a desk with a laptop, surrounded by various CRM-related icons like a clock, a person, and a document. The main content area is titled 'CRM' and includes a 'User Guide' link. Below the title, there is a descriptive paragraph: 'The CRM Integration is designed to facilitate quick integration between your Yeastar PBX and CRM account. Complete the integration in minutes with a step-by-step configuration wizard and enjoy rich integration features that bring convenience and efficiency.' Underneath this text, three integration options are displayed as cards: 'HubSpot', 'Salesforce', and 'Zoho'. The 'HubSpot' card is highlighted with a yellow border, and a yellow arrow points to it from the text above.

Integrations / CRM

CRM [User Guide](#)

The CRM Integration is designed to facilitate quick integration between your Yeastar PBX and CRM account. Complete the integration in minutes with a step-by-step configuration wizard and enjoy rich integration features that bring convenience and efficiency.

HubSpot
Salesforce
Zoho

6.3.1 Configurations

In the Authorization section, enter the application authorization information.

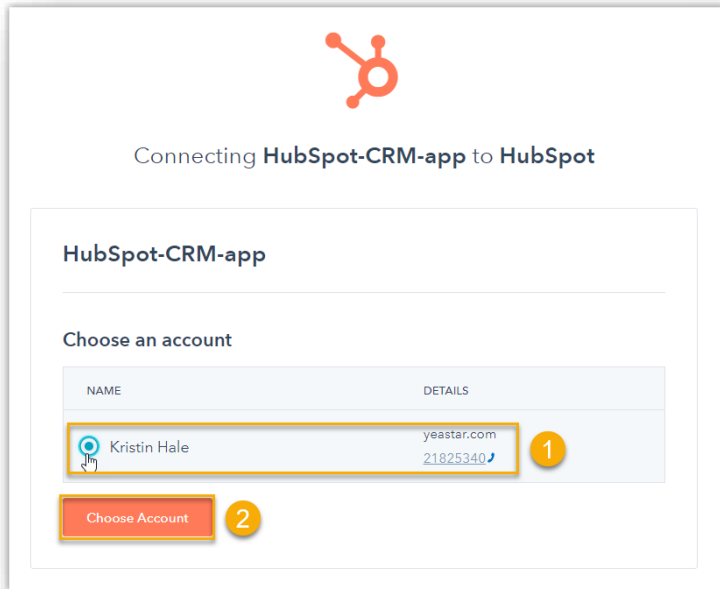
Authorization

* Client ID	* Client Secret
<input type="text"/>	<input type="text"/>

- **Client ID:** Paste the Client ID obtained from the created HubSpot application.
- **Client Secret:** Paste the Client Secret obtained from the created HubSpot application.

6.3.1 Configurations

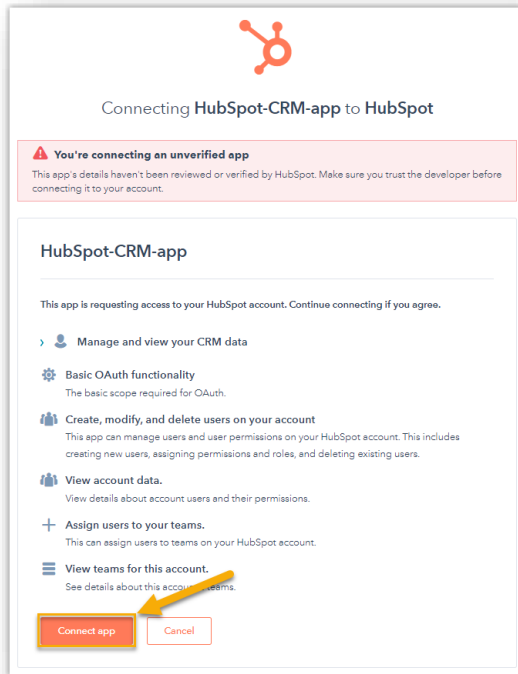
Click **Save**. A new browser page is launched to prompt you to choose an account for integration. Select a standard HubSpot account with Super Admin privilege and click **Choose Account**.



Important: Do NOT select a developer account, otherwise the integration would fail.

6.3.1 Configurations

The page will then show the permission grant request of the application. Check the permissions and click **Connect app** to proceed with the authorization.



Note: You can safely ignore the warning stating that “You’re connecting an unverified app”, as this app is created by yourself.

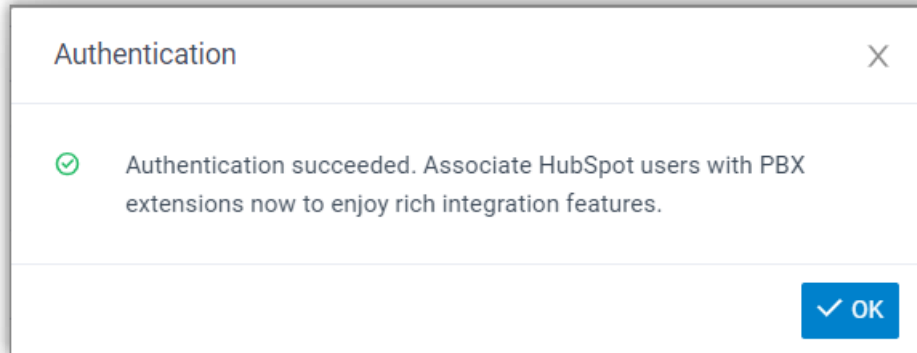
Authorization succeeded!

Please go to the PBX to associate CRM users with PBX extensions and enjoy rich integration features.

If the authorization succeeds, the web page will display **Authorization succeeded!**

6.3.1 Configurations


Go back to the PBX configuration page, a pop-up window also displays the authorization result. Click **OK** to confirm.




The **Status** field displays **Connected**, indicating that the HubSpot CRM integration is successfully set up.

6.3.1 Configurations

Associate HubSpot CRM users with PBX extensions

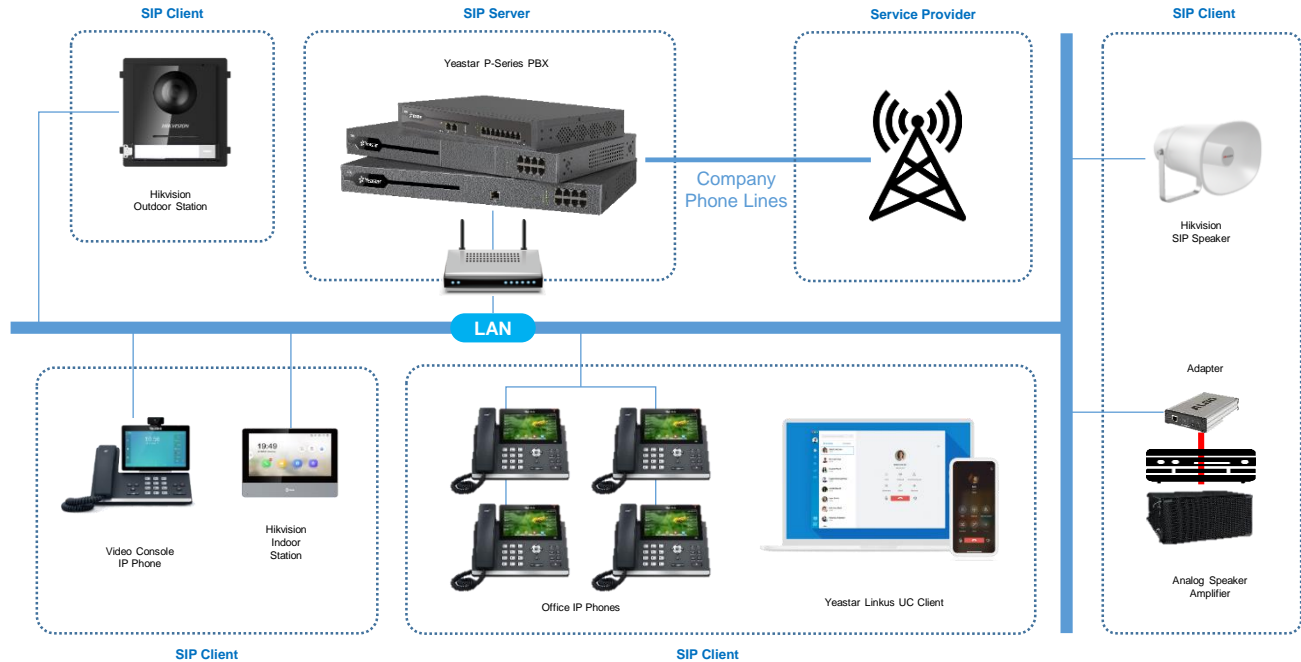
On the CRM integration page, click  beside the HubSpot User to synchronize the latest list of HubSpot CRM users.

HubSpot User 	Extension
Kristin Hale - kristinhale@sample.com	<input type="text"/>
Terrel Smith - terrelsmith@gmail.com	<input type="text"/>
Dave Harris - sample@gmail.com	<input type="text"/>

Part 7

Integrate P-Series with Intercom

The technology has transformed the way SME users communicate. A comprehensive IP-Based telephony system is exactly what users are expecting for. As the core system for telephony, **Yeastar PBX systems** can work perfectly with **intercoms**, so as to enhance business efficiency with simple control, streamlined communications, and easier team collaborations.



7.1 Integrate P-Series with Hikvision Intercom



This topic describes the integration of Hikvision intercom video devices with Yeastar P-Series PBX System, including the solution targets, test environment, and solution highlights. By configuring the Hikvision devices according to the introduction in this document, you can use the devices to make and receive phone calls similar to other IP phones, thus implementing door access control more easily.

7.1.1 Supported Models

This solution is tested with Hikvision devices that support SIP protocol. For Hikvision devices with the same model, SIP protocol may not be supported. For more information, contact your Hikvision account manager.

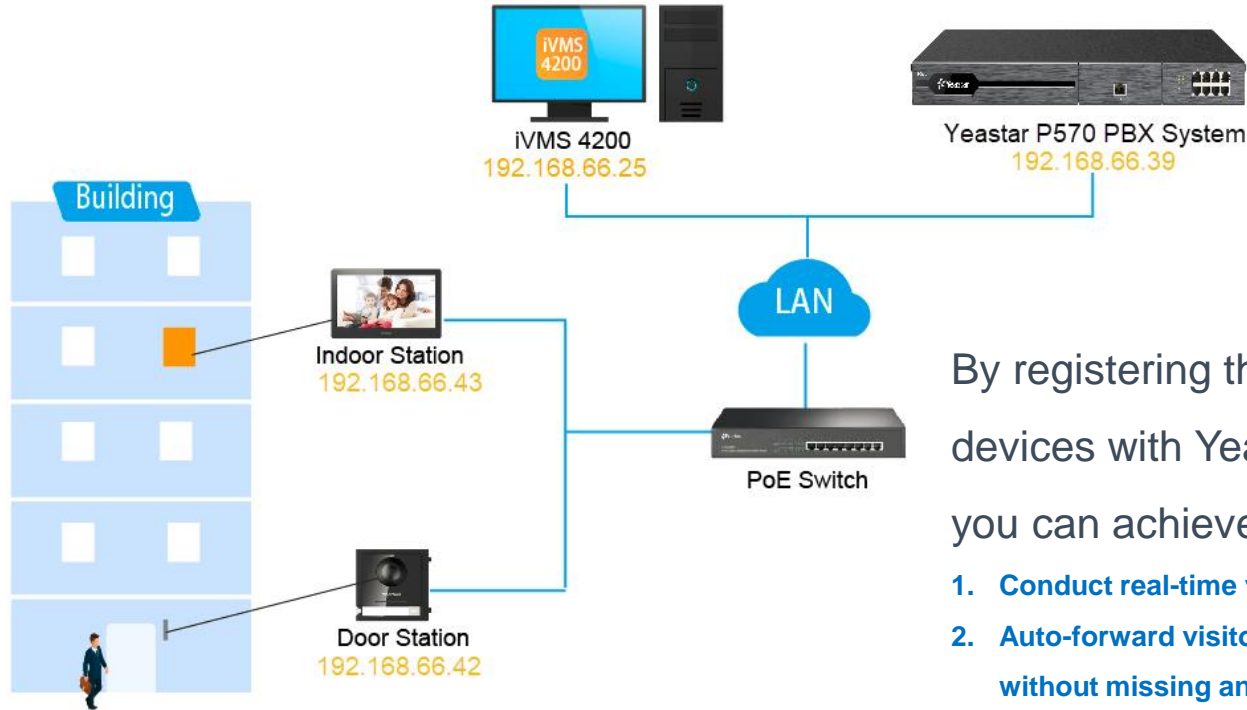
Device	Product Model
Hikvision Door Station	DS-KD8003-IME1 (VIS_OUTDOOR_H11_EN_STD_V2.2.45_210430)
Hikvision Villa Door Station	DS-KV8113-WME1(B), DS-KV8213-WME1(B), DS-KV8413-WME1(B) (VIS_VILLA_H11_EN_STD_V2.2.45_210430)
Hikvision Indoor Station	DS-KH6320-WTE1, DS-KH6320-TE1 (VIS_INDOOR_R0_EN_STD_V2.1.20_build210420)

7.1.2 Preparation for the Deployment

In this guide, the Hikvision devices and Yeastar P-Series PBX System are in the same local network. Check the test environment in the following table.

Device	Firmware Version	IP Address
Yeastar P570	37.3.0.40	192.168.66.39
Hikvision iVMS 4200	-	192.168.66.25
Hikvision DS-KH6320 Indoor Station	V2.1.10	192.168.66.43
Hikvision DS-KD8003 Door Station	V2.2.3	192.168.66.42

8.1.3 Network Topology Diagram



By registering the Hikvision intercom video devices with Yeastar P-Series PBX System, you can achieve the following features:

1. Conduct real-time video communication with the visitor
2. Auto-forward visitor calls to your Linkus Mobile Client without missing any calls
3. Flexible access control with different endpoints

7.2 Integrate P-Series with Dahua Intercom



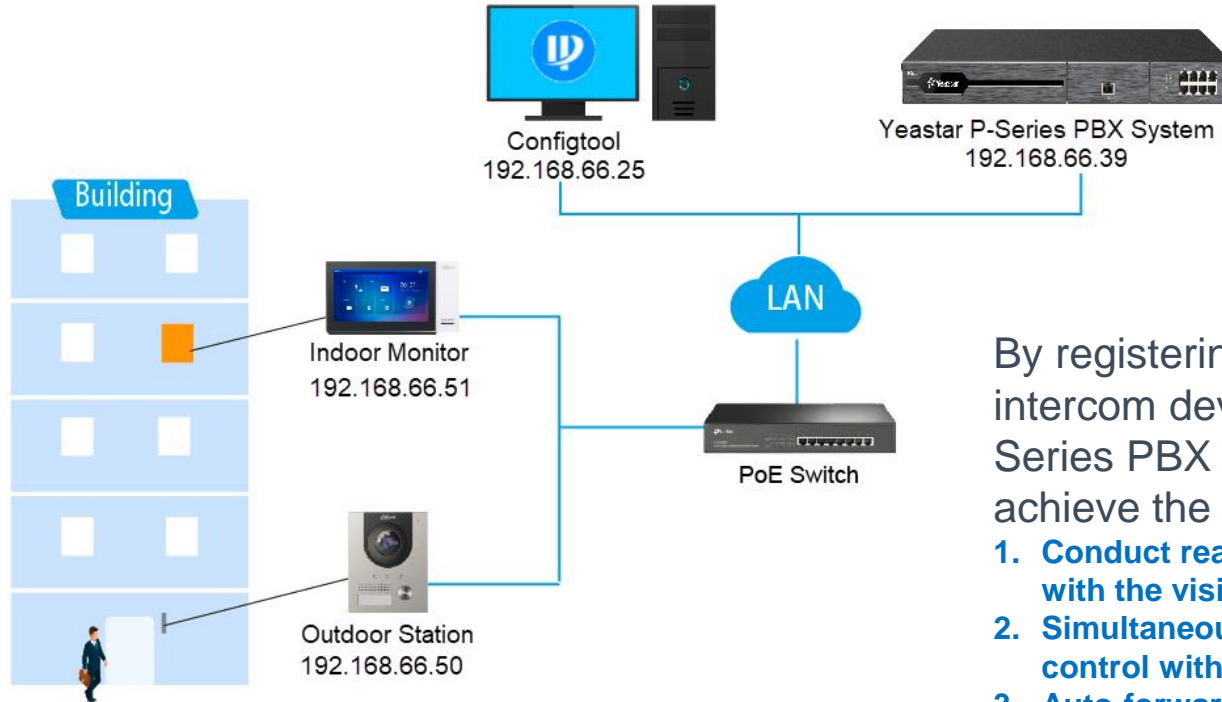
This integration guide introduces how to achieve communication between Dahua Outdoor Station and Indoor Monitor and provides guidance on forwarding Outdoor Station calls to Linkus clients or an external number. By configuring Dahua video intercom devices, you can use Dahua video intercom devices to make and receive phone calls, thus implementing door access control more easily.

7.2.1 Preparation for the Integration

In this guide, the Dahua video intercom devices and Yeastar P-Series PBX System are in the same local network. Check the test environment in the following table.

Device	Firmware Version	IP Address
Yeastar P570	37.5.0.33	192.168.66.39
Dahua Configtool	V5.000.0000001.8	192.168.66.25
DHI-VTO2201F-P(Dahua IP Villa Outdoor Station)	V4.500.9992000.0.R	192.168.66.50
DHI-VTH2421FW(Dahua IP Color Indoor Monitor)	V4.500.9992001.0.R	192.168.66.51

7.2.2 Deployment & Highlights



- By registering the Dahua video intercom devices with Yeastar P-Series PBX System, you can achieve the following features:
1. **Conduct real-time video communication with the visitor**
 2. **Simultaneous ringing and flexible access control with different endpoints**
 3. **Auto-forward visitor calls to an external number without missing any calls**

Part 8

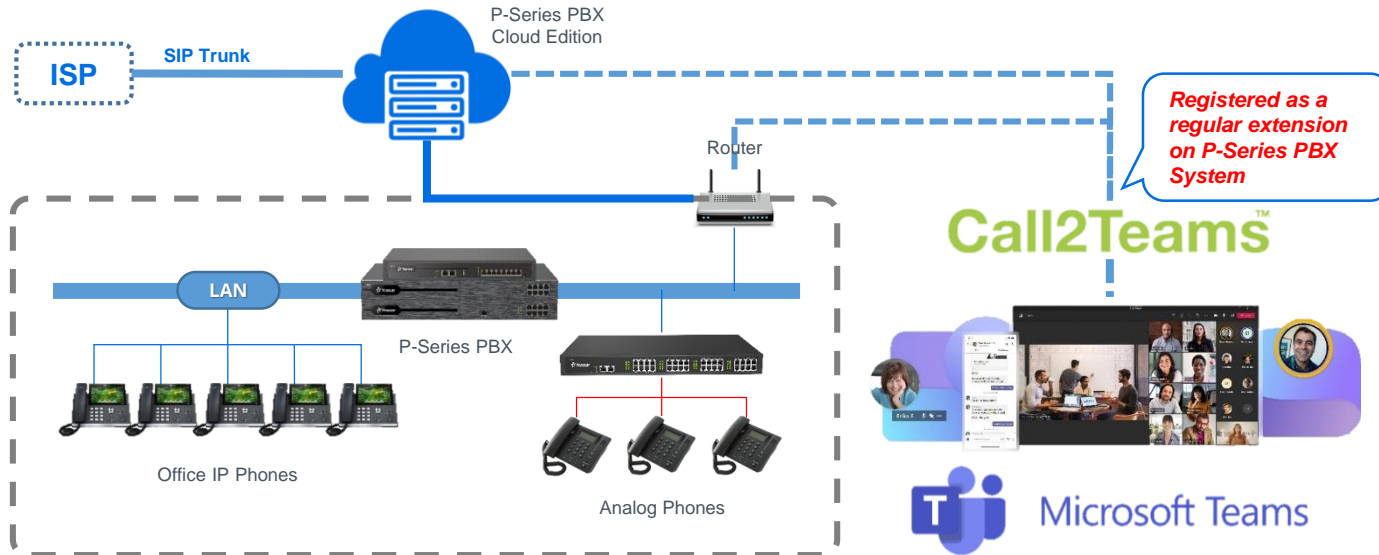
Integrate P-Series with Microsoft Solutions

Yeastar P-Series PBX system can support multiple Microsoft solutions, including Teams, AD & Azure AD, etc.




8.1 Integrate P-Series with Microsoft Teams

By integrate P Series PBX with Microsoft Teams. Teams app will work as a remote softphone, we can bind it with an extension, then make and receive calls by P Series PBX.



8.1.1 Requirement

Microsoft 365

Microsoft 365 version	Requirements
Microsoft 365 Business Basic	Any one of the followings is required: <ul style="list-style-type: none">◦ "Common Area Phone" license◦ "Phone System" license◦ "Microsoft 365 Business Voice" add-on
Microsoft 365 Business Standard	
Microsoft 365 Business Premium	
Office 365 E1	 Note: Not all of them are available in all the countries, buy any one of them according to your country or region.
Office 365 E3	
Microsoft 365 E3	
Office 365 E5	No additional requirements.
Microsoft 365 E5	

- Get admin access to the Microsoft 365 admin center
- Must also meet following requirements:

Yeastar for Microsoft Teams App

- Purchase the [Yeastar for Microsoft Teams](#) license

8.1.2 Configuration Preview

Steps for integrae P Series with Micorsoft teams

1. Forward SIP port and RTP port in your router,configure NAT in PBX,So remote extension can communicate with PBX (Teams APP works as a remote extension),Skip this if your pbx is on public network already.
2. Create SIP extension in PBX and turn on “Allow Remote Registration”. So, Teams app can register to it remotely.
3. Configure Microsoft 365 to bind with PBX, then let Teams app register to an extension in PBX, after doing so, you can use Teams app to make and receive internal calls, also receive calls from inbound route.
4. Create a dial plan in Microsoft 365, let Teams app user can dial any numbers, create outbound route in PBX, so the call from Teams app can call out by the trunk of PBX.

8.1.3 Integrate P Series PBX with Microsoft teams

Login the configuration portal of Microsoft 365 with admin account

Prerequisites PBX/Trunk Teams Users

Welcome to the Call2Teams Wizard

This wizard will help you setup your service and first user ready for calls. Before you begin the admin setup you will need:

- A user/login to your Office 365 account with Global Admin rights.
- Microsoft Phone System licence add-ons (or E5 licences) for the end users of the service.
- One or two spare Office 365 user licenses such as Business Basic/Premium or E1/E3/E5, for a few hours during the initial setup.
- Access to your PBX or Trunk portal to create/manage SIP credentials.
- Using a modern compatible web browser.
- At least one Call2Teams license.
- Microsoft tenant supports Direct Routing configuration.

1. Check Tenant

Check My Tenant

- On the top navigation bar, click “Getting started” tab
- On “Prerequisites” page, click “Check My Tenant”

8.1.3 Integrate P Series PBX with Microsoft teams

Prerequisites PBX/Trunk Teams Users

Welcome to the Call2Teams Wizard

This wizard will help you setup your service and first user ready for calls. Before you begin the admin setup you will need:

- A user/login to your Office 365 account with Global Admin rights. ✓
- Microsoft Phone System licence add-ons (or E5 licences) for the end users of the service. ✓
- One or two spare Office 365 user licenses such as Business Basic/Premium or E1/E3/E5, for a few hours during the initial setup. ✓
- Access to your PBX or Trunk portal to create/manage SIP credentials. ✓
- Using a modern compatible web browser. ✓
- At least one Call2Teams license. ✓
- Microsoft tenant supports Direct Routing configuration. ✓

2.Click Next

Check My Tenant

Next

- After click “Check My Tenant” A pop-up window will be given to ask you to choose an account, choose your admin account
- Then it will start to check your Microsoft 365 tenant satisfy the requirement or not, click next if satisfied.

8.1.3 Integrate P Series PBX with Microsoft teams

The screenshot shows a configuration window for integrating a P-Series PBX with Microsoft Teams. The window has a header with 'PBX', 'Trunk', and 'Teams' tabs. Below the header, there is a section for selecting a PBX template, currently set to 'Yeastar P-Series VoIP PBX'. A link 'My PBX is not listed' is visible below this selection. The main configuration area includes several fields: 'Country' (set to 'China'), 'SIP Domain' (with a placeholder 'Enter the public IP address or FQDN of PBX'), 'SIP Proxy' (with a placeholder 'Enter the public IP address and external SIP port of PBX'), 'Authentication Type' (set to 'Registration'), 'Calling Policy' (with a checkbox for 'Manage Teams Calling Policy'), 'Teams Voicemail' (set to 'Allow Voicemail'), 'Music On Hold' (set to 'Teams Hold Music'), and 'Protocol' (set to 'UDP'). At the bottom right, there are 'Add PBX' and 'Cancel' buttons.

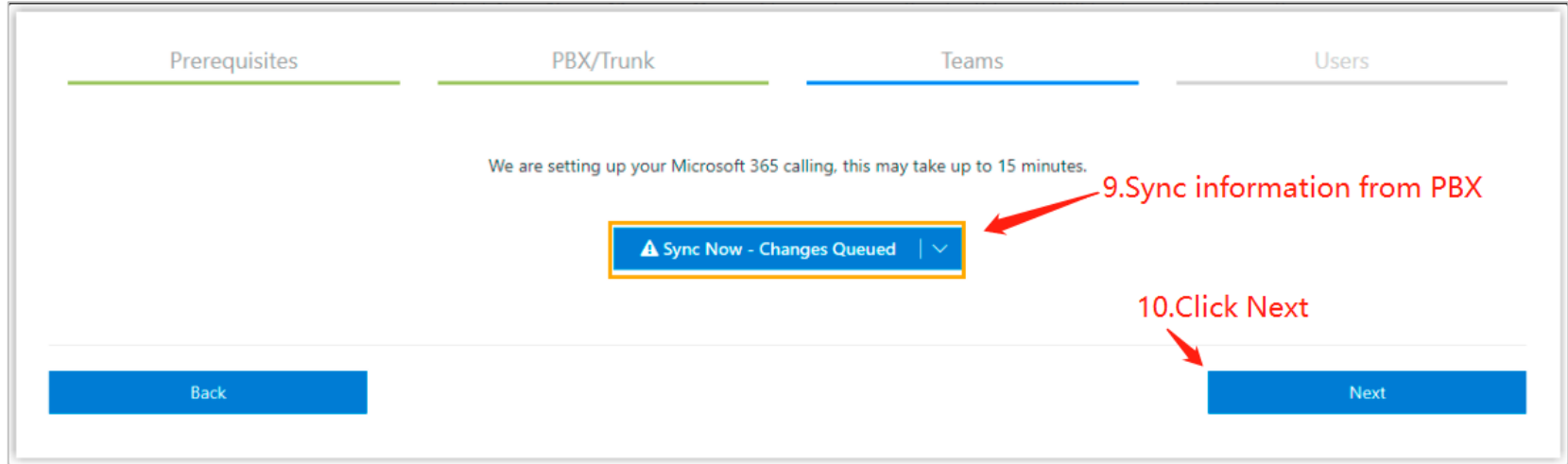
- A window will pop-up to ask you to fill in PBX information to add PBX

Note:

- SIP Domain: P-Series PBX FQDN
- SIP Proxy: P-Series PBX FQDN

8.1.3 Integrate P Series PBX with Microsoft teams

- Click "Sync Now-Changes Queued "to sync information of P Series PBX to Microsoft 365,like extensions information,when synchronization finished,click "Next "to next step.



8.1.4 Bind a teams app user with an extension

- Select a Teams user and fill in registration information of an extension of P Series PBX ,then click “Add User” to bind them together.

Teams

Select a User Phone Number (China)

Nicholas (Nicholas@yeastar.com) +86 15880123456

Calling Policy

Override Teams Calling Policy

Yeastar P-series VoIP PBX

SIP Username * Auth Username

2000 @110.80.36.162 2000

Password

Extension Information

- Extension Number: 2000
- Registration Name: 2000
- Caller ID: 2000
- Registration Password: X0u5gtpnHy

- After a Teams user associated with an extension in P Series PBX,you can check status in Microsoft 365

User	Service Type	SIP User	user status	Registration	Calls
Nicholas	Standard User	2000	●	All	

8.1.5 Make outbound calls by PBX's trunk

Microsoft Teams admin center

Dial plans

A dial plan is a set of rules that translate a phone number that a user dials into a standard E.164 number for call authorization and routing. You can use the Global (Org-wide default) that is created or create one or more custom dial plans for people in your organization. [Learn more](#)

Dial plans summary

1 Default policy 0 Custom policies

User statistics

0 Custom policies
17 Default policies

Description	Custom policy	Optimize device dialing	External access prefix
(Global (Org-wide default))	No	No	86

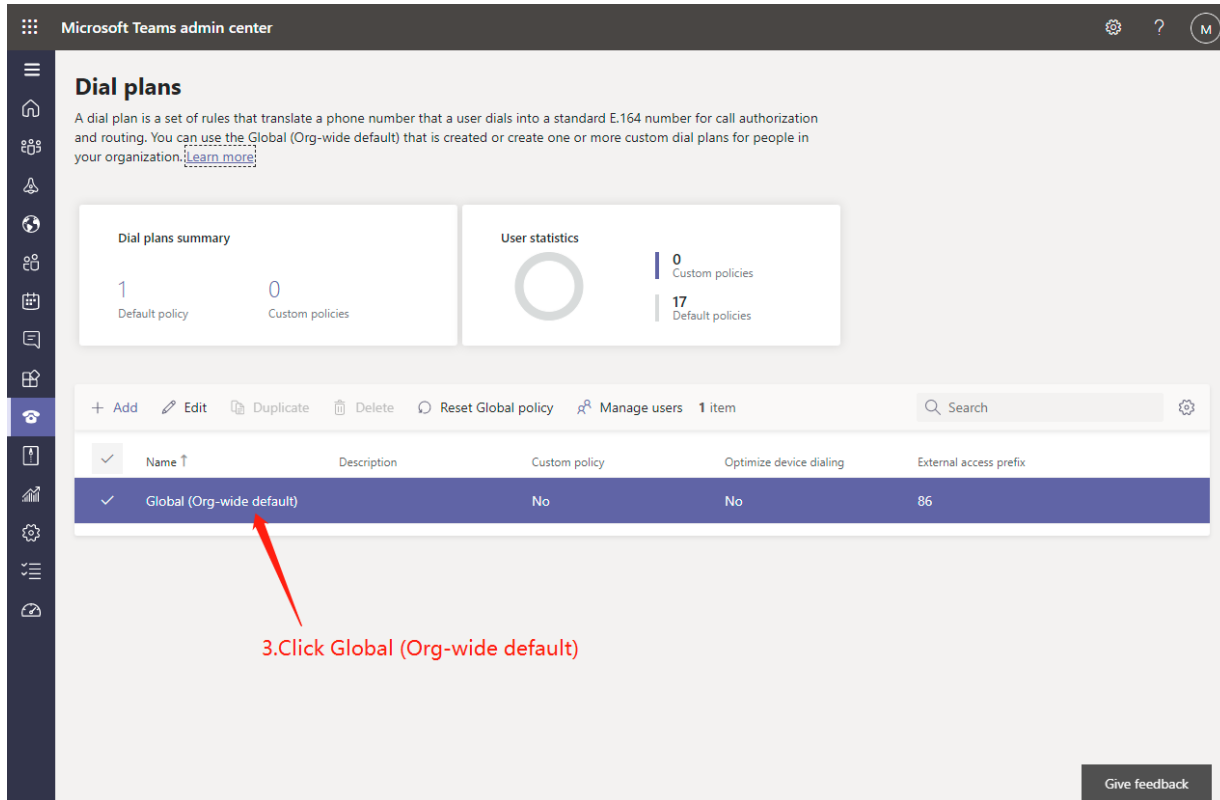
1.Voice

2.Dial plans

We need to configure dial plans in Microsoft 365 to let Teams user make outbound calls through PBX's trunk

- Login [Microsoft Teams admin center](#).
- On the left navigation bar, click “Voice” -> “Dial plans”

8.1.5 Make outbound calls by PBX's trunk



The screenshot shows the Microsoft Teams admin center interface. The main heading is "Dial plans". Below the heading is a descriptive paragraph: "A dial plan is a set of rules that translate a phone number that a user dials into a standard E.164 number for call authorization and routing. You can use the Global (Org-wide default) that is created or create one or more custom dial plans for people in your organization. [Learn more](#)".

There are two summary cards: "Dial plans summary" showing 1 Default policy and 0 Custom policies, and "User statistics" showing 0 Custom policies and 17 Default policies.

Below the cards is a table of dial plans. The table has columns for Name, Description, Custom policy, Optimize device dialing, and External access prefix. The only entry is "Global (Org-wide default)" with a "No" custom policy, "No" for optimizing device dialing, and an external access prefix of "86". A red arrow points to this row.

At the bottom right of the page is a "Give feedback" button.

✓	Name ↑	Description	Custom policy	Optimize device dialing	External access prefix
✓	Global (Org-wide default)		No	No	86

3. Click Global (Org-wide default)

- Click “Global (Org-wide default)”

8.1.5 Make outbound calls by PBX's trunk

Microsoft Teams admin center

Fill in the details for your dial plan and then create one or more normalization rules so phone numbers that people dial will be translated into a standard (E.164) format. [Learn more](#)

Dial plan details

External dialing prefix ⓘ

Optimized device dialing ⓘ

Test dial plan

Enter a phone number to test.

Normalization rules

Normalization rules define how phone numbers expressed in various formats are to be translated. One or more normalization rules must be assigned to the dial plan and are matched from the top to bottom.

+ Add Edit Move up Move down Delete | 1 item

Rank	Name	Description	Pattern	Translation
1	Call2Teams	Call2Teams	^([*\#][*\#\d]+ [1-9])d(0,5)...	\$1

Save Cancel

Give feedback

- Click “Add” to add a new dial plan



After integrated P series PBX with Microsoft teams, there will be a default dial plan named “Call2Teams”, the pattern $^([*\#][*\#\d]+|[1-9])d(0,5)\$$ means maximum 6 digits and starts with 1-9

8.1.5 Make outbound calls by PBX's trunk

Microsoft Teams admin center

Fill in the details for your dial plan and then create one or more normalization rules so phone numbers that people dial will be translated into a standard (E.164) format. [Learn more](#)

Dial plan details

External dialing prefix ⓘ
86

Optimized device dialing ⓘ
Off

Test dial plan

Enter a phone number to test.
Example: "4255551234"

Normalization rules

Normalization rules define how phone numbers expressed in various formats are to be translated. One or more normalization rules must be assigned to the dial plan and are matched from the top to bottom.

+ Add Edit Move up Move down Delete | 1 item selected

Rank	Name	Description	Pattern
1	Call2Teams	Call2Teams	$^([\^#][\^#\d]+)[1-9]$

Add new rule

A normalization rule defines how a phone number will be translated when a user dials it. ⓘ

1.name it → Name:

2.Advanced → Description:
 Basic Advanced

If condition

The number dialed matches this regular expression ⓘ

3.^(\d*)\$ means you can dial any numbers →

Then do this

Translate the number based on this regular expression

4.\$1 means send numbers to PBX without modify it →

5.Save →

- Add new dial plan, pattern $^(\d*)\$$ means allow any numbers, \$1 means send numbers to PBX without modify it

8.1.5 Make outbound calls by PBX's trunk

Microsoft Teams admin center

Dial plan details

External dialing prefix

Optimized device dialing

Test dial plan

Enter a phone number to test. Example: "4255551234"

Normalization rules

Normalization rules define how phone numbers expressed in various formats are to be translated. One or more normalization rules must be assigned to the dial plan and are matched from the top to bottom.

Rank	Name	Description	Pattern	Translation
1	Call2Teams	Call2Teams	^([\+]*)([\+]*[d])+[1-9]\d{0,...	\$1
2	dialplan		^(\d*)\$	\$1

Annotations:

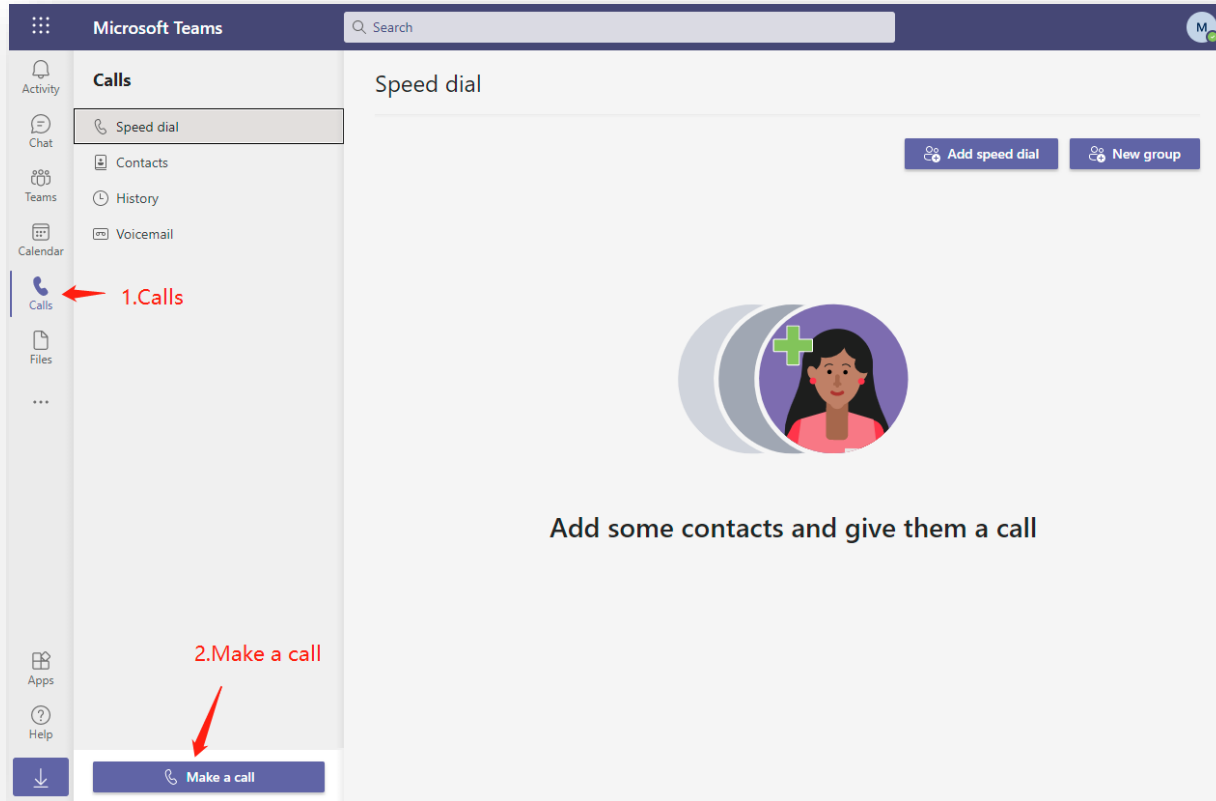
- 7. Click move up to give the new dial plan highest priority
- 6. Select the new dial plan
- 8. Save

- Select the new dial plan and move it up to the top, so it will have the highest priority.

Note:

after doing so, any numbers dialed by Teams app will be sent to PBX, don't forget to **setup an outbound route in PBX** to let it call out.

8.1.5 Make outbound calls by PBX's trunk



- After you also setup an **outbound route in PBX**, dial the numbers which match the pattern of the outbound route in PBX to test if it works or not.

8.1.6 Receive calls from PBX

- We have already registered a Teams user to an extension in PBX, So when a call to this extension number, the Teams user will receive a pop-up window for the incoming call.

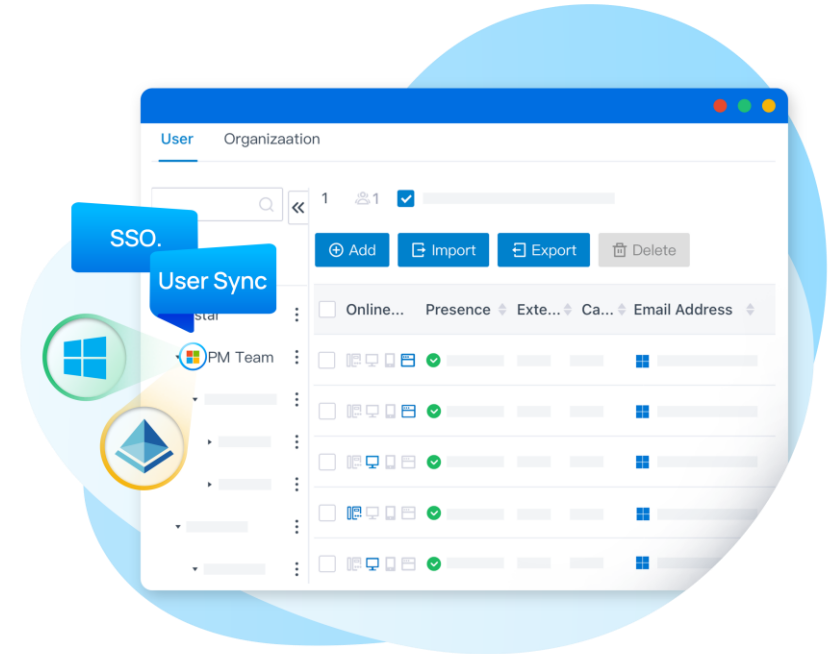


8.2 Integrate P-Series with Microsoft Directory Service / AD

Windows local AD or Microsoft 365 Azure AD

Sync users across the platforms and allows users to log into their Linkus UC Clients by Microsoft account.

- User Synchronization
- Single Sign-on (SSO)
- OU/Group Synchronization



8.2.1 Requirements for AD Integration

Operating System needs to be,

Windows Server 2008 / 2008 R2 / 2012 / 2012 R2 / 2016 / 2019

PBX Server needs to be,

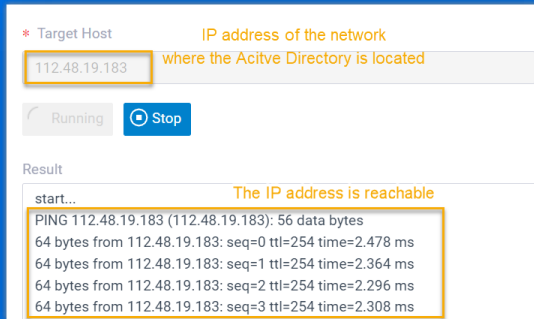
Firmware: Version 37.8.0.25 or later

Plan: Ultimate Plan (UP)

8.2.1 Requirements for AD Integration

Make sure the PBX server can communicate with the Active Directory via LDAP. If the PBX and Active Directory are in the same network, the PBX can directly send LDAP(S) requests to the Active Directory through the default port 389 (LDAP) or port 636 (LDAPS) for performing LDAP queries. Otherwise, make sure the following network requirements are met:

- If your Active Directory is behind a firewall, you need to forward the following port(s) as needed on the firewall to pass LDAP(S) requests from PBX to Active Directory. TCP/UDP 389 for LDAP
- TCP/UDP 636 for LDAPS (**highly recommended**)
- If your PBX is behind a firewall, ensure that the PBX has access to the Active Directory.



Tips:

You can test the network connectivity by pinging the IP address of the Active Directory network on Maintenance > Troubleshooting > IP Ping in the PBX.

8.2.1 Requirements for AD Integration

Gather the following information from your Active Directory:

The IP address of the Domain Controller where your Active Directory resides.

The Distinguished Name (DN) of the directory node where you want to start querying

Tips:

Right click the desired directory node and check the DN on Properties > Attribute Editor > distinguished Name.

The username and password of an Active Directory domain account, in which the username should be a **Distinguished Name (DN) or User Principal Name (UPN)**. The account needs full access to the desired directory, so as to read the directory information during synchronization.

Tips:

Right click the desired account and check the DN or UPN on Properties > Attribute Editor > distinguished Name / user Principal Name.

8.2.2 Configuration of the Integration

The screenshot displays the Yeastar web portal interface. On the left, a sidebar menu lists various system settings, with 'Integrations' expanded and 'User Sync & SSO' selected. The main content area is titled 'Integrations / User Sync & SSO'. It features two integration options:

- Active Directory (AD):** Includes a Windows logo and text: "Integrate the PBX with your local Active Directory (AD) domain. The Users, Organization Units, and Groups in your local AD can be synchronized to the PBX as needed. And extensions can log in to Linkus Web/Mobile Clients by their Microsoft accounts." It has 'User Guide' and 'Integrate' buttons.
- Microsoft 365:** Includes a Microsoft logo and text: "Register an Azure application to connect the PBX to the Azure Active Directory tenant of your Microsoft 365 account. The integration allows you to map your Azure AD Users and Groups to the PBX Extension directory, synchronize the updates, and enable users to log in to Linkus Mobile/Web Client by their Microsoft accounts." It also has 'User Guide' and 'Integrate' buttons.

The 'Integrate' buttons for both options are highlighted with a red rectangular box. Below the integration options, there are three illustrative icons: a person with a document and arrows, a person with a shield and key, and two people interacting with a screen.

1. Log in to PBX web portal, go to Integrations > User Sync & SSO.
2. Click Integrate beside the Active Directory (AD) service.

8.2.2 Configuration of the Integration

Connect to Active Directory Domain

* Host IP	<input type="text"/>	* Protocol	LDAP ▼
* Port	<input type="text" value="389"/>	* Base DN	<input type="text"/>

Setting	Description
Host IP	Enter the IP address of the Active Directory Domain Controller.
Protocol	<ul style="list-style-type: none">•Specify the communication protocol. LDAP: Unencrypted LDAP communication.•LDAPS: Encrypted LDAP communication with SSL/TLS.•Note: For Windows Server 2016 and above, Active Directory Certificate Services (AD CS) is required when using LDAPS protocol.•You can change the protocol as needed in future use.
Port	Specify the port that are used to access the Active Directory. The default port number is 389 for LDAP and 636 for LDAPS. If your Active Directory uses an alternate port, specify it here.
Base DN	Enter the distinguished name of the base entry to specify the starting points for searches in Active Directory. For example, if you want to start querying from the organizational unit yeastardocs in the AD domain localdirectory.com, enter OU=yeastardocs, dc=localdirectory, dc=com.

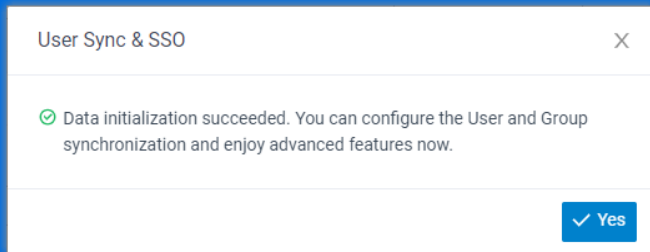
8.2.2 Configuration of the Integration

Administrator Account Authorization

* Administrator Logon Name

* Administrator Password

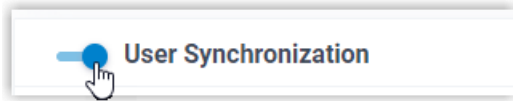
Setting	Description
Administrator Username	Enter the username of an AD domain account. The format can be either a fully distinguished name (DN) or a User Principal Name (UPN). • Examples: DN: cn=Administrator, cn=Users, dc=localdirectory, dc=com •UPN: Administrator@localdirectory.com
Administrator Password	Enter the password associated with the username.




Click **Save**. A pop-up dialog box prompts that the integration succeeds.

8.2.3 Sync AD Users to P-Series PBX

1. Log in to PBX web portal, go to Integrations > User Sync & SSO.
2. In the User Synchronization section, turn on the switch.




3. Complete the following synchronization settings according to your need. In the **User Range for Extension Auto Creation** field, specify the AD users that you want to synchronize to PBX and create extensions for them.

 User Synchronization		
<p>* User Range for Extension Auto Creation</p> <p>Users in Specific Organizational Unit</p>	All Users	Synchronize all AD users within the connected directory to PBX and create extensions for them.
<p>All Users</p> <p>Users in Specific Organizational Unit</p>	Users in Specific Organizational Unit	Synchronize the AD users within the specified organization unit(s) to PBX and create extensions for them. You can select the desired organizational unit(s) in the Organizational Units drop-down list.
<p>Users in Specific Group</p> <p>Users Searched by Filter</p>	Users in Specific Group	Synchronize the AD users within the specified group(s) to PBX and create extensions for them. You can select the desired group(s) in the Group drop-down list.
	Users Searched by Filter	Synchronize the AD users that match the filter criteria to PBX and create extensions for them. You can specify the LDAP search filter in the Search Filter for User field to locate specific users. For example, enter (&(object Category=person)(object Class=user)(cn=sales*)) to search users with the name starting with "sales".

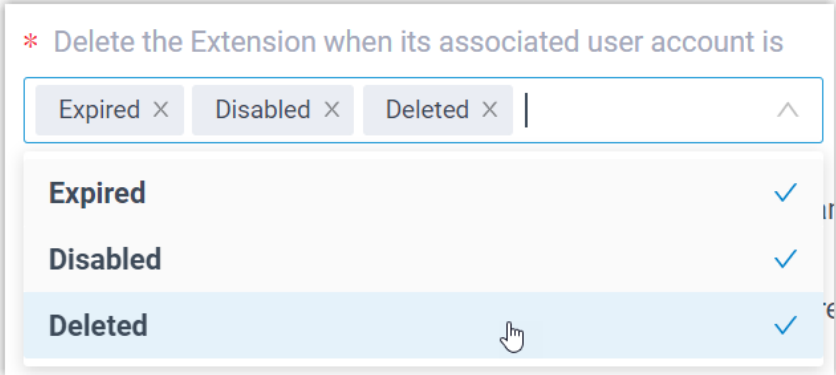
8.2.3 Sync AD Users to P-Series PBX

In the **User's Extension Number** field, configure the extension numbers assignment rule.

<p>* User's Extension Number</p> <p>Assign Automatically ^</p> <p>Assign Automatically </p> <p>Read Specific Property Value</p>	<p>* Start Extension Number from</p> <p>1000</p>
<p>Assign Automatically</p>	<p>Assign extension numbers from a specified starting number. You can specify the starting number in the Start Extension Number from field.</p>
<p>Read Specific Property Value</p>	<p>Assign extension numbers based on users' property value. This can be used in the scenario that the AD users already have phone extensions assigned, and you want to keep their extension number instead of assigning new ones. You can specify the property where the AD users' extension numbers are stored (e.g. IP Phone) in the Property Name field.</p>

8.2.3 Sync AD Users to P-Series PBX

In the **Delete the Extension when its associated user account is** drop-down list, specify the AD user account status(es) at which PBX will stop syncing from the AD users, and delete the associated extensions.



* Delete the Extension when its associated user account is

Expired × Disabled × Deleted × | ^

Expired ✓

Disabled ✓

Deleted ✓

Expired	If the AD user account is expired, PBX will stop syncing from the AD user and delete the associated extension.
Disabled	If the AD user account is disabled, PBX will stop syncing from the AD user and delete the associated extension.
Deleted	If the AD user account is deleted, PBX will stop syncing from the AD user and delete the associated extension.

8.2.3 Sync AD Users to P-Series PBX

On the **Auto associate Extensions with the Users that share the same email address** option, decide whether to sync AD users to PBX when the users have same email addresses with existing extensions.

If selected, the AD users with same mailboxes will be synced to PBX and associated with the existing extensions, the extensions' user information will then be overwritten by that of the AD users.

If unselected, the AD users with same mailboxes will not be synced to PBX as the PBX system does not allow duplicated email addresses.

If you want to send Linkus Welcome Email to the synced AD users, select the checkbox of **Send Welcome Email automatically after an extension is created**.

If it is the **FIRST** time you save the synchronization-related settings, PBX will perform the initial synchronization immediately.

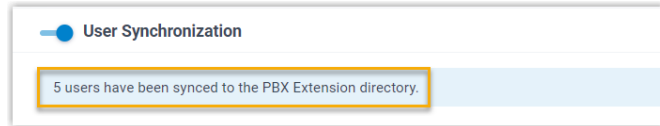
Otherwise, you can manually perform a directory synchronization or wait for the automatic directory synchronization.


8.2.4 Result after the Sync

You have created your custom synchronization rule for AD users.

During a synchronization process, the PBX system performs LDAP queries within the Active Directory based on the rule and synchronize the desired AD users as well as the updated information to PBX. After the synchronization, the followings can be implemented:

You can check the synchronization results in the **User Synchronization** section.



The PBX extensions associated with AD users come with a label  and can NOT be manually deleted on PBX.

You can NOT manually update the following information of the PBX extensions associated with AD users.

- **Last name**
- **First name**
- **Email Address**
- **Mobile Number**
- **Job Title**

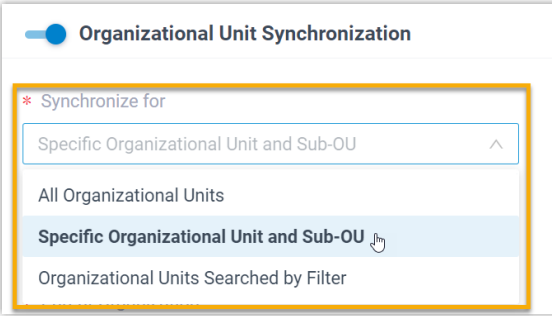
The information can only be modified within the Active Directory and updated to the PBX during a synchronization.

8.2.5 Sync AD OUs to P-Series PBX

The number of AD organizational units that can be synced depends on the organizations / extension groups that PBX system can create, as the following table shows.

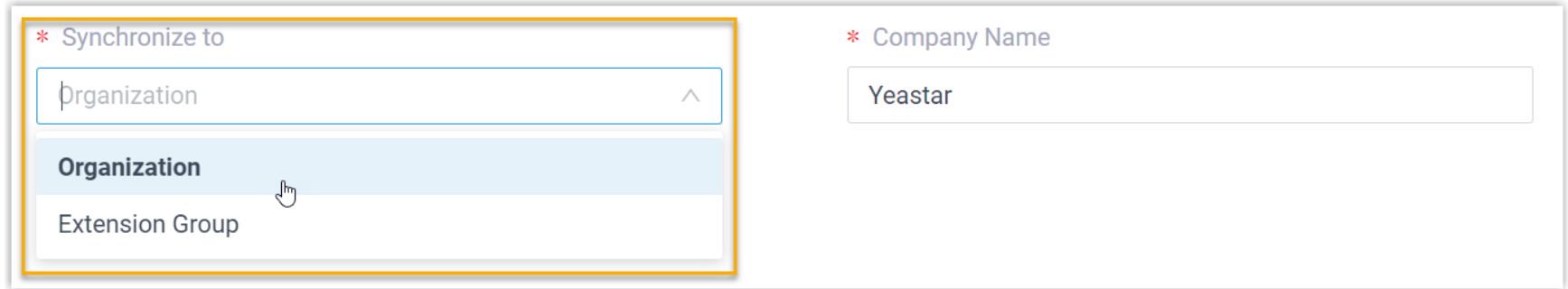
Type	P550	P560	P570
Maximum number of organizations	50	200	500
Maximum number of extension groups	63	63	63

In the **Synchronize for** drop-down list, specify the AD organizational units that you want to synchronize to PBX.

	All Organizational Units	Synchronize all AD organizational units within the connected directory to PBX.
Specific Organizational Unit and Sub-OU	Synchronize the specified organizational unit(s) together with the sub-OUs to PBX. You can select the desired organizational unit(s) from the Organizational Unit drop-down list.	
Organizational Units Searched by Filter	Synchronize the AD organizational units that match the filter criteria to PBX. You can specify the LDAP search filter in the Search Filter for Organizational Unit field to locate specific organizational units. For example, enter (&(objectCategory=organizationalUnit)(ou=sales*)) to search organizational units with the name starting with "sales".	

8.2.5 Sync AD OUs to P-Series PBX

In the **Synchronize to** field, determine the data type to which the AD organizational units will be synced.

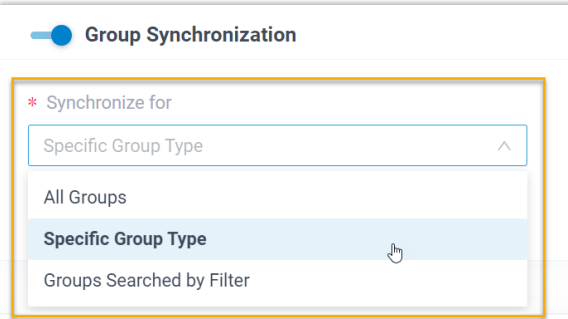


The screenshot shows a configuration interface with two fields. The first field, labeled '* Synchronize to', is a dropdown menu with 'Organization' selected. The second field, labeled '* Company Name', contains the text 'Yeastar'.

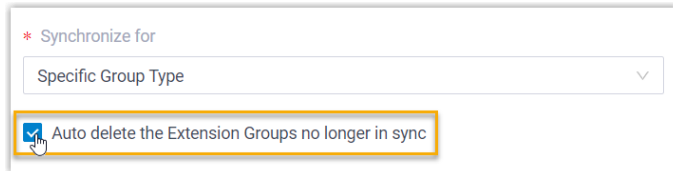
Organization	Synchronize the AD organizational units and the sub-OUs to PBX organizations. You can set the company name in the Company Name field as needed and select the organization to which the synced organizational units belong in the Parent Organization drop-down list.
Extension Group	Only synchronize the MINIMAL organization units to PBX extension groups.

8.2.6 Sync AD Groups to P-Series PBX

In the **Synchronize for** field, specify the AD groups that you want to synchronize to PBX

	All Groups	Synchronize all AD groups within the connected directory to PBX.
	Specific Group Type	Synchronize the specified type(s) of AD groups to PBX. <ul style="list-style-type: none">•You can select the desired type(s) of AD groups from the Type drop-down list.•Security Group: All security groups in the Active Directory.•Distribution Group: All distribution groups in the Active Directory.
	Groups Searched by Filter	Synchronize the AD groups that match the search filter to PBX. You can specify the LDAP search criteria in the Search Filter for Group field to locate specific groups. For example, enter <code>(&(objectCategory=group)(cn=sales*))</code> to search groups with the name starting with "sales".

In future use, if you change the range of AD groups to be synced, you can decide how to deal with the extension groups that are no longer synced from the AD groups via the **Auto delete the Extension Groups no longer in sync** option.



* Synchronize for

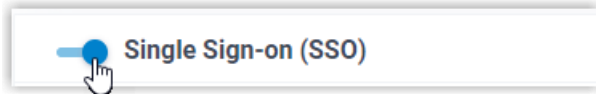
Specific Group Type

Auto delete the Extension Groups no longer in sync

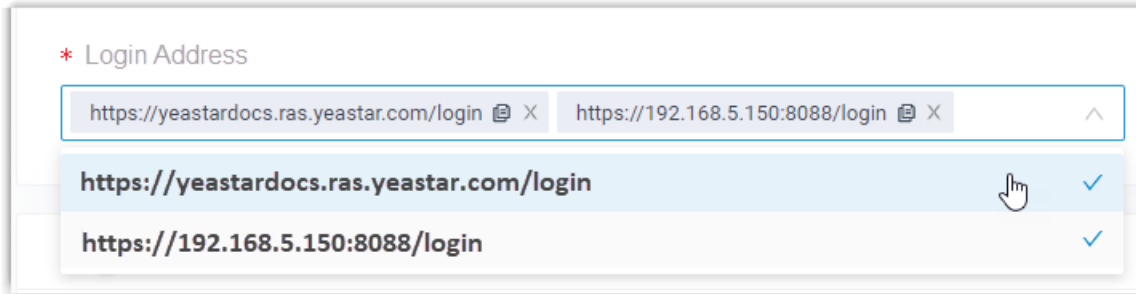
- If selected, the extension groups will be deleted during the next synchronization.
- If unselected, the extension groups will be retained and fully managed by the PBX.

8.2.7 Linkus UC Clients SSO with AD Domain Accounts

1. Log in to PBX web portal, go to Integrations > User Sync & SSO.
2. In the Single Sign-on (SSO) section, turn on the switch.



3. In the **Login Address** drop-down list, select the desired Linkus Web Client login address.



4. Click **Save**

8.2.7 Linkus UC Clients SSO with AD Domain Accounts

The synced AD users can directly enter the credentials of their AD domain accounts (**Format:** username@domainname) to log in to Linkus Web Client and Mobile Client.

The image displays two overlapping screenshots of the Yeastar P550 login interface. The background is a light blue banner with the Yeastar logo, a central illustration of two call center agents (a man and a woman) working at a desk with a laptop and server racks, and a language dropdown menu set to 'English' in the top right corner.

The foreground shows a mobile client overlay on the left and a web client interface on the right. Both interfaces feature a login form with the following elements:

- Yeastar logo and name.
- Username input field containing 'user@localdirectory.com'.
- Password input field with masked characters '.....'.
- URL 'yeastardocs.ras.yeastar.com' and 'Custom Settings (Enabled)'.
- Blue 'Login' button.
- 'Forgot Password?' link.
- 'Sign in with Microsoft' button.

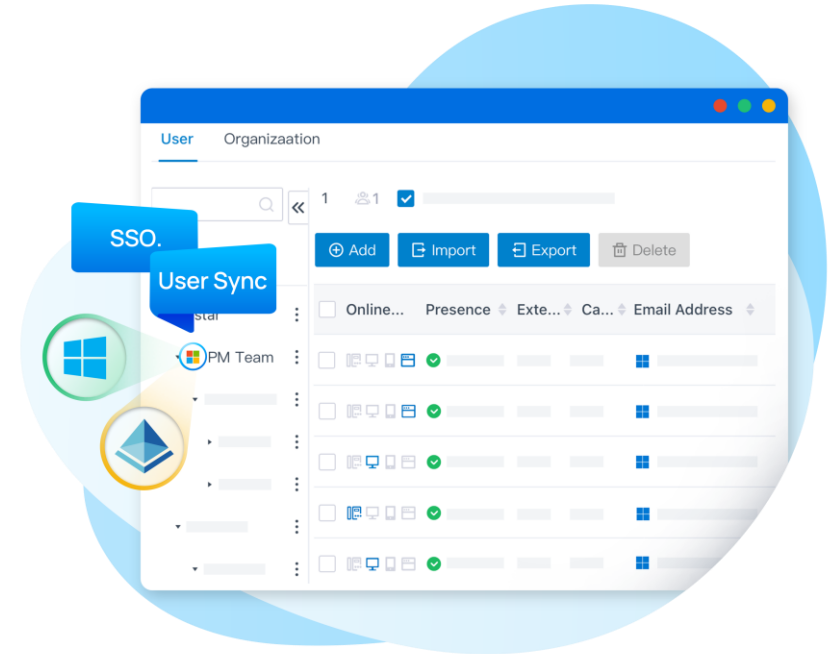
The web client interface also includes a 'LOG IN' button at the bottom and a copyright notice: 'Copyright © 2006-2022 Yeastar Information Technology Co., Ltd.'

8.3 Integrate P-Series with Microsoft Directory Service / Azure AD

Windows local AD or Microsoft 365 Azure AD

Sync users across the platforms and allows users to log into their Linkus UC Clients by Microsoft account.

- User Synchronization
- Single Sign-on (SSO)
- OU/Group Synchronization



8.3.1 Requirements for Azure AD Integration

Azure AD Edition needs to be

Free, Office 365 apps, Premium P1, or Premium P2

PBX Server needs to be,

Firmware: Version 37.8.0.25 or later

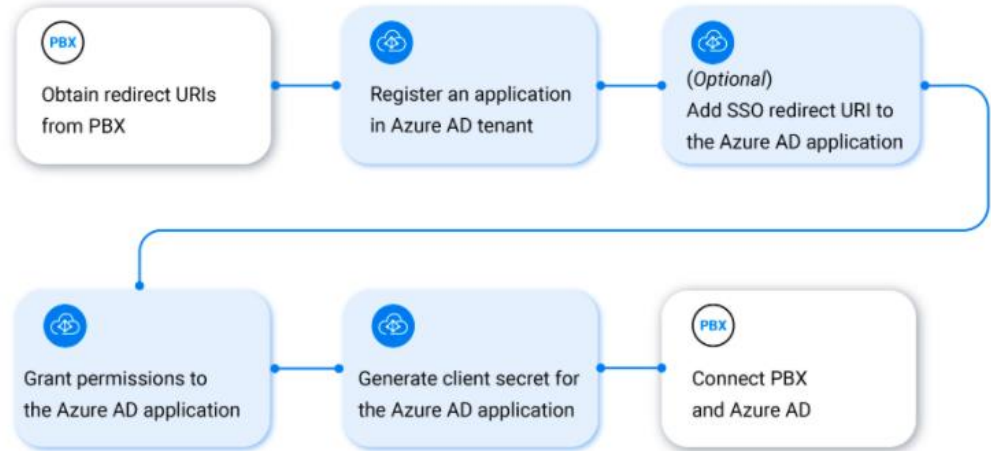
Plan: Enterprise Plan (EP) or Ultimate Plan (UP)

8.3.1 Requirements for Azure AD Integration

Before you begin, make sure the followings are ready:

1. Your organization already has an Azure Active Directory tenant.
2. Use a Microsoft Azure account with **Global Administrator** privilege to implement the integration.
3. You have configured network for remote access by a **Yeastar FQDN**

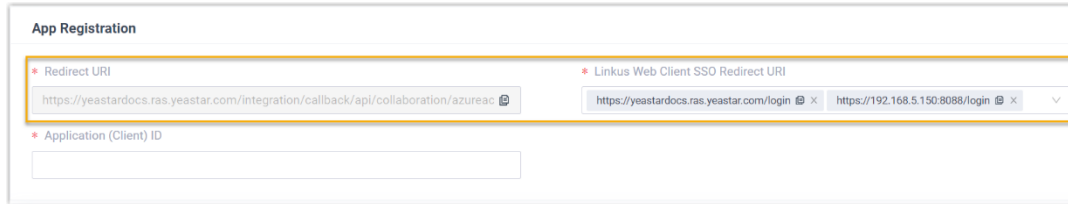
We'll need to follow this procedure to finish the integration step by step.



8.3.2 Configuration of the Integration

Obtain redirect URIs from Yeastar P-Series PBX System, you will need the information when configuring an Azure AD application for the integration.

1. Log in to PBX web portal, go to Integrations > User Sync & SSO.
2. Click Integrate beside the Microsoft 365.
3. In the App Registration section, take note of the following redirect URIs.



The screenshot shows the 'App Registration' configuration page in Azure AD. The 'Redirect URI' field is highlighted with a yellow border and contains the URL: `https://yeastardocs.ras.yeastar.com/integration/callback/api/collaboration/azuread`. The 'Linkus Web Client SSO Redirect URI' field is also highlighted with a yellow border and contains two entries: `https://yeastardocs.ras.yeastar.com/login` and `https://192.168.5.150:8088/login`. The 'Application (Client) ID' field is empty.

Redirect URI

Used to specify the location to which you are redirected after the integration authentication is completed.

Linkus Web Client SSO Redirect URI

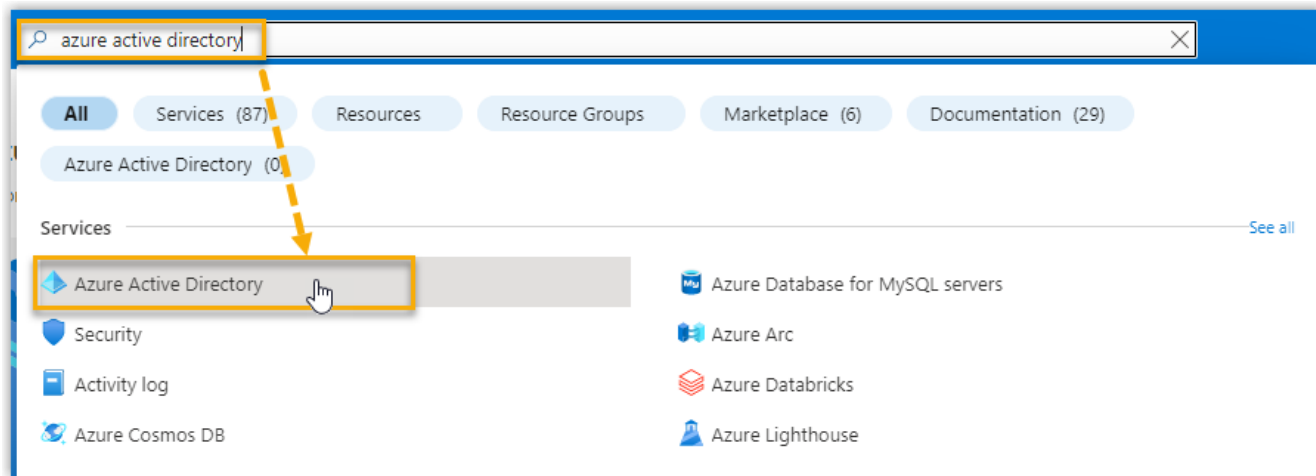
Used to set up the Single Sign-on (SSO) feature of Linkus Web Client.

8.3.2 Configuration of the Integration

Register an Azure AD application that will be used to connect Yeastar P-Series PBX System and Azure AD.

Log in to Microsoft Azure Portal with the Microsoft Azure Global Administrator account.

In the search bar, search and select Azure Active Directory service to enter your organization's directory.



8.3.2 Configuration of the Integration

The screenshot displays the Microsoft Azure portal interface for the organization 'Xiamen Yeastar Information Technology Co., Ltd.'. The left-hand navigation pane is visible, with 'App registrations' selected and highlighted by an orange box. In the main content area, the 'New registration' button is also highlighted with an orange box. A dashed orange arrow originates from the 'App registrations' link in the navigation bar and points to the 'New registration' button. The main content area shows a search bar, a filter for 'Owned applications', and a list of 7 applications found, with the 'Display name' column header visible.

On the left navigation bar of organization's directory, go to **App registrations**, then click **New registration**.

8.3.2 Configuration of the Integration

Microsoft Azure Search resources, services, and docs (G+)

Home > Xiamen Yeastar Information Technology Co., Ltd. | App registrations >

Register an application

* Name

The user-facing display name for this application (this can be changed later).

Yeastar_P_series_PBX ✓

Supported account types

Who can use this application or access this API?

Accounts in this organizational directory only (Xiamen Yeastar Information Technology Co., Ltd. only - Single tenant)

Accounts in any organizational directory (Any Azure AD directory - Multitenant)

Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

Personal Microsoft accounts only

Help me choose...

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Select a platform

Public client/native (mobile & desktop)

Web

Single-page application (SPA) [Platform Policies](#)

Register

In the Register an application page, do as follows:

Enter the registration information of the application.

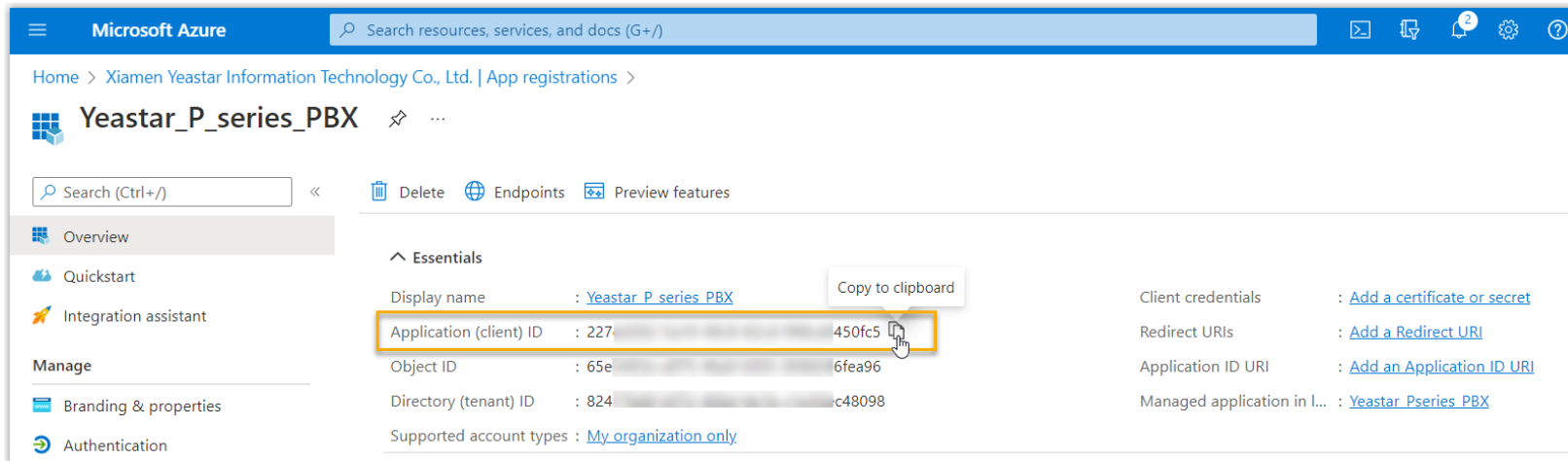
1. **Name:** Specify a name to help you identify the application.
2. **Supported account types:** Select Accounts in this organizational directory only.
3. **Redirect URI:** In the Select a platform dropdown list, select Web, then paste the Redirect URI obtained from the PBX.

Click Register. An Azure AD application is registered successfully.

8.3.2 Configuration of the Integration

The **Application (client) ID** of the application is displayed on the **Overview** page.

Note it down as you will need to fill it into the PBX later.



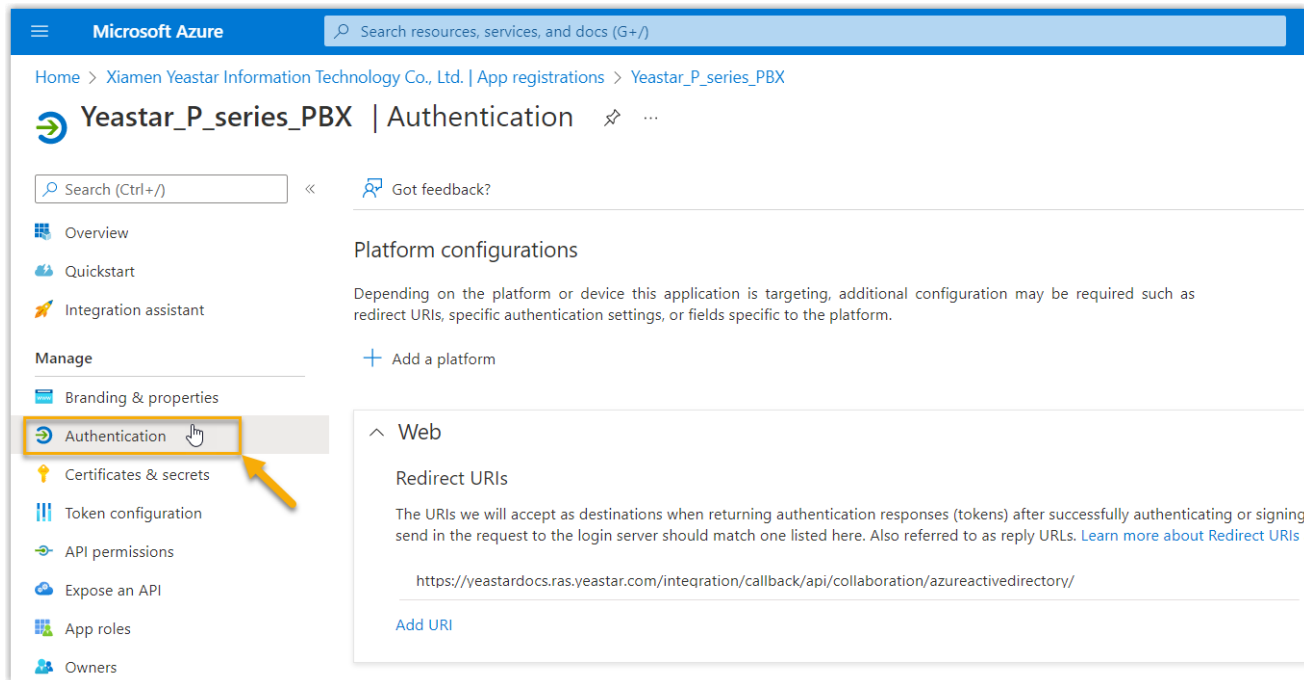
The screenshot shows the Microsoft Azure portal interface. At the top, there is a search bar and navigation icons. The breadcrumb trail indicates the user is in the 'App registrations' section for 'Xiamen Yeastar Information Technology Co., Ltd.'. The application name 'Yeastar_P_series_PBX' is displayed prominently. Below the name, there are navigation options: 'Overview' (selected), 'Quickstart', and 'Integration assistant'. A 'Manage' section includes 'Branding & properties' and 'Authentication'. The main content area is titled 'Essentials' and lists several key identifiers:

- Display name : [Yeastar_P_series_PBX](#)
- Application (client) ID : 227[redacted]450fc5[redacted]
- Object ID : 65e[redacted]6fea96
- Directory (tenant) ID : 824[redacted]c48098
- Supported account types : [My organization only](#)

On the right side, there are links for 'Client credentials', 'Redirect URIs', and 'Application ID URI'. A yellow box highlights the 'Application (client) ID' value, and a 'Copy to clipboard' tooltip is shown over it.

8.3.2 Configuration of the Integration

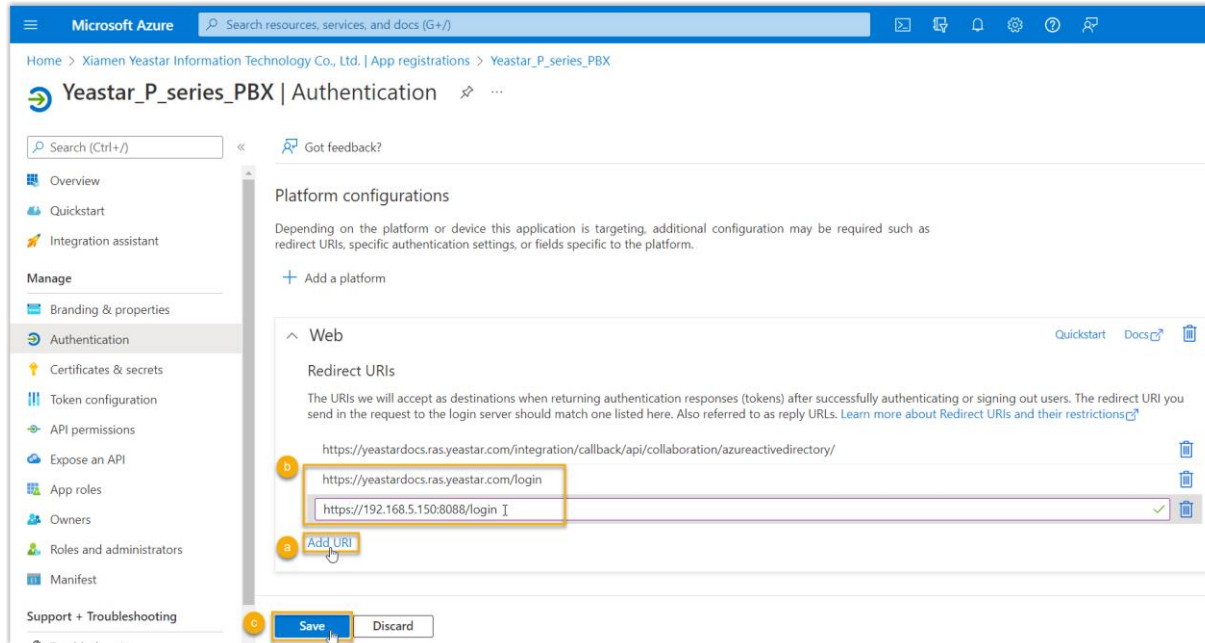
If you want to implement Single Sign-on (SSO) to allow the synced Azure AD users to log in to Linkus Web Client by their Microsoft accounts, you need to add the Linkus Web Client SSO Redirect URI to the Azure AD application.



The screenshot shows the Microsoft Azure portal interface. At the top, there is a search bar and the text "Microsoft Azure". Below this, the breadcrumb navigation shows "Home > Xiamen Yeastar Information Technology Co., Ltd. | App registrations > Yeastar_P_series_PBX". The main heading is "Yeastar_P_series_PBX | Authentication". A left-hand navigation bar contains several options: Overview, Quickstart, Integration assistant, Manage, Branding & properties, Authentication (highlighted with a yellow box and a hand cursor), Certificates & secrets, Token configuration, API permissions, Expose an API, App roles, and Owners. An orange arrow points from the "Authentication" option in the navigation bar to the main content area. The main content area is titled "Platform configurations" and includes a sub-section for "Web" with "Redirect URIs". The "Redirect URIs" section contains a text input field with the URL "https://yeastardocs.ras.yeastar.com/integration/callback/api/collaboration/azureactivedirectory/" and an "Add URI" button below it.

On the left navigation bar of the Azure AD application, go to **Authentication**

8.3.2 Configuration of the Integration



Add the SSO Redirect URI of Linkus Web Client.

On the **Authentication** page, click **Add URI** in the **Web** section.

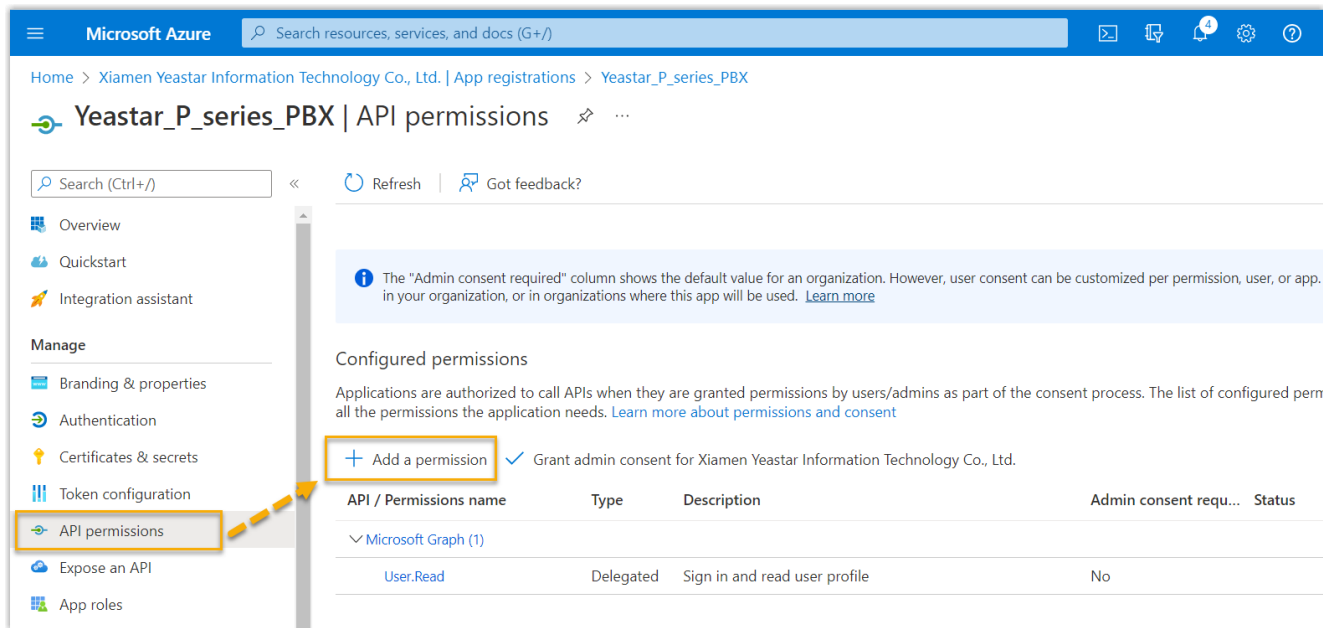
Paste the [Linkus Web Client SSO Redirect URI](#) obtained from the PBX.

Click **Save**.

8.3.2 Configuration of the Integration

Grant the required API application permissions to the Azure AD application, allowing the application to access specified data within Azure Active Directory.

On the left navigation bar of the Azure AD application, go to **API permissions**, then click **Add a permission**.



Microsoft Azure

Search resources, services, and docs (G+)

Home > Xiamen Yeastar Information Technology Co., Ltd. | App registrations > Yeastar_P_series_PBX

Yeastar_P_series_PBX | API permissions

Search (Ctrl+)

Refresh | Got feedback?

Overview

Quickstart

Integration assistant

Manage

Branding & properties

Authentication

Certificates & secrets

Token configuration

API permissions

Expose an API

App roles

The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. in your organization, or in organizations where this app will be used. [Learn more](#)

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured perm all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission ✓ Grant admin consent for Xiamen Yeastar Information Technology Co., Ltd.

API / Permissions name	Type	Description	Admin consent requ...	Status
Microsoft Graph (1)				
User.Read	Delegated	Sign in and read user profile	No	


8.3.2 Configuration of the Integration

In the Select an API page, go to Microsoft APIs > Microsoft Graph

Select an API


Microsoft APIs APIs my organization uses My APIs

Commonly used Microsoft APIs



Microsoft Graph

Take advantage of the tremendous amount of data in Office 365, Enterprise Mobility + Security, and Windows 10. Access Azure AD, Excel, Intune, Outlook/Exchange, OneDrive, OneNote, SharePoint, Planner, and more through a single endpoint.





8.3.2 Configuration of the Integration

Click **Application permissions**.

Request API permissions ✕


[← All APIs](#)

 Microsoft Graph
<https://graph.microsoft.com/> [Docs](#) 

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

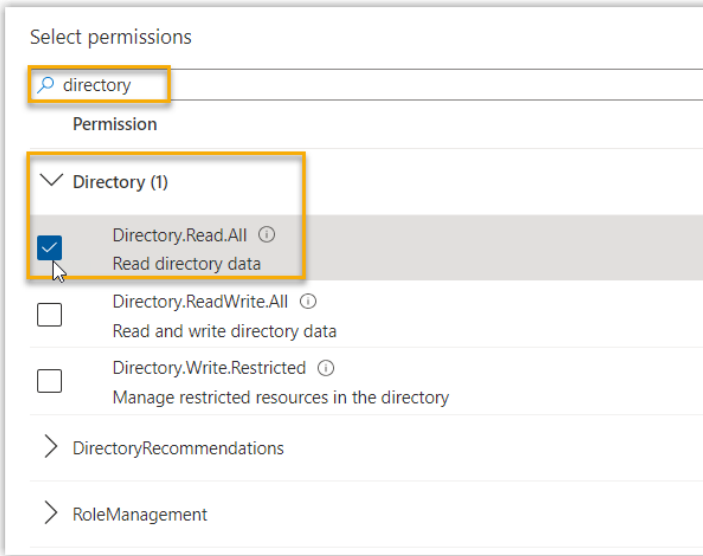
Application permissions
Your application runs as a background service or daemon without a signed-in user.



8.3.2 Configuration of the Integration

Add the required application permissions:

In the search bar, enter the keyword to search and select the following required permissions

Select permissions	Permission	Description
	Directory > Directory. Read. All	Allow the application to read data in your organization's directory, such as users and groups.
	User > User. Read. All	Allow the application to read the profile properties of users in your organization.
	Group > Group. Read. All	Allow the application to read group properties and memberships.

8.3.2 Configuration of the Integration

Click **Add permissions**. The selected permissions are added into the permissions list.

Click **Grant admin consent for...** to grant the permissions to the application

Configured permissions

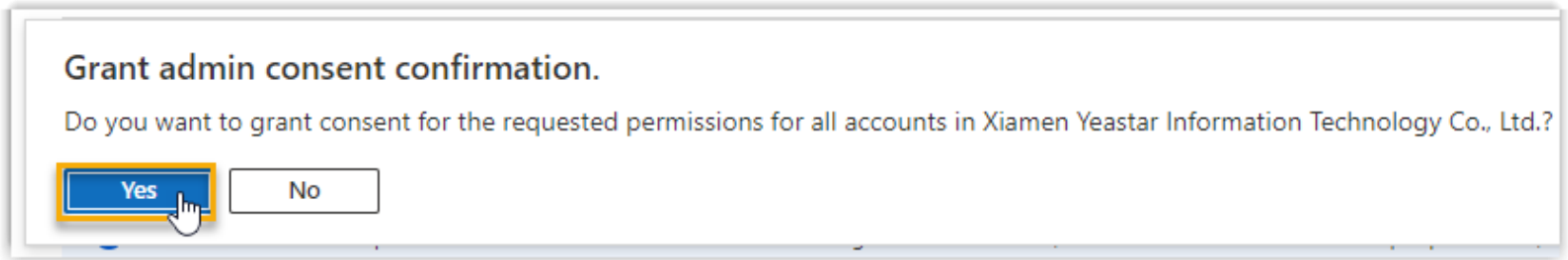
Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)


+ Add a permission Grant admin consent for Xiamen Yeastar Information Technology Co., Ltd.

API / Permissions name	Type	Description	Admin consent requ...	Status
▼ Microsoft Graph (4)				...
Directory.Read.All	Application	Read directory data	Yes	⚠ Not granted for Xiamen... ...
Group.Read.All	Application	Read all groups	Yes	⚠ Not granted for Xiamen... ...
User.Read	Delegated	Sign in and read user profile	No	...
User.Read.All	Application	Read all users' full profiles	Yes	⚠ Not granted for Xiamen... ...

8.3.2 Configuration of the Integration

In the pop-up dialog box, click **Yes** to proceed.



The Status of the permissions changes to  indicating that the API permissions have been granted to the application successfully.

8.3.2 Configuration of the Integration

Generate a client secret for the Azure AD application to authenticate the application in the integration.

The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar and the text 'Microsoft Azure'. Below that, the breadcrumb path is 'Home > Xiamen Yeastar Information Technology Co., Ltd. | App registrations > Yeastar_P_series_PBX'. The main heading is 'Yeastar_P_series_PBX | Certificates & secrets'. On the left, there's a navigation menu with items like 'Overview', 'Quickstart', 'Integration assistant', 'Manage', 'Branding & properties', 'Authentication', 'Certificates & secrets' (highlighted with a dashed orange arrow), 'Token configuration', 'API permissions', 'Expose an API', and 'App roles'. The main content area shows a search bar, a 'Got feedback?' link, and a description: 'Credentials enable confidential applications to identify themselves to the authentication service (instead of a client secret). For a higher level of assurance, we recommend using a certificate (instead of a client secret)'. Below this, there's a blue information box: 'Application registration certificates, secrets and federated credentials can be found in the table below'. The table has three columns: 'Certificates (0)', 'Client secrets (0)' (highlighted with a dashed orange arrow), and 'Federated credentials (0)'. Under 'Client secrets (0)', there's a description: 'A secret string that the application uses to prove its identity when requesting a token. Also'. Below the description is a '+ New client secret' button (highlighted with a dashed orange arrow). At the bottom, there's a table with columns 'Description', 'Expires', and 'Value'. The table is currently empty, with the text 'No client secrets have been created for this application.' below it.

On the left navigation bar of the Azure AD application, go to Certificates & secrets > Client secrets, then click New client secret.

8.3.2 Configuration of the Integration

In the **Add a client secret** page,
do as follows: Add a description and set an expiration date for the client secret

Add a client secret ×

Description

Expires

On the bottom of the page, click **Add**. A client secret is created and displayed in the **Client secrets** list.

8.3.2 Configuration of the Integration

Note down the client secret's **Value** as you will need to fill it into the PBX later.

Important




Record the client secret's value before leaving the page, as the key is only shown once.

Otherwise, you will have to create a new secret.

Certificates (0) Client secrets (1) Federated credentials (0)

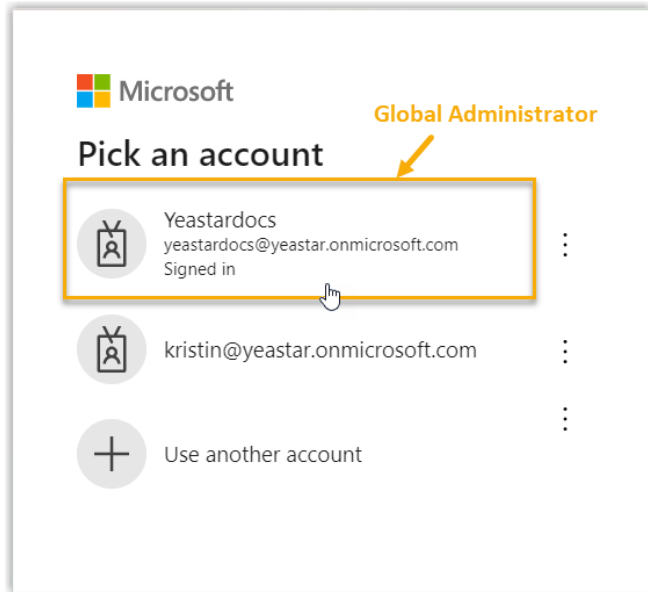
A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

+ New client secret

Description	Expires	Value ⓘ	Secret ID
yeastar-pseries-pbx	7/5/2024	HoU8Q~Nm' Re~d... 	977e!  

8.3.3 Connect P-Series & Azure AD

Fill the application ID and client secret gathered from the Azure AD application into PBX to implement the integration between Yeastar P-Series PBX System and Azure Active Directory.



1. Log in to PBX web portal, go to Integrations > User Sync & SSO.
2. Click Integrate beside the Microsoft 365 service.
3. In the App Registration section, paste the application ID in the Application (Client) ID field.
4. In the Certificates & Secrets section, paste the client secret in the Client Secret field.
5. Click Save.
6. You are redirect to the Microsoft Sign-in page.
7. Sign in with the Microsoft Azure account that has Global Administrator privilege

8.3.3 Connect P-Series & Azure AD

You might be asked to provide an additional security confirmation. Click Next to complete it or skip for now.



yeastardocs@yeastar.onmicrosoft.com

Help us protect your account

Microsoft has enabled Security Defaults to keep your account secure. [Learn more about the benefits of Security Defaults](#)

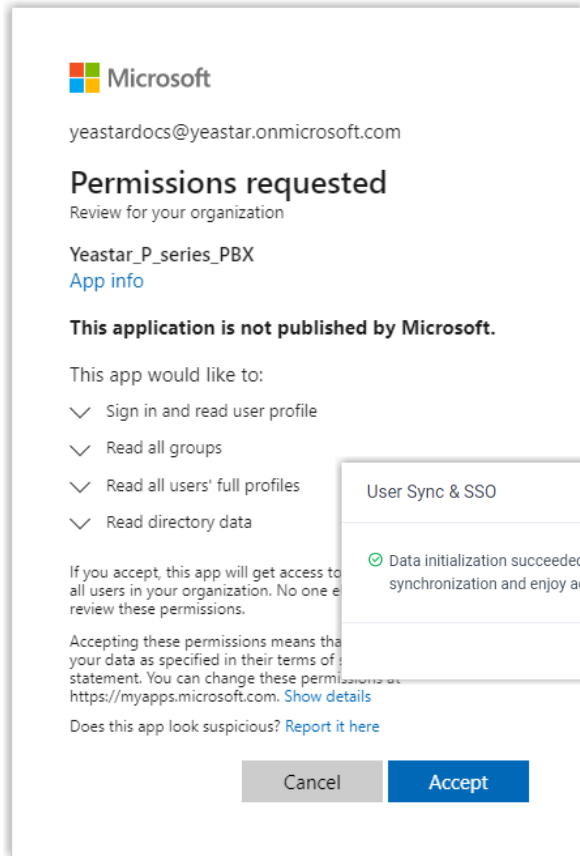
[Skip for now \(14 days until this is required\)](#)

[Use a different account](#)

[Learn more](#)

[Next](#)

8.3.3 Connect P-Series & Azure AD



Microsoft

yeastardocs@yeastar.onmicrosoft.com

Permissions requested

Review for your organization

Yeastar_P_series_PBX
[App info](#)

This application is not published by Microsoft.

This app would like to:

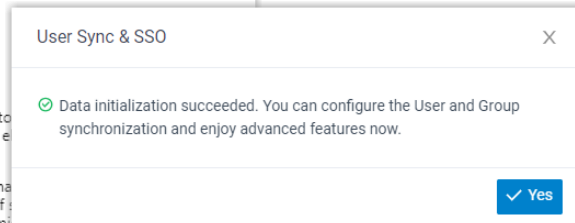
- ✓ Sign in and read user profile
- ✓ Read all groups
- ✓ Read all users' full profiles
- ✓ Read directory data

If you accept, this app will get access to all users in your organization. No one else can review these permissions.

Accepting these permissions means that your data as specified in their terms of service statement. You can change these permissions at <https://myapps.microsoft.com>. [Show details](#)

Does this app look suspicious? [Report it here](#)

In the pop-up window, check the permissions and click **Accept** to confirm



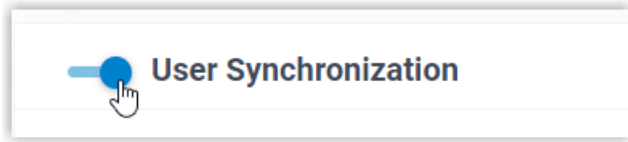
User Sync & SSO

✓ Data initialization succeeded. You can configure the User and Group synchronization and enjoy advanced features now.

On the PBX configuration page, click **Yes** to close the dialog box

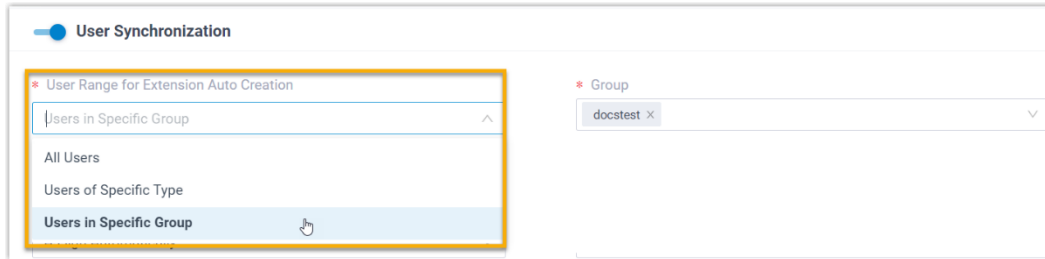
8.3.4 Sync Azure AD Users to P-Series PBX

1. Log in to PBX web portal, go to Integrations > User Sync & SSO.
2. In the User Synchronization section, turn on the switch.



3. Complete the following synchronization settings according to your need.

In the **User Range for Extension Auto Creation** drop-down list, specify the Azure AD users that you want to synchronize to PBX and create extensions for them.

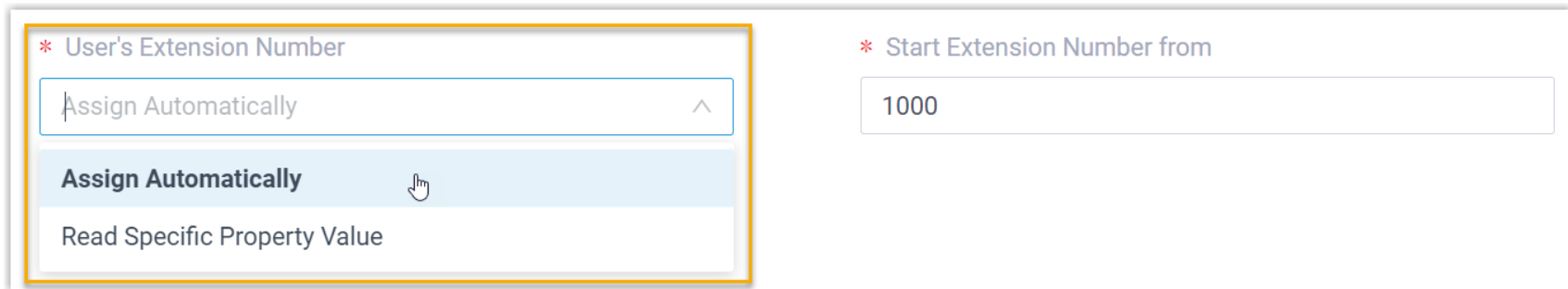


8.3.4 Sync Azure AD Users to P-Series PBX

Option	Description
All Users	Synchronize all Azure AD users to PBX and create extensions for them.
Users of Specific Type	Synchronize the specified type(s) of Azure AD users to PBX and create extensions for them. You can select the desired user type(s) in the User Type drop-down list. <ul style="list-style-type: none">•Member: All member users in your organization's directory.•Guest: All guest users in your organization's directory.
Users in Specific Group	Synchronize the Azure AD users within the specified group(s) to PBX and create extensions for them. You can select the desired group(s) in the Group drop-down list.


8.3.4 Sync Azure AD Users to P-Series PBX

In the **User's Extension Number** drop-down list, configure the extension number assignment rule.



* User's Extension Number

Assign Automatically ^

Assign Automatically 

Read Specific Property Value

* Start Extension Number from

1000

Assign Automatically	Assign extension numbers from a specific starting number. You can specify the starting number in the Start Extension Number from field.
Read Specific Property Value	Assign extension numbers based on users' property value. This can be used in the scenario that Azure AD users already have phone extensions assigned, and you want to keep their extension numbers instead of assigning new ones. You can specify the property where the Azure AD users' extension numbers are stored (e.g. business Phones) in the Property Name field.

8.3.4 Sync Azure AD Users to P-Series PBX

In the **Delete the Extension when its associated user account is** drop-down list, select the Azure AD user account status(es) at which PBX will stop syncing from the Azure AD users, and delete the associated extensions.

<p>* Delete the Extension when its associated user account is</p> <p>Disabled × Deleted × ^</p> <p>Disabled ✓</p> <p>Deleted ✓</p>	Disabled	If an Azure AD user account is disabled, PBX will stop syncing from the Azure AD user and delete the associated extension.
	Deleted	If an Azure AD user account is deleted, PBX will stop syncing from the Azure AD user and delete the associated extension.

On the Auto associate Extensions with the Users that share the same email address option, decide whether to sync Azure AD users to PBX when the users have the same email addresses with existing extensions.

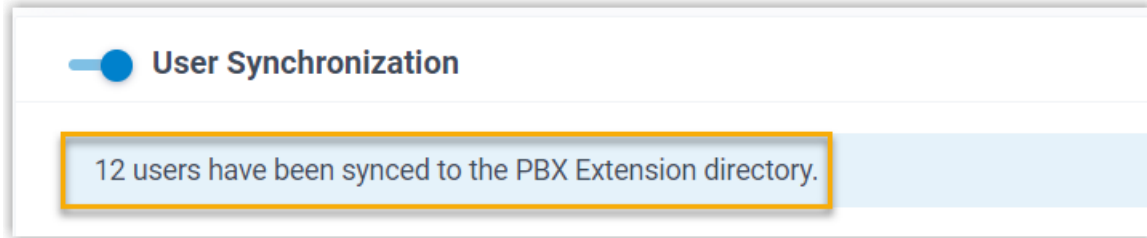
If selected, the Azure AD users with same mailboxes will be synced to PBX and associated with the existing extensions, the extensions' user information will then be overwritten by that of the Azure AD users.


If unselected, the Azure AD users with same mailboxes will not be synced to PBX as the PBX system does not allow duplicated email addresses.

8.3.5 Result after the Sync

After the synchronization, the followings can be implemented:

You can check the synchronization result in the **User Synchronization** section.



The PBX extensions associated with Azure AD users come with a label  and can not be manually deleted on PBX.

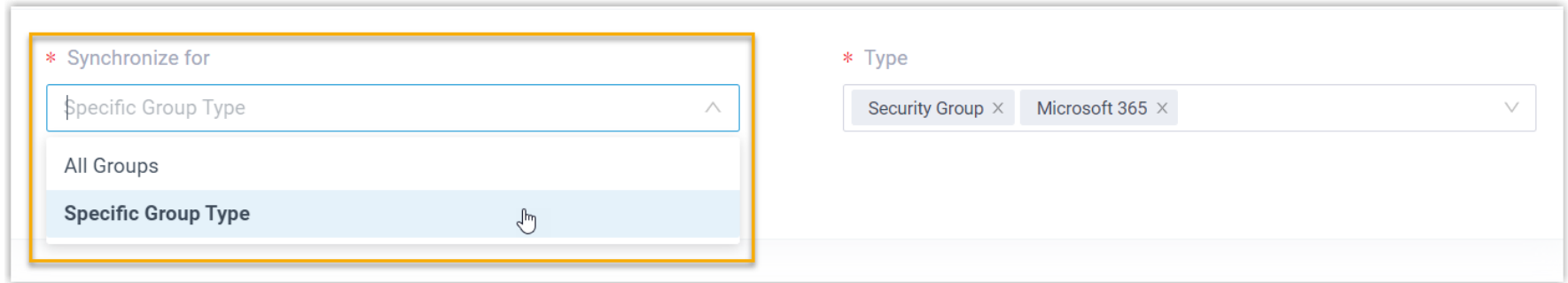
You can NOT manually update the following information of the PBX extensions associated with Azure AD users.

- **Last name**
- **First name**
- **Email Address**
- **Mobile Number**
- **Job Title**

The information can only be modified within the Azure Active Directory and updated to the PBX during a synchronization.

8.3.6 Sync Azure AD Groups to P-Series PBX

In the **Synchronize for** drop-down list, specify the Azure AD groups that you want to synchronize to PBX.



The screenshot shows two dropdown menus. The first, labeled '* Synchronize for', has a search box containing 'Specific Group Type' and a list of options: 'All Groups' and 'Specific Group Type'. The second, labeled '* Type', has a search box containing 'Security Group' and 'Microsoft 365', with a dropdown arrow on the right.

All Groups

Synchronize all Azure AD groups to PBX.

Specific Group Type

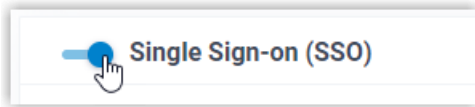
Synchronize the specified type(s) of Azure AD groups to PBX.

- You can select the desired group type(s) in the **Type** drop-down list. **Security Group**: All security groups in your organization's directory.

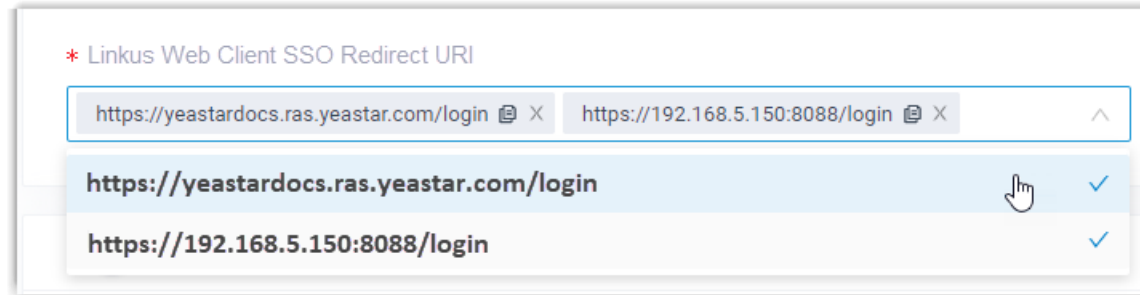
- **Microsoft 365**: All Microsoft 365 groups in your organization's directory.

8.3.7 Linkus UC Clients SSO with Microsoft 365 Accounts

1. Log in to PBX web portal, go to Integrations > User Sync & SSO.
2. In the Single Sign-on (SSO) section, turn on the switch.

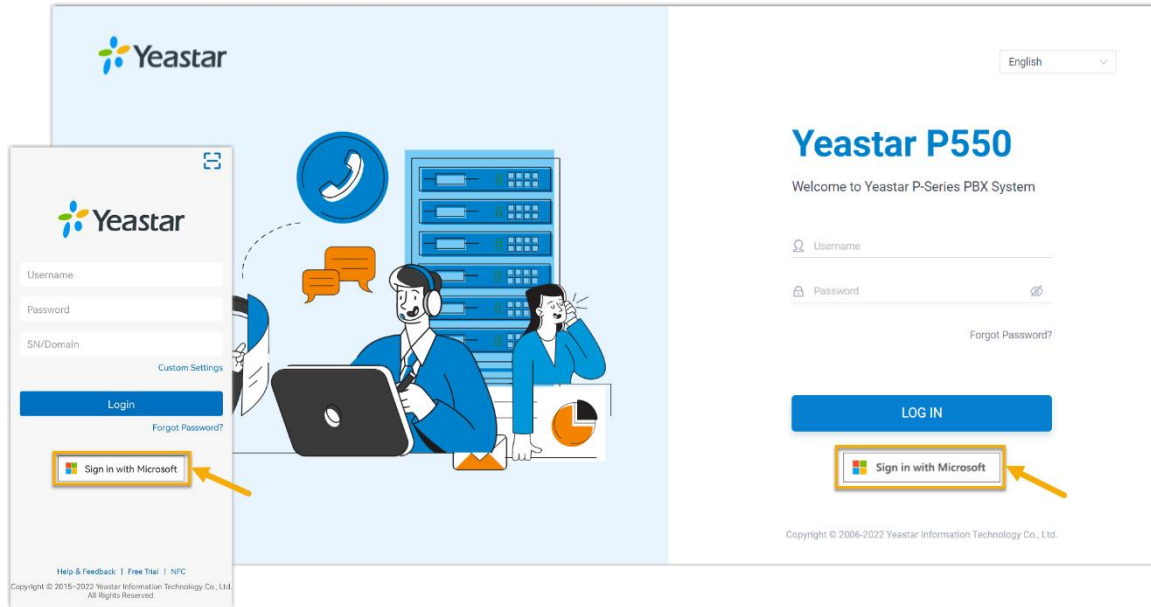


3. In the **Linkus Web Client SSO Redirect URI** drop-down list, select the desired Linkus Web Client login address.



8.3.7 Linkus UC Clients SSO with Microsoft 365 Accounts

The synced Azure AD users can directly log in to Linkus Web Client and Mobile Client by their Microsoft accounts.



To use the SSO feature on Linkus Mobile Client, the App version should be updated. Linkus Android Client: 4.9.6 or later
Linkus iOS Client: 4.9.5 or later