

# **Akuvox IP Intercom Integration Guide**

Yeastar P-Series Software Edition



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## Akuvox IP Intercom Integration Overview

This guide introduces key features enabled by integrating the Akuvox IP intercom system with Yeastar P-Series Software Edition, including audio/video communication, Linkus client synchronous ringing, and call forwarding, implementing door access control more easily.

## **Scenario**

After integrating Akuvox door phone and indoor monitor with Yeastar P-Series Software Edition, these IP intercom devices are registered as PBX extensions.

When a visitor initiates a call via the door phone, the call is routed by the PBX to the extension registered on the inddor station. The extension user can then answer the call, preview live video, and remotely unlock the door, either on the indoor monitor or through the Linkus clients.

## **Highlight features**

## Set up communication between Akuvox intercom devices

You can register Akuvox intercom devices (door phone and indoor monitor) with Yeatar PBX either via auto provisioning or via manual setup. After registration, users can initiate direct intercom calls between the devices using their assigned extensions. For more information, see the following topics:

- Auto Provision Akuvox Intercom Device with Yeastar P-Series Software Edition
- Manually Register Akuvox Intercom Device with Yeastar P-Series Software Edition

## Control door access from Linkus clients

Using Linkus clients, you can answer visitor calls, view live video and unlock the door from anywhere without reaching the indoor monitor.

For more information, see Control Door Access via Linkus Clients.

#### Forward calls to an external number

To avoid missing any visit calls when you can't answer them, you can specify a destination to which calls will be forwarded.

For more information, see Forward Door Phone Calls to an External Number.

## Associate Yeastar PBX with Akuvox IP Intercom Devices

## Auto Provision Akuvox Intercom Device with Yeastar P-Series Software Edition

This topic describes how to auto provision Akuvox IP intercom device (door phone and indoor monitor) with Yeastar P-Series Software Edition. After registering PBX extensions with a door phone and an indoor monitor respectively, calls from the door phone can be routed directly to the indoor monitor by the PBX, enabling extension users to answer the calls and unlock the door remotely.

## Requirements

The firmwares of **Akuvox Door Phone**, **Akuvox Indoor Monitor** and **Yeastar PBX** meet the following requirements.

Model	Device Requirement	PBX Requirement	Supported Auto Provisioning Methods
Door Phone			
E16C V2.0	216.30.10.85 or later	83.21.0.66 or later	<ul><li>PnP</li><li>DHCP</li><li>Provision Link</li></ul>
R20A	320.30.11.112 or later	83.21.0.66 or later	<ul><li>PnP</li><li>DHCP</li><li>Provision Link</li></ul>
X912K	912.30.11.42 or later	83.21.0.66 or later	<ul><li>PnP</li><li>DHCP</li><li>Provision Link</li></ul>
X915S	2915.30.110.371 or later	83.21.0.66 or later	<ul><li>PnP</li><li>DHCP</li><li>Provision Link</li></ul>
Indoor Monitor			
S562W	562.30.14.48 or later	83.21.0.66 or later	• PnP • DHCP • Provision Link

Model	Device Requirement	PBX Requirement	Supported Auto Provisioning Methods
S563W	563.30.13.202 or later	83.21.0.66 or later	• PnP • DHCP • Provision Link

## **Scenarios**

The provisioning methods and operations vary depending on the network environment of **Akuvox Intercom Device** and **Yeastar PBX**, as the following table shows:



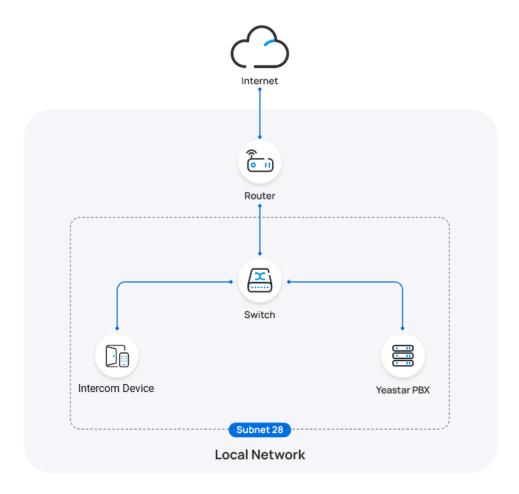
### Note:

The auto-provisioning procedures are identical for all <u>supported Akuvox intercom</u> <u>device</u>. This topic uses E16C V2.0 (firmware: 216.30.10.85) as an example to guide you through the process.

Scenario	Description
Intercom device and PBX are in the SAME subnet (LAN)	In this scenario, you can provision the Akuvox intercom device with the PBX via <a href="PnP">PnP</a> method.  For more information, see <a dhcp"="" href="Auto provision Akuvox intercom device in the same subnet (PnP).&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Intercom device&lt;br&gt;and PBX are&lt;br&gt;in DIFFERENT&lt;br&gt;subnets (LAN)&lt;/td&gt;&lt;td&gt;In this scenario, you can provision the Akuvox intercom device with the PBX via &lt;a href=">DHCP</a> method.  For more information, see <a href="Auto provision Akuvox intercom device in different subnets (DHCP)">DHCP</a> ).
Intercom device and PBX are in DIFFERENT networks	In this scenario, you can provision the Akuvox intercom device with the PBX via Provision Link method.  For more information, see Auto provision Akuvox intercom device in remote network (Provison Link).

## Auto provision Akuvox intercom device in the same subnet (PnP)

In this example, the Akuvox intercom device (IP: 192.168.28.193) and the Yeastar PBX (IP: 192.168.28.39) are both deployed in 192.168.28.0/24 subnet.



## **Prerequisites**

- RESET the intercom device if it is previously used.
- Make sure that the intercom device has obtained a valid IP address on the 192.168.28.0/24 subnet, either via DHCP assignment or static IP configuration.
- Make sure that you have <u>downloaded the template</u> for the desired device model on the PBX (Path: Auto Provisioning > Resource Repository > Default Templates).
- You have created a SIP extension on the PBX to be assigned to the intercom device.

## **Procedure**

1. Log in to PBX web portal, go to **Auto Provisioning > Phones**.

The intercom device detected by the PBX via PnP is displayed in the phone list.

2. Click deside the Akuvox intercom device.



3. **Optional:** In the **Options** section, select a desired template from the **Template** drop-down list.



### Note:

You can select the default template corresponding to the intercom device, or customize your own template. For more information, see <u>Create a Custom Auto Provisioning Template</u>.

4. In the **Assign Extension** section, assign an extension to the intercom device.





## Note:

If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with a device and it is only allowed to be registered on one SIP endpoint.

- To release the extension from the associated device, see Release an Extension from a Provisioned IP Phone/Gateway.
- To assign the extension to the intercom device without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension.
- 5. Click Save.
- 6. Reboot the intercom device.

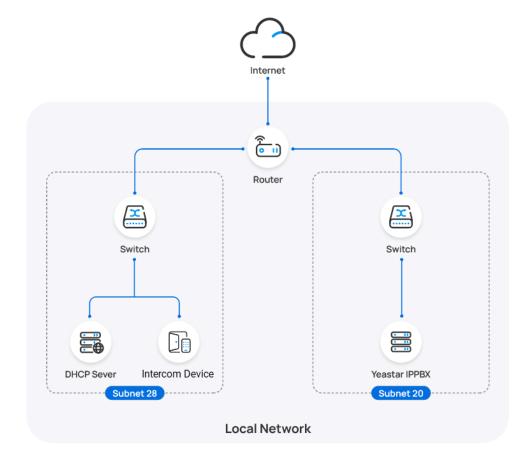
### Result

- The intercom device automatically downloads the configurations from the PBX and applies the settings.
- The extension has been successfully registered on the intercom device.
   You can check the registration status on Auto Provisioning > Phone in PBX web portal.



## Auto provision Akuvox intercom device in different subnets (DHCP)

In this example, the Akuvox intercom device and a DHCP server are deployed in the 192.168.28.0/24 subnet, with the device receiving its IP from the DHCP server, while the Yeastar PBX (IP: 192.168.20.58) is deployed in the 192.168.20.0/24 subnet.



## Prerequisites

• RESET the intercom device if it is previously used.

- Make sure that there is only one DHCP server running in the subnet where the intercom device is deployed, or the intercom device would fail to obtain an IP address.
- Gather information of the intercom device, including Vendor, Model, and MAC address.
- Make sure that the intercom device and the PBX can communicate with each other over the subnets.
- Make sure that you have <u>downloaded the template</u> for the desired device model on the PBX (Path: Auto Provisioning > Resource Repository > Default Templates).
- You have created a SIP extension on the PBX to be assigned to the intercom device.

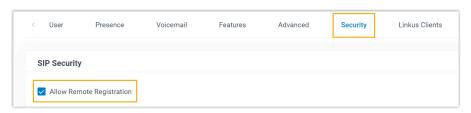
### **Procedure**

- Step 1. Enable Remote Registration feature for the extension on PBX
- Step 2. Add the Akuvox intercom device on PBX
- Step 3. Configure DHCP option 66 on DHCP server

## Step 1. Enable Remote Registration feature for the extension on PBX

Enable the **Remote Registration** feature for the extension to be assigned to the intercom device, so that the extension can be registered in a different subnet.

- Log in to PBX web portal, go to Extension and Trunk > Extension, edit the desired extension.
- 2. Click **Security** tab, select the checkbox of **Allow Remote Registration** in the **SIP Security** section.

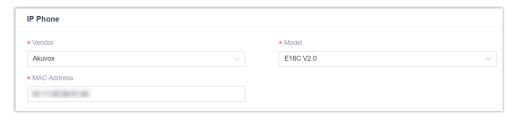


3. Click Save and Apply.

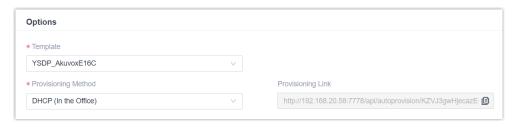
## Step 2. Add the Akuvox intercom device on PBX

Add the intercom device on PBX. The PBX will generate a configuration file based on the device's MAC address.

- 1. On PBX web portal, go to **Auto Provisioning > Phones**.
- 2. Click Add > Add.
- 3. In the **IP Phone** section, enter the following device information.



- Vendor: Select Akuvox.
- Model: Select the device model. In this example, select E16C V2.0.
- MAC Address: Enter the MAC address of the intercom device.
- 4. In the **Options** section, configure the following settings.



• **Template**: Select a desired template from the drop-down list.



## Note:

You can select the default template corresponding to the intercom device, or customize your own template. For more information, see <a href="Create a Custom Auto Provisioning Template">Create a Custom Auto Provisioning Template</a>.

• Provisioning Method: Select DHCP (In the Office).

A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the device's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the intercom device.





### Note:

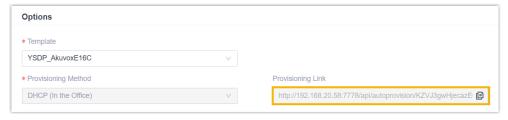
If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with a device and it is only allowed to be registered on one SIP endpoint.

- To release the extension from the associated device, see <u>Release an Extension from a Provisioned IP Phone/Gate-</u> <u>way.</u>
- To assign the extension to the intercom device without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension.
- 6. Click **Save**.

## Step 3. Configure DHCP option 66 on DHCP server

In the subnet where the intercom device is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the provisioning link from the device's detail page.



On the DHCP server, set up option 66 with the provisioning link.In this example, the configuration on a router's DHCP server is shown below.



3. Reboot the intercom device.

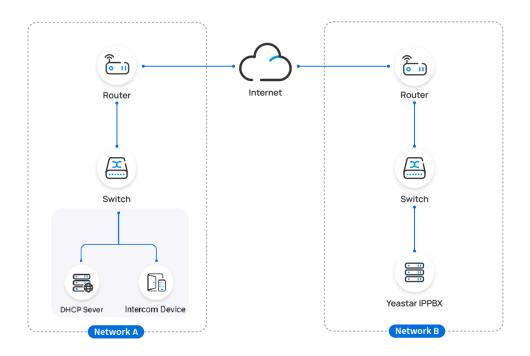
#### Result

- The intercom device obtains its IP address from the DHCP server, automatically downloads the configurations from the PBX using the provisioning link acquired from Option 66, and applies the settings.
- The extension has been successfully registered on the intercom device.
   You can check the registration status on Auto Provisioning > Phone on the PBX web portal.



## Auto provision Akuvox intercom device in remote network (Provison Link)

In this example, the Akuvox intercom device and a DHCP server are deployed in Network A, with the device receiving its IP from the DHCP server, and the Yeastar PBX is deployed in Network B.

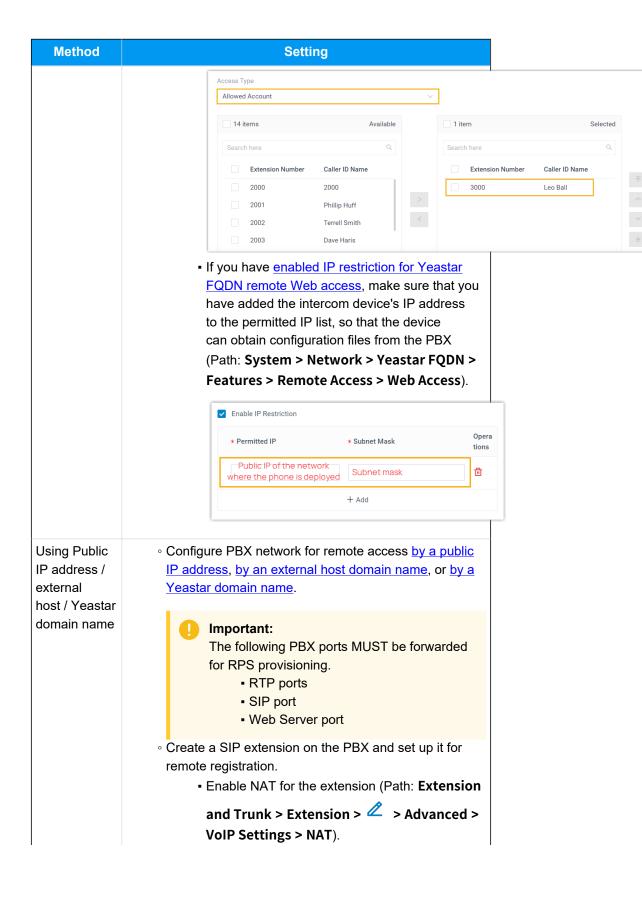


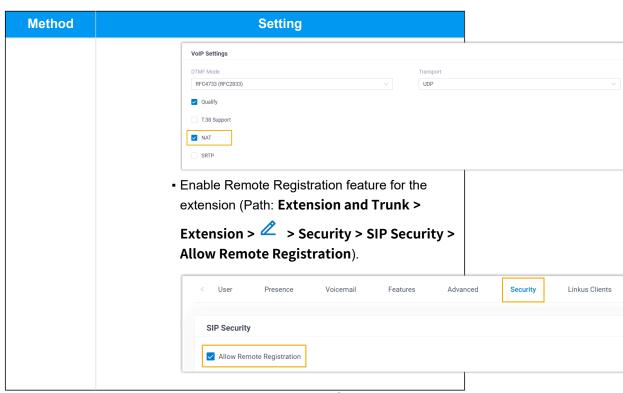
## **Prerequisites**

• Set up remote access on the PBX.

Yeastar P-Series Software Edition supports to auto provision Akuvox intercom device remotely either using **Yeastar FQDN** or using **Public IP address / external host / Yeastar domain name**. According to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

Method	Setting
Using Yeastar FQDN	<ul> <li>Subscribe to Enterprise Plan or Ultimate Plan for the PBX and ensure the FQDN is available.</li> <li>Create a SIP extension on the PBX and grant remote access permission for it to be registered with the intercom device:         <ul> <li>Grant remote SIP access permission for the extension, so that the extension can be registered remotely via FQDN (Path: System &gt; Network &gt; Yeastar FQDN &gt; Features &gt; SIP Access).</li> </ul> </li> </ul>





- Make sure that you have <u>downloaded the template</u> for the desired device model on the PBX (Path: Auto Provisioning > Resource Repository > Default Templates).
- RESET the intercom device if it is previously used.
- Make sure that there is only one DHCP server running in the subnet where the intercom device is deployed, or the intercom device would fail to obtain an IP address.
- Gather information of the intercom device, including Vendor, Model, and MAC address.

### **Procedure**

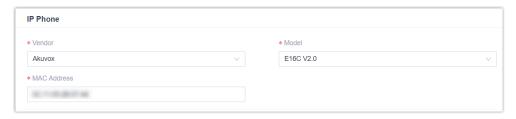
- Step 1. Add the Akuvox intercom device on PBX
- Step 2. Configure DHCP option 66 on DHCP server

## Step 1. Add the Akuvox intercom device on PBX

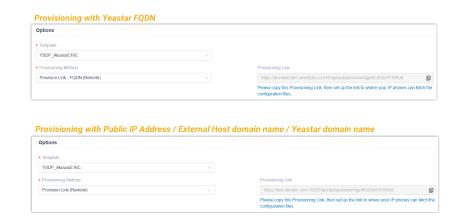
Add the intercom device on PBX. The PBX will generate a configuration file based on the device's MAC address.

- 1. On PBX web portal, go to **Auto Provisioning > Phones**.
- 2. Click Add > Add.

3. In the **IP Phone** section, enter the following device information.



- Vendor: Select Akuvox.
- Model: Select the device model. In this example, select E16C V2.0.
- MAC Address: Enter the MAC address of the intercom device.
- 4. In the **Options** section, configure the following settings based on your method.



• **Template**: Select a desired template from the drop-down list.



#### Note:

You can select the default template corresponding to the intercom device, or customize your own template. For more information, see <u>Create a Custom Auto Provisioning Template</u>.

 Provisioning Method: Select Provision Link - FQDN (Remote) or Provision Link (Remote) according to your need.

A provisioning link is automatically generated and displayed in the **Provisioning Link** field. This provisioning link points to the location where the device's configuration file is stored.

5. In the **Assign Extension** section, assign an extension to the intercom device.





## Note:

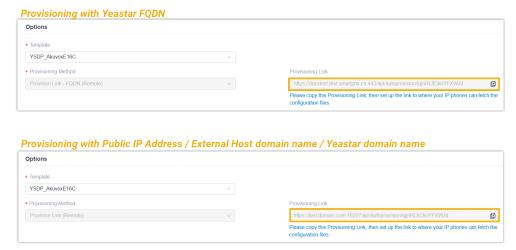
If your desired extension is not listed in the drop-down list, it indicates that the extension has been associated with a device and it is only allowed to be registered on one SIP endpoint.

- To release the extension from the associated device, see <u>Release an Extension from a Provisioned IP Phone/Gate-</u> <u>way.</u>
- To assign the extension to the intercom device without releasing it from the previously associated device, you can configure the concurrent registration setting for the extension.
- 6. Click Save.

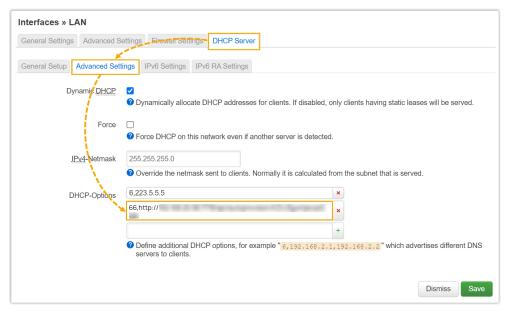
## Step 2. Configure DHCP option 66 on DHCP server

In the subnet where the intercom device is deployed, use the generated provisioning link to configure option 66 on the DHCP Server.

1. On PBX web portal, copy the corresponding provisioning link from the device's detail page.



On the DHCP server, set up option 66 with the provisioning link.In this example, the configuration on a router's DHCP server is shown below.



3. Reboot the intercom device.

### Result

The intercom device obtains its IP address from the DHCP server, automatically downloads the configurations from the PBX using the provisioning link acquired from Option 66, and applies the settings.

The extension has been successfully registered on the intercom device.
 You can check the registration status on Auto Provisioning > Phone on the PBX web portal.



## Manually Register Akuvox Intercom Device with Yeastar P-Series Software Edition

This topic uses Akuvox E16C V2.0 as an example to introduce how to manually register Akuvox intercom device (door phone and indoor monitor) with Yeastar P-Series Software Edition. After registering PBX extensions with a door phone and an indoor monitor respectively, calls from the door phone can be routed directly to the indoor monitor by the PBX, enabling extension users to answer the calls and unlock the door remotely.

## **Prerequisites**

#### Intercom device

- Make sure that the intercom device supports SIP protocol.
- RESET the intercom device if it is previously used.
- Make sure that the intercom device has obtained a valid IP address, either via DHCP assignment or static IP configuration.

## Local computer

• <u>Download</u> and install the Akuvox IP scanner on your computer that is on the same subnet as the intercom device.

### **Yeastar PBX**

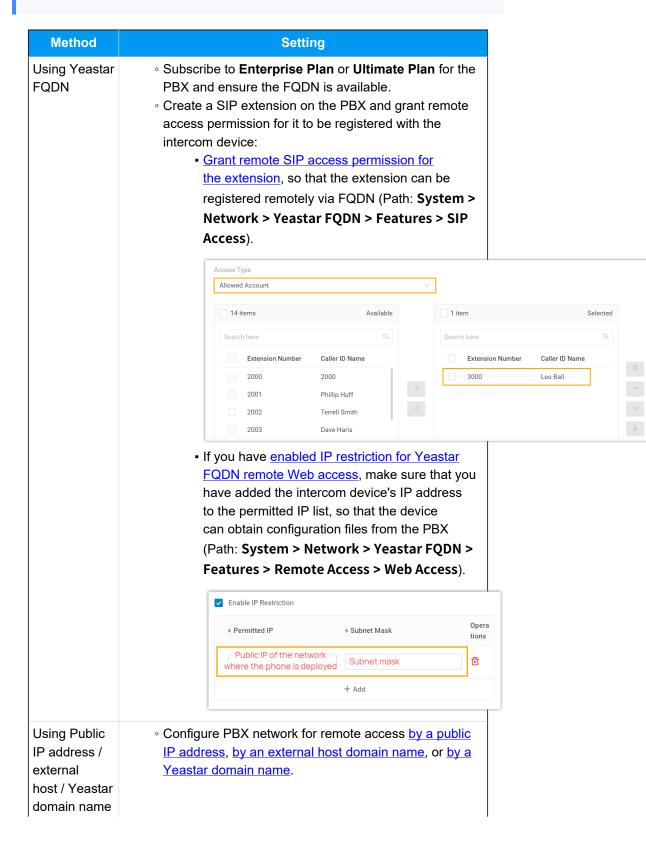
 If the intercom device and PBX are in different networks, according to the provisioning method you intend to use, make sure that you have completed the corresponding setup shown below.

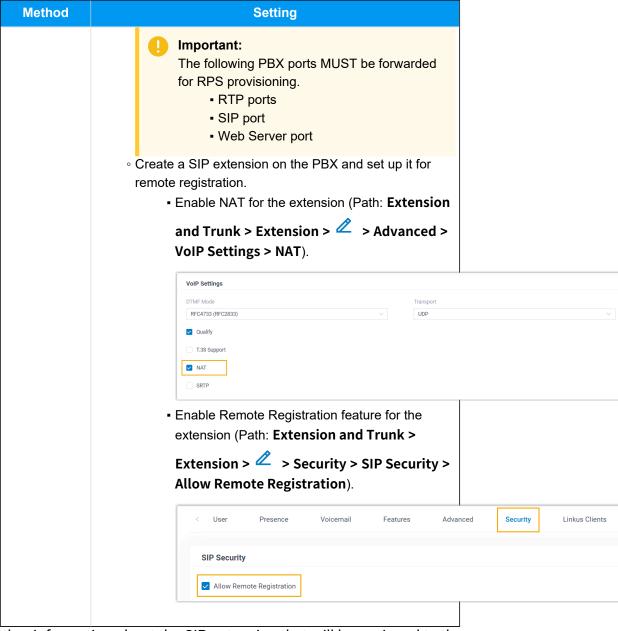


Note:



If the intercom device and PBX are in the same private network, ignore this requirement.

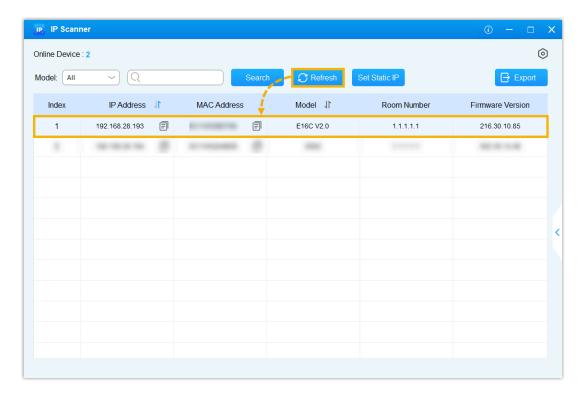




 Gather information about the SIP extension that will be assigned to the intercom device from the PBX, including extension number, registration name, and registration password (Path: Extension and Trunk > Extension > Extension Information).

## **Procedure**

- 1. Obtain the IP addresses of Akuvox intercom device.
  - a. Run the Akuvox IP scanner.
  - b. At the tool bar, click Refresh.



The list displays the detected intercom device along with its IP address.

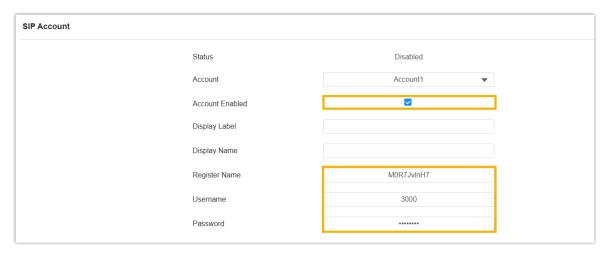
- 2. Access the Akuvox intercom device's web interface using its IP address.
  - a. Enter the IP address in the browser search box.
  - b. Enter username and password, then click Login.



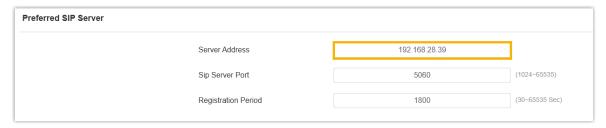
### Note:

The default username and password are both admin.

- 3. Go to Account > Basic.
- 4. In the SIP Account section, complete the following settings.



- Account Enabled: Select the checkbox to enable the SIP account.
- **Register Name**: Enter the extension's registration name.
- Username: Enter the extension number.
- Password: Enter the registration password.
- 5. Scroll down to the **Preferred SIP Server** section, in the **Server Address** field, enter the PBX's IP address ordomain name.



6. At the bottom of the web page, click **Submit**.

## Result

The extension has been successfully registered on the intercom device, you can view its endpoint status (showing ) on the PBX web portal (Path: Extension and Trunk > Extension > Online Status).



## Control Door Access via Linkus Clients

After registering PBX extensions with intercom devices, you can further configure ringing and preview strategy for the extensions to allow the extension user to control door access (including answering visitor calls, previewing live video and remotely unlocking the door) via Linkus clients. This topic describes the configuration process to achieve this.

## **Prerequisites**

- You have associated the Akuvox intercom devices (both door phone and indoor monitor) with the PBX using one of the flowing methods:
  - Auto provision Akuvox intercom devices with Yeastar P-Series Software Edition.
  - Manually Register Akuvox Intercom Device with Yeastar P-Series Software Edition.
- The Linkus clients registered with the same extension as the indoor monitor has been signed in.

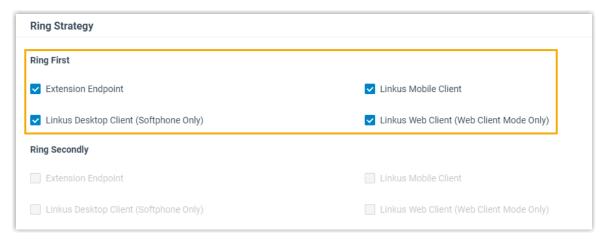
## **Procedure**

- Step1. Configure simultaneous ringing strategy
- Step2. Configure live video preview

## Step1. Configure simultaneous ringing strategy

You can configure simultaneous ringing strategy for the extension registered on the Akuvox indoor monitor, allowing the extension user to answer visitor calls and remotely unlock the door via Linkus clients.

- 1. Log in to PBX web portal, go to **Extension and Trunk > Extension**.
- 2. Click deside the extension registered on the Akuvox indoor monitor.
- 3. On the extension configuration page, click the **Presence** tab.
- 4. In the **Ring Strategy** section, select the desired endpoints to ring simultaneously.

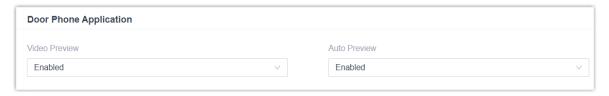


5. Click **Save** and **Apply**.

## Step2. Configure live video preview

You can configure video preview strategy for the extension registered on the Akuvox door phone, allowing the called extension user can preview live video via Linkus clients.

- 1. Log in to PBX web portal, go to **Extension and Trunk > Extension**.
- 2. Click deside the extension registered on the Akuvox door phone.
- 3. On the extension configuration page, click **Features** tab.
- 4. Scroll down to the **Door Phone Application** section, complete the following settings.



- a. In the Video Preview drop-down list, select Enabled.
- b. Optional: In the Auto Preview drop-down list, select Enabled.



### Note:

Once enabled, the live video will be automatically displayed on the incoming call pop-up window or screen of the called extension user's Linkus clients.

5. Click **Save** and **Apply**.

## Result

• When a visitor places a call from the door phone to the indoor monitor, the indoor monitor and the associated Linkus clients will ring simultaneously.

Before answering the call, the called extension user can click on the incoming call pop-up window or screen to preview the live video feed from the door phone.



• During the call, the called extension user can open the door by dialing a DTMF code of via the Linkus clients.



#### Note:

You can customize the DTMF code on the Akuvox door phone's web interface (Path: Access Control > Relay > Relay).

## Forward Door Phone Calls to an External Number

To avoid missing any visitor calls, you can configure the call forwarding feature for the extension registered on the Akuvox indoor monitor, so that the calls can be forwarded to an external number if no one answers.

## **Prerequisites**

- You have associated the Akuvox intercom devices (both door phone and indoor monitor) with the PBX using one of the flowing methods:
  - · Auto provision Akuvox intercom devices with Yeastar P-Series Software Edition.
  - Manually Register Akuvox Intercom Device with Yeastar P-Series Software Edition.
- Make sure that the extension registered on the Akuvox indoor monitor has permission to make calls to the external number through the specified outbound route.

## **Scenario**

- To avoid missing visitor calls when the called extension user can't answer them timely, you can configure forwarding strategy for **No Answer**. For more information about the configuration, see Forward calls without answers.
- To avoid missing visitor calls when the called extension user is on a call or rejects them, you can configure forwarding strategy for **When Busy**. For more information about the configuration, see Forward calls that be rejected and sent to a busy party.

### Forward calls without answers

### **Procedure**

- 1. Log in to PBX web portal, go to **Extension and Trunk > Extension**.
- 2. Click deside the extension registered on the Akuvox indoor monitor.
- 3. On the extension configuration page, click the **Presence** tab.
- 4. In the **Call Forwarding** section, configure Call Forwarding destination for internal calls.
  - a. Select the checkbox of No Answer.

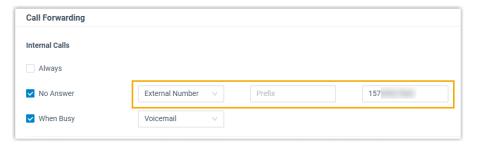
- b. In the drop-down list beside **No Answer**, select **External Number** as the forwarding destination.
- c. Enter the <u>prefix of outbound route</u>.



#### Note:

If there is no outbound dial pattern in the desired outbound route, leave this field empty.

d. In the field beside **Prefix**, enter an external number.



5. Scroll down to the **Ring Timeout (s)** section, in the **Ring Timeout** drop-down list, select the waiting time before forwarding the call.



6. Click Save and Apply.

### Result

When a visitor places a call from the door phone to the indoor monitor, but no one answers over the ringing duration, the call will be forwarded to specified external number.

## Forward calls that be rejected and sent to a busy party

### **Procedure**

- 1. Log in to PBX web portal, go to Extension and Trunk > Extension.
- 2. Click deside the extension registered on the Akuvox indoor monitor.
- 3. On the extension configuration page, click the **Presence** tab.

- 4. In the **Call Forwarding** section, configure Call Forwarding destination for internal calls.
  - a. Select the checkbox of When Busy.
  - b. In the drop-down list beside **When Busy**, select **External Number** as the forwarding destination.
  - c. Enter the prefix of outbound route.



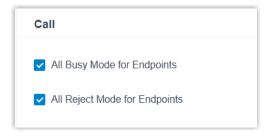
### Note:

If there is no outbound dial pattern in the desired outbound route, leave this field empty.

d. In the field beside **Prefix**, enter an external number.



5. Click the **Feature** tab, scroll down to the **Call** section, select the following checkboxes.



- All Busy Mode for Endpoints: If selected, incoming calls will be forwarded to specified external number when the extension user is on a call on one endpoint.
- All Reject Mode for Endpoints: If selected, incoming calls will be forwarded to specified external number when the extension user rejects it on one endpoint.
- 6. Click Save and Apply.

#### Result

When a visitor places a call from the door phone to the indoor monitor, but the called extension user is on a call or manually rejects it, the call will be forwarded to specified external number.