

Hikvision Intercom Video Devices Integration Guide

Yeostar P-Series Appliance Edition

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Integrate Yeastar P-Series PBX System with Hikvision Intercom Video Devices

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.

Limitation

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.

Supported Hikvision product models

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)

Targets

This integration guide introduces how to achieve communication between Hikvision door station and indoor station, and provides guidance on forwarding door station calls to Linkus clients. Follow the steps listed below to achieve the targets:

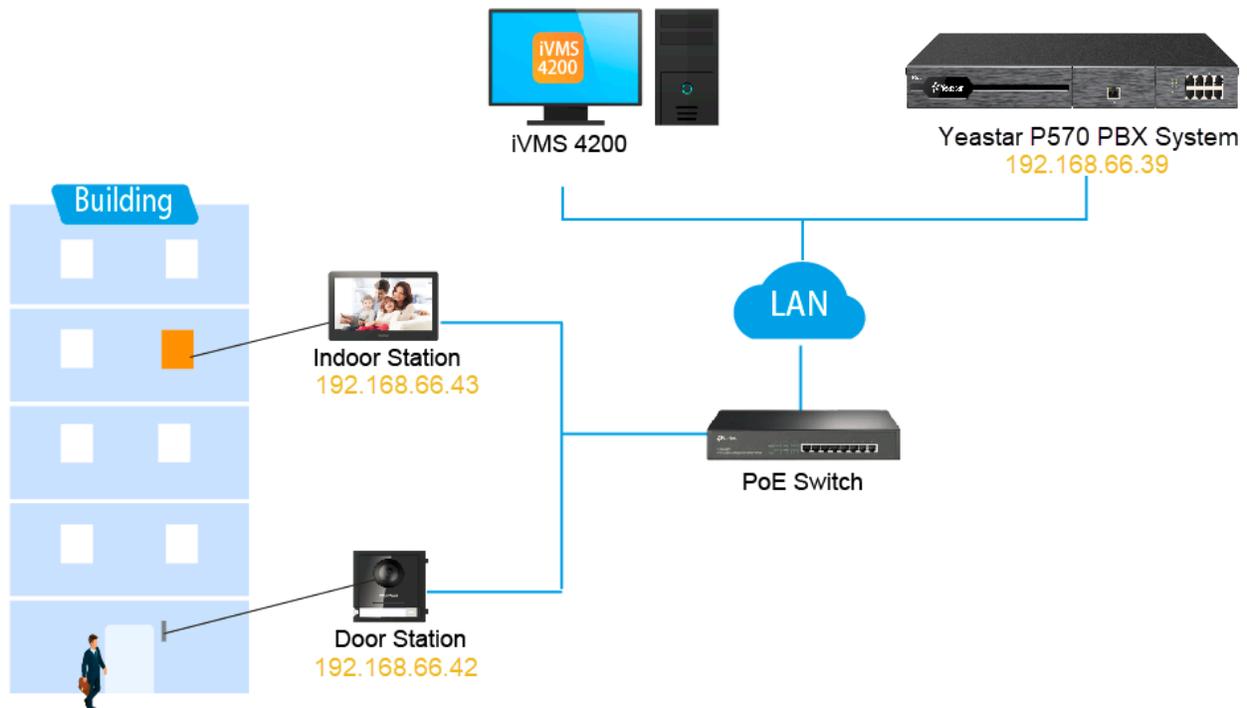
- [1. Manage Hikvision Devices on iVMS-4200 Client](#)
- [2. Register Hikvision DS-KD8003 Door Station to Yeastar P-Series PBX System](#)
- [3. Register Hikvision DS-KH6320 Indoor Station to Yeastar P-Series PBX System](#)
- [4. Set up Communication Between Hikvision Door Station and Indoor Station](#)
- [5. Forward Hikvision Door Station Calls to Linkus Client](#)

Network topology diagram

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 DS-KH6320 Indoor Station	V2.1.10	192.168.66.43
Hikvision DS-KD8003 Door Station	V2.2.3	192.168.66.42

The following figure is a schematic of device network connection.



Highlights

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

- Conduct real-time video communication with the visitor
In addition to audio communication, the door station can conduct video communication with various endpoints.
 - Indoor station
 - Linkus Web Client
 - Video IP phone
- Auto-forward visitor calls to your Linkus Mobile Client without missing any calls
If you don't want to miss any calls when absent, you can configure the Call Forwarding feature, by which the calls will be forwarded to Linkus clients. In this way, remote access control can be easily implemented by Linkus clients.
- Flexible access control with different endpoints

You can answer and open the door from any Yeastar PBX extension endpoint (Linkus client or IP phone) anywhere, no matter you are in the office or on the road.

1. Manage Hikvision Devices on iVMS-4200 Client

iVMS-4200 Client is a versatile device management software for Hikvision devices, which is designed to configure and manage the devices in a unified and intuitive manner.

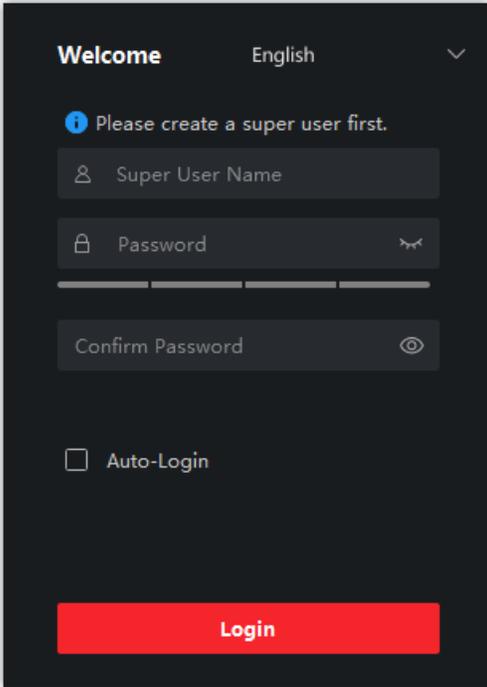
Install Hikvision iVMS-4200 Client

You need to download [iVMS-4200 Client Software](#) and install it on your local PC for Hikvision device management.

Register and log in to Hikvision iVMS-4200 Client

After installation, you need to create an account.

1. Double click  to run iVMS-4200 Client.
2. Create an account.



- a. In the Super User Name field, set a user name.
- b. In the Password field, set a password.
- c. In the Confirm Password field, enter the password again.
- d. Optional: Select the checkbox of Auto-Login if needed.
- e. Click Login.

The account is created and logged in.

 **Note:**

Enter the user name and password next time you want to access iVMS-4200 Client.

Activate intercom video devices

If the Hikvision door station and indoor station are in inactive state, you should activate them first. To activate the devices, you need to create a password for them.

 **Attention:**

Make sure the device to be activated is in the same network as the PC running the client.

1. Go to Device Management > Device, click Online Device.

The searched online devices are displayed at the bottom of the page.

2. Check device status (shown on Security Level column) and select Inactive devices.
3. Click Activate to open the activation window.
4. Create a password in the Password field, and confirm the password.
5. Click OK to activate the devices.

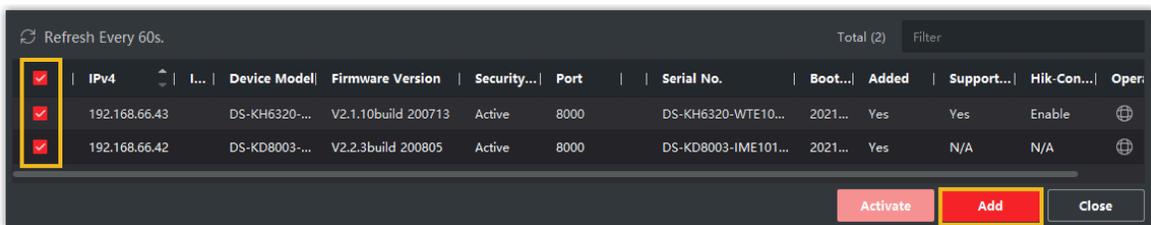
Add devices to iVMS-4200 Client

After the devices are activated, you can add them to the client for device management.

 **Attention:**

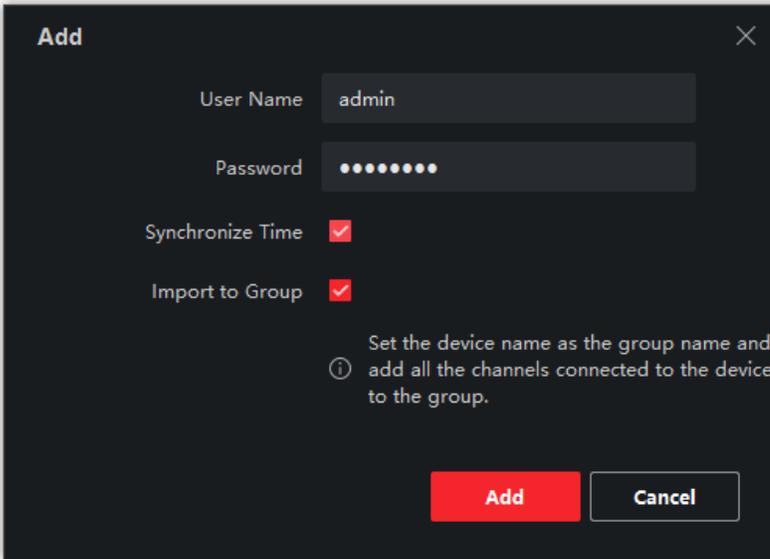
Make sure your devices are in the same network as the PC running the client. You can click  on the Operation column beside the detected device to set the network parameters.

1. Select the checkboxes of the desired devices and click Add on the bottom right.



IPv4	Device Model	Firmware Version	Security...	Port	Serial No.	Boot...	Added	Support...	Hik-Con...	Oper
192.168.66.43	DS-KH6320-...	V2.1.10build 200713	Active	8000	DS-KH6320-WTE10...	2021...	Yes	Yes	Enable	
192.168.66.42	DS-KD8003-...	V2.2.3build 200805	Active	8000	DS-KD8003-IME101...	2021...	Yes	N/A	N/A	

2. In the pop-up window, fill in the required information.



- User Name: Enter the user name of your account. In this example, enter `admin`.
 - Password: Enter the device password. In this example, enter `hik12345`.
 - Synchronize Time: Check the option to synchronize the device time with the PC running the client.
 - Import to Group: Check the option to create a group by the device name, and import all the channels of the device to this group.
3. Click Add.

The devices are added to Device page.

For more information about iVMS-4200 Client, refer to [iVMS-4200 Client User Manual](#).

2. Register Hikvision DS-KD8003 Door Station to Yeastar P-Series PBX System

This topic describes how to register Hikvision DS-KD8003 door station to Yeastar P-Series PBX System.

Prerequisites

Before you start, make sure:

- The door station supports SIP protocol.
- The door station has been activated and added in iVMS-4200 Client. For more information, see [Activate intercom video devices](#) and [Add devices to iVMS-4200 Client](#).

Procedure

1. [Create an extension for the door station](#)
2. [Register door station to the PBX](#)

Create an extension for the door station

1. Log in to the PBX management portal, go to Extension and Trunk > Extension, click Add > Add.
2. In the Extension Type drop-down list, select SIP Extension.
3. Change the user information and extension information, or leave the default settings.

In this example, add a SIP extension 1666 for Hikvision DS-KD8003 door station.

Extension Information

<p>* Extension Number</p> <input style="width: 90%;" type="text" value="1666"/>	<p>* Caller ID</p> <input style="width: 90%;" type="text" value="1666"/>
<p>* Registration Name</p> <input style="width: 90%;" type="text" value="1666"/>	<p>* Registration Password</p> <input style="width: 90%;" type="text" value="Yeastar123"/>

4. Click Save and Apply.

Register door station to the PBX

1. Log in to iVMS-4200 Client, go to Device Management > Device.
2. Select the DS-KD8003 door station and click  to enter the Configuration page.

+ Add	Q Online D...	X De...	QR ...	Upgra...	Refresh	Get Events from D...	Export Device	Total (2)	Filter	
Connection...	Network Para...	Device Type	Serial No.	Security Le...	Resource U...	Firmware Upgrade	Operation			
.42	IP/Domain	192.168.66.42:8...	Door Station	DS-KD8003-IME10120190...	Weak	Online	No available version	   		
.43	IP/Domain	192.168.66.43:8...	Indoor Stati...	DS-KH6320-WTE1012019...	Weak	Online	No available version	   		

3. Optional: If your PBX is not in the same network as that of Hikvision DS-KD8003 device, set up DNS server.
 - a. Go to Network > Basic Settings > TCP/IP.
 - b. In the DNS Server section, enter the IP address of DNS server.
 - c. Click Save.

DNS Server

Preferred DNS Server

Alternate DNS Server

4. Register the door station with the PBX extension 1666.
 - a. Go to Network > Basic Settings > SIP.
 - b. Select the checkbox of Enable VOIP Gateway.
 - c. Enter the credentials of extension 1666.

Enable VOIP Gateway

Register User Name

Registration Password ✔

Server Address

Server Port

Expiry Time minute(s)

Register Status

Number

Display User Name

- Register User Name: Enter the registration name of the extension. In this example, enter 1666.
- Registration Password: Enter the registration password of the extension. In this example, enter Yeastar123.
- Server Address: Enter the IP address of Yeastar P-Series PBX System. In this example, enter 192.168.66.39.
- Server Port: Enter the SIP registration port of Yeastar P-Series PBX System. In this example, enter 5060.
- Number: Enter the extension number. In this example, enter 1666.
- Display User Name: Enter the name to be displayed when sending calls. In this example, enter 1666.

- d. Click Save.

If the door station is registered with Yeastar P-Series PBX System successfully, the Register Status will display "Registered".

3. Register Hikvision DS-KH6320 Indoor Station to Yeastar P-Series PBX System

This topic describes how to register Hikvision DS-KH6320 indoor station to Yeastar P-Series PBX System.

Prerequisites

Before you start, make sure:

- The indoor station supports SIP protocol.
- The indoor station has been activated and added in iVMS-4200 Client. For more information, see [Activate intercom video devices](#) and [Add devices to iVMS-4200 Client](#).

Procedure

1. [Create an extension for the indoor station](#)
2. [Register indoor station to the PBX](#)

Create an extension for the indoor station

1. Log in to the PBX management portal, go to Extension and Trunk > Extension, click Add > Add.
2. In the Extension Type drop-down list, select SIP Extension.
3. Change the user information and extension information, or leave the default settings.

In this example, add a SIP extension 1667 for Hikvision DS-KH6320 indoor station.

Extension Information	
* Extension Number	* Caller ID
<input type="text" value="1667"/>	<input type="text" value="1667"/>
* Registration Name	* Registration Password
<input type="text" value="1667"/>	<input type="text" value="Yeastar123"/>

4. Click Save and Apply.

Register indoor station to the PBX

1. Log in to iVMS-4200 Client, go to Device Management > Device.

2. Select the DS-KH6320 indoor station and click  to enter the Remote Configuration page.

Connection...	Network Para...	Device Type	Serial No.	Security Le...	Resource U...	Firmware Upgrade	Operation
2 IP/Domain	192.168.66.42:8...	Door Station	DS-KD8003-IME10120190...	Weak	Online	No available version	   
3 IP/Domain	192.168.66.43:8...	Indoor Station	DS-KH6320-WTE1012019...	Weak	Online	No available version	   

3. Optional: If your PBX is not in the same network as that of Hikvision DS-KH6320 device, set up DNS server.
- Go to Network > Advanced Settings.
 - In the DNS Server section, enter the IP address of DNS server.
 - Click Save.

Configuring the Advanced Network Settings

DNS1 IP Address

DNS2 IP Address

4. Register the indoor station with the PBX extension 1667.
- Go to Network > SIP Server Configuration.
 - Select the checkbox of Enable.
 - Enter the credentials of extension 1667.

Enable

Registration Status: Registered

Server: Domain Name

Server Domain Name: 192.168.66.39

Server Port: 5060

Register User Name: 1667

Password: ●●●●●●●●

Number: 1667

Display User Name: 1667

Registration Period: 60 min

Save

- Server: Select Domain Name.
- Server Domain Name: Enter the IP address of Yeastar P-Series PBX System. In this example, enter 192.168.66.39.
- Server Port: Enter the SIP registration port of Yeastar P-Series PBX System. In this example, enter 5060.
- Register User Name: Enter the registration name of the extension. In this example, enter 1667.
- Password: Enter the registration password of the extension. In this example, enter Yeastar123.
- Number: Enter the extension number. In this example, enter 1667.
- Display User Name: Enter the name to be displayed when sending calls. In this example, enter 1667.

d. Click Save.

If the indoor station is registered with Yeastar P-Series PBX System successfully, the Registration Status will display "Registered".

4. Set up Communication Between Hikvision Door Station and Indoor Station

This topic describes how to set up the communication between Hikvision devices to form an intercom system together with Yeastar P-Series PBX System.

Prerequisites

Make sure that you have registered Hikvision door station and indoor station to the PBX. For more information, see the following topics:

- [Register Hikvision DS-KD8003 Door Station to Yeastar P-Series PBX System](#)
- [Register Hikvision DS-KH6320 Indoor Station to Yeastar P-Series PBX System](#)

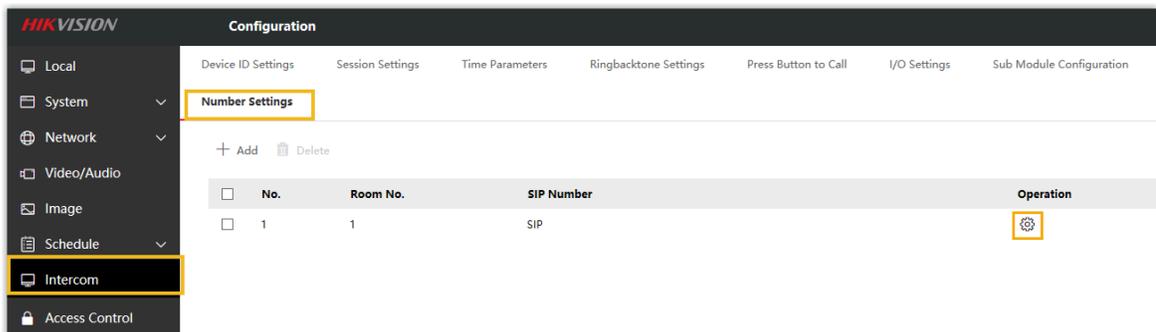
Procedure

1. [Set Hikvision door station to call indoor station](#)
2. [Configure codecs on the Hikvision door station and the PBX](#)

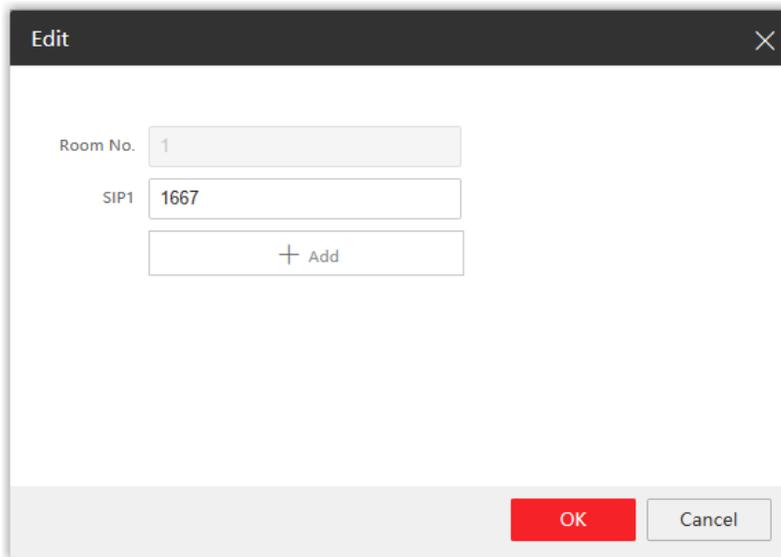
Set Hikvision door station to call indoor station

To achieve communication between door station and indoor station, you need to set the dial number(s) for door station's dial button.

1. Log in to iVMS-4200 Client, go to Device Management > Device, select the DS-KD8003 door station and click  to enter the Configuration page.
2. Go to Intercom > Number Settings, click  to open the SIP editing page.



3. In the SIP1 field, enter the SIP extension number of DS-KH6320 indoor station.
In this example, enter 1667.



The screenshot shows a dialog box titled "Edit" with a close button in the top right corner. Inside the dialog, there are two input fields: "Room No." containing the number "1" and "SIP1" containing the number "1667". Below these fields is a button with a plus sign and the text "+ Add". At the bottom right of the dialog, there are two buttons: "OK" (highlighted in red) and "Cancel".

4. Click OK.

Configure codecs on the Hikvision door station and the PBX

To ensure the normal audio calls and video calls between Hikvision devices, make sure that the same codecs are selected both on Hikvision devices and PBX.

Configure audio codec and video codec on Hikvision door station

1. On the Configuration page, go to Video/Audio.
2. Set up video codec.
 - a. Click Video tab.
 - b. In the drop-down list of Video Encoding, select H.264.

Video Audio

Stream Type: Main Stream

Video Type: Video&Audio

Resolution: 1280*720P

Bitrate Type: Variable

Video Quality: Medium

Frame Rate: 25 fps

Max. Bitrate: 2048 Kbps

Video Encoding: H.264

I Frame Interval: 50

Save

3. Set up audio codec.
 - a. Click Audio tab.
 - b. In the drop-down list of Audio Encoding, select G.711ulaw.

Video **Audio**

Stream Type: Main Stream

Audio Encoding: G.711ulaw

Input Volume: 7

Output Volume: 7

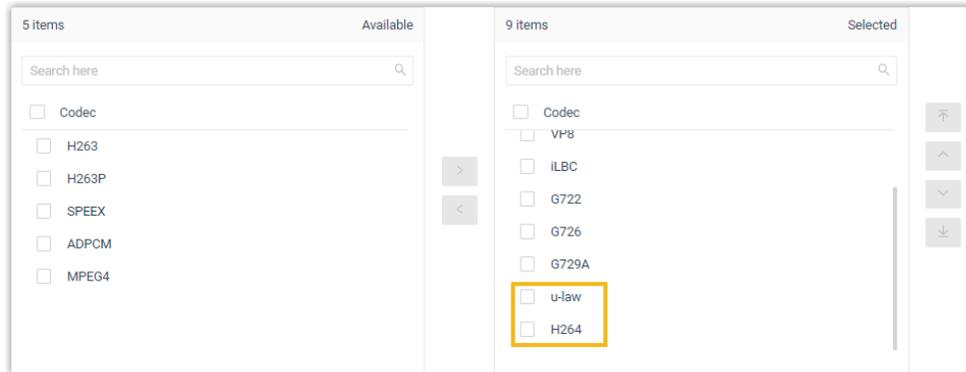
Speak Volume: 7

Save

4. Click Save.

Configure audio codec and video codec of PBX

1. Log in to PBX management portal, go to PBX Settings > SIP Settings > Codec.
2. Select u-law and H264 from Available box to Selected box.



3. Click Save and Apply.

Result

- When a visitor presses the door station call button, you can receive and answer the call on the indoor station, and also conduct a video communication with the visitor through the indoor station.
- During the call, you can open the door by directly tapping the unlock key on the indoor station.

5. Forward Hikvision Door Station Calls to Linkus Client

To prevent from missing any visits, you can configure Hikvision door station to forward calls to Linkus clients by configuring the call forwarding feature on Yeastar P-Series PBX System. In this way, you can receive visitors' calls anywhere on any Linkus clients (Linkus Mobile Client, Linkus Web Client, or Linkus Desktop Client).

Prerequisites

Make sure that you have registered Hikvision door station and indoor station to the PBX. For more information, see the following topics:

- [Register Hikvision DS-KD8003 Door Station to Yeastar P-Series PBX System](#)
- [Register Hikvision DS-KH6320 Indoor Station to Yeastar P-Series PBX System](#)
- [Set up Communication Between Hikvision Door Station and Indoor Station](#)

Procedure

1. [Configure Call Forwarding destination on the PBX](#)
2. [Configure call duration on Hikvision indoor station](#)

Configure Call Forwarding destination on the PBX

1. Log in to the PBX management portal, go to Extension and Trunk > Extension, double click the extension you have created for Hikvision indoor station.
2. Click Presence tab.
3. In the Call Forwarding section, configure Call Forwarding destination for internal calls.
 - a. Select the checkbox of No Answer.
 - b. Set the destination to Extension, then select an extension that is registered on Linkus clients.

Call Forwarding

Internal Calls

Always

No Answer Extension 1000-1000

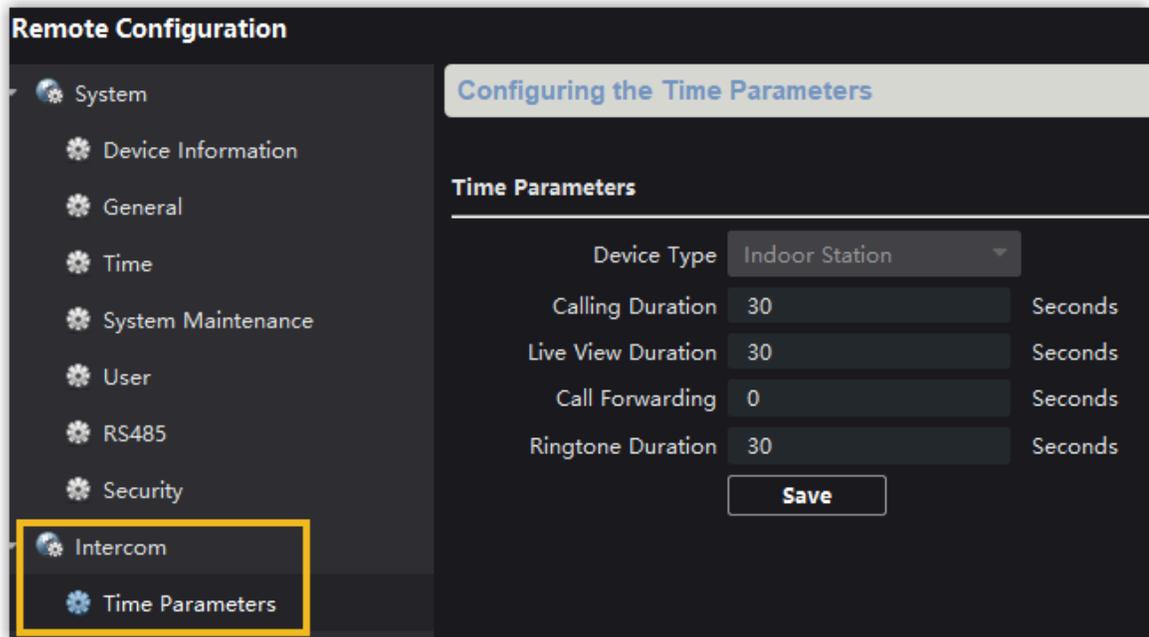
When Busy Voicemail

4. Click Save and Apply.

Configure Calling Duration on Hikvision indoor station

By configuring the Calling Duration, the call will be forwarded to the next destination if there is no answer over the calling duration.

1. Log in to iVMS-4200 client, go to Device Management > Device.
2. Select the DS-KH6320 indoor station and click  to enter the Configuration page.
3. Go to Intercom > Time Parameters to configure the desired duration in Calling Duration field.



4. Click Save.

Result

- The door station call will be forwarded to your Linkus clients if there is no answer from indoor station over the calling duration.
- During the call, you can open the door by directly pressing a feature code. In this example, the default unlocking button is 1#.