



Configuring Epygi Supported IP Phones with ecQX

Abstract: This guide gives an outline of the main approaches how to configure IP Phones with ecQX.

Document Revision History

Revision	Date	Description	Valid for Models	Valid for FW
1.0	10-Oct-17	Initial Release	ecQX	6.1.50 and higher
1.1	20-April-20	Updated	ecQX	6.2.55 and higher
1.2	10-Feb-23	Updated	ecQX	6.3.10 and higher

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1 Introduction

For configuring IP phones with ecQX, you have the choice of using different methods.

For configuring the Epygi supported IP phones with ecQX you can use either the **Auto Configuration** using the phone's provisioning server, **Auto Configuration using OpenVPN** or **Auto Configuration using the phone's redirect provision service (RPS)**, depending on the phone model.

Auto Configuration using the phone's provisioning server is available for all models in the Epygi supported IP phones list. This service simplifies the IP phone configuration procedure. You only need to configure an IP line on the ecQX and then provide the ecQX address (hostname) as a Provisioning Server in the phone's WEB GUI. For details on this method refer to the [Auto Configuration](#) section.

Auto Configuration using OpenVPN is applicable for the most of Epygi supported IP phones. This service turns the IP phone configuration procedure more secure and reliable. For details on **Auto Configuration using OpenVPN**, refer to the [Auto Configuration using OpenVPN](#) section.

The **Auto Configuration using RPS** service is available so far Htek, Yealink and Fanvil phones only. This service allows to configure IP phones "out of box". After configuring an IP line on ecQX, simply enter the MAC address of the IP phone and the URL of the redirect provision server into RPS settings for Htek, Yealink or Fanvil. Upon initial boot-up the phone can be redirected to your ecQX for configuration updating. For more details on Auto Configuration using RPS, refer to the [Auto Configuration using RPS](#) section.

You can still configure and use the IP phone with ecQX, even if it is not in the list of Epygi supported IP phones. Here you need to use the **Manually Configuration** method. For details refer to [Manual Configuration](#) section.

2 Auto Configuration

The **Auto Configuration** using the phone's provisioning server provides a proprietary method to provision for all Epygi supported IP phones by selecting the **Phone Model** and entering phone's **MAC Address** in the **IP Line Settings** for ecQX.

The following steps are required to configure the IP phone with ecQX using the **Auto Configuration** service:

Configuration on ecQX

1. Go to the **Interfaces**→**IP Lines** page.
2. Select a **free** IP line attached to extension.
3. Click on the **IP Line** hyperlink, the **IP Line Settings** → **IP Line#** page will be opened.
4. Select the **IP Phone** option to configure the line and choose the model of the IP phone from the **Phone Model** drop-down list.
 - Enter the **MAC Address** of the phone. **TIP:** MAC addresses of IP phones are usually printed on the back of the phone.
 - Set the number for intended simultaneous calls (the total number of active and held calls), in the **Line Appearance** field.
 - **Username** and **Password** are used to set the authentication parameters to register the IP phone on ecQX. By default, the ecQX assigns unique username and password to each IP line. You may either keep these values or specify new ones. **TIP:** The **Username** and **Password** should match on both ecQX and IP phone for the successful registration.
 - **Transport** drop-down list is used to select the SIP transport – **UDP, TCP or TLS**.
 - **Symmetric RTP** must be selected when the IP phone attached to the IP line is located behind the NAT router to avoid issues with one-way audio.
5. Click **Save** to apply the changes.

Once the **IP line** is configured, connect the IP phone to your network and factory reset it.

Note: It is **strongly** recommended to factory reset the phone and start the configuration on the phone from scratch, to avoid any misconfigurations.

Configuration on IP phone

1. Login into phone's Web GUI using the phone admin credentials and the IP address received from company's DHCP Server or statically configured.
2. Check and configure the **DNS Settings** on the phone to allow connecting to the ecQX.
3. Find and configure the parameters of the **Provisioning Server** on the phone for auto configuration with ecQX. Configure the hostname for ecQX in the URL for **Provisioning Server**.
4. Click **Save** to apply changes and reboot the phone.

After successful reboot, the phone will receive configuration files from ecQX.

Note:

- Depending on the phone model the following settings, options and parameters may vary:
 - WEB GUI login credentials
 - Parameters for Provisioning Server
 - WEB GUI pages, settings, options and fields
- For more information how to autoconfigure IP phone with ecQX, refer to the [Configuring Epygi Supported IP Phones with QX IP PBXs guide](#) and Admin and User guides of each phone model.

3 Auto Configuration using OpenVPN

This method of auto configuration, applicable on majority of Epygi supported IP phones, allows phones to act as OpenVPN clients on ecQX and gains the following advantages:

- Making and receiving secure calls using OpenVPN encryption mechanism.
- Routing all network traffic from/to client through secure OpenVPN tunnel.
- Connecting and configuring the remote phone, as if the phone is located in ecQX LAN side.
- Avoid complicated NAT/NAT Traversal configurations on the phone.
- Avoid complicated Firewall configurations both on ecQX and NAT Router ahead of the phone.

The following steps are required to configure IP phone with ecQX using **Auto Configuration using OpenVPN** service:

Configuration on ecQX

1. Configure **OpenVPN Server** on ecQX.
2. Generate OpenVPN configuration file for selected phone model. Later this file should be uploaded to the phone.
3. Configure an IP line by selecting the phone model, enter MAC Address and enable the **Use OpenVPN Settings** option.

For more information how to configure OpenVPN service on ecQX, refer to the [Auto Configuration of Epygi Supported IP Phones using OpenVPN](#) guide.

Configuration on IP phone

1. Login into phone's Web GUI using the admin credentials and the IP address received from company's DHCP Server or statically configured.
2. Check and configure **Date and Time Settings** on the phone to allow successful registration.
3. Check and configure the **DNS Settings** on the phone to allow connecting to the ecQX.
4. Upload the **OpenVPN configuration** file on the phone. Enable (activate) **OpenVPN** option (service) and reboot the phone to apply the changes.
5. Find and configure the **OpenVPN Server** parameters on the phone for auto provisioning with ecQX.
6. Click **Save** to apply changes and reboot the phone.

After successful reboot, the phone will receive configuration files from ecQX.

Note:

- Depending on the phone model the following settings, options and parameters may vary:
 - WEB GUI login credentials
 - OpenVPN Server parameters
 - WEB GUI pages, settings, options and fields
- For more information how to configure IP phone with ecQX, refer to the [Configuring Epygi Supported IP Phones with QX IP PBXs](#) guide and the Admin and User guides of each phone model.

4 Auto Configuration using RPS

The **Auto Configuration using RPS** provides a proprietary method to provision for Htek, Yealink and Fanvil IP phones.

The following steps are required to configure the IP phone with ecQX using **Auto Configuration using RPS** service:

Configuration on ecQX

1. Go to the **Interfaces**→**IP Lines** page.
2. Select a **free** IP line attached to extension.
3. Click on the **IP Line** hyperlink, the **IP Line Settings – IP Line#** page will be opened.
4. Select the **IP Phone** option to configure the line and choose the model of the IP phone from the **Phone Model** drop-down list.
 - Enter the **MAC Address** of the phone. **TIP:** MAC addresses of IP phones are usually printed on the back of the phone.
 - Set the number for intended simultaneous calls (the total number of active and held calls), in the **Line Appearance** field.
 - **Username** and **Password** are used to set the authentication parameters to register the IP phone on ecQX. By default, the ecQX assigns unique username and password to each IP line. You may either keep these values or specify new ones. **TIP:** The **Username** and **Password** should match on both ecQX and IP phone for the successful registration.
 - **Transport** drop-down list is used to select the SIP transport – **UDP, TCP or TLS**.
 - **Symmetric RTP** must be selected when the IP phone attached to the IP line is located behind the NAT router to avoid issues with one-way audio.
5. Click **Save** to apply the changes.

Configuration on RPS

1. Log into RPS for the phone using your account credentials.
2. Configure the redirect provision server (it should be your ecQX URL).
3. Enter the MAC address of the phone(s) which you are going to configure.
4. Once the **IP line** and **RPS** are configured, connect the IP phone to your network and factory reset it.

Note: It is **strongly** recommended to factory reset the phone and start the configuration from scratch, to avoid any misconfigurations.

For more information how to configure RPS Server for Htek, Yealink or Fanvil, contact the appropriate reseller or distributor.

5 Manual Configuration

You can still register and use the IP phone with ecQX, even if it is not in the list of Epygi supported IP phones. Here you need to manually configure the phone. Generally, it should be done the following way.

Configuration on ecQX

1. Go to the **Interfaces**→**IP Lines** page.
2. Select a **free** IP line attached to extension.
3. Click on the **IP Line** hyperlink, the **IP Line Settings – IP Line#** page will be opened.

4. Select the **IP Phone** option to configure the line and choose the phone model as **other** from the **Phone Model** drop-down list.
 - Set the number for intended simultaneous calls (the total number of active and held calls), in the **Line Appearance** field.
 - **Username** and **Password** are used to set the authentication parameters to register the IP phone on ecQX. **TIP:** The **Username** and **Password** should match on both ecQX and IP phone for the successful registration.
 - **Transport** drop-down list is used to select the SIP transport – **UDP, TCP or TLS**.
 - **Symmetric RTP** must be selected when the IP phone, attached to the IP line, is located behind the NAT router to avoid issues with one-way audio.
5. Click **Save** to apply the changes.

Configuration on IP phone

1. Login into phone's Web GUI using the admin credentials and the IP address received from company's DHCP Server or statically configured.
2. Choose an **Account x** and fill the following parameters.
 - **SIP server** – ecQX address (Hostname or IP Address).
 - **SIP port** – SIP port for ecQX
 - **Outbound Proxy Server** – ecQX address (Hostname or IP Address).
 - **User name** – enter the **Username** configured on ecQX IP line.
 - **Password** – enter the **Password** configured on ecQX IP line.
3. Click **Save** to apply changes and reboot the phone.

After successful reboot, the phone will get registered on ecQX.

Note:

- Depending on the phone model the following settings, options and parameters may vary:
 - WEB GUI login credentials
 - WEB GUI pages, settings, options and fields
- When the ecQX provides the configuration file to the phone the provisioning server setting will be set to either HTTP or HTTPS, preferably HTTPS, depending on what the IP phone will allow. If the IP phone(s) are using HTTPS service for the provisioning server then for security reasons it is strongly recommending to remove the HTTP service from the QX Firewall ->Filtering Rules -> Management Access page. If the IP phone(s) are using HTTP service for the provisioning server, then HTTP will need to be enabled (default option) from the QX Firewall ->Filtering Rules -> Management Access page. With HTTP enabled its access should be restricted/limited as much as possible (use Single IP, IP/Mask, Single URL or Group).
- For more information concerning manual configuration, refer to the Admin and User guides of each phone model.

6 References

For more information about the configurations described in this guide see the recourses listed below:

- Manual-II: Administration Guide for ecQX

- Configuring Epygi Supported IP Phones with QX IP PBXs
- QX IP PBX Features on Epygi Supported IP Phones
- IP Phones and IP Lines Configuration
- Auto Configuration of Epygi Supported IP Phones using OpenVPN

Find the above listed documents on the [Epygi Support Portal](#).