Yealink

Deploying Yealink IP Phones for Use with Skype for Business® Server

Version 8.60
Jan.2017

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Warranty

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Declaration of Conformity

CE

Hereby, Yealink(Xiamen) Network Technology CO., LTD. declares that this phone is in conformity with the essential requirements and other relevant provisions of the CE, FCC. Statements of compliance can be obtained by contacting support@yealink.com.

CE Mark Warning

These devices are marked with the CE mark in compliance with EC Directives 2014/35/EU and 2014/30/EU.

Part 15 FCC Rules

This device is compliant with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada (IC)

This Class [B] digital apparatus complies with Canadian ICES-003 Rules.

Class B Digital Device or Peripheral

Note: This device is tested and complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experience radio/TV technician for help.

WEEE Warning

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Customer Feedback

We are striving to improve our documentation quality and we appreciate your feedback. Email your opinions and comments to DocsFeedback@yealink.com.

GNU GPL INFORMATION

Yealink phone firmware contains third-party software under the GNU General Public License (GPL). Yealink uses software under the specific terms of the GPL. Please refer to the GPL for the exact terms and conditions of the license.

The original GPL license, source code of components licensed under GPL and used in Yealink products can be downloaded from Yealink web site:
http://www.yealink.com/GPLOpenSource.aspx?BaseInfoCateId=293&NewsCateId=293&CateId=293.

About This Guide

Yealink Skype for Business phones can work with Microsoft® Skype for Business Server. They are designed for today's busy executives and professionals. This deployment guide provides system administrators information on how to deploy Yealink Skype for Business phones with Microsoft® Skype for Business Server™.

Deploying and registering phones with Skype for Business Server enables users to communicate with HD voice using familiar Microsoft solutions.

In This Guide

The information detailed in this guide is applicable to T48G/T46G/T42G/T41P/T40P Skype for Business phones running firmware version 8 or later. The firmware format is like x.x.x.x.rom. The second x from left must be greater than or equal to 8 (e.g., the firmware version of T46G Skype for Business phone: 28.8.0.60.rom). This deployment guide includes the following chapters:

- Chapter 1, "Getting Started" describes introductory information on available phone features.
- Chapter 2, "Deploying Phones with Skype for Business Server" describes information on setting up network and provisioning methods.
- Chapter 3, "Configuring Phones with Skype for Business Server" describes how to configure and use the phone features.
- Chapter 4, "Troubleshooting" describes how to troubleshoot Skype for Business phones and provides some common troubleshooting solutions.

Documentations

The following related documents are available. You can get them from *Yealink Website*:

- Quick Start Guides, which describe how to assemble phones and configure the most basic features available on Skype for Business phones.
- User Guides, which describe the basic and advanced features available on Skype for Business phones.
- Auto Provisioning Guide, which describes how to configure Skype for Business phones using the configuration files.
- Description of Configuration Parameters in CFG Files, which describes all configuration parameters in the configuration files.
- <y0000000000xx>.cfg and <MAC>.cfg template configuration files.
- Updating Phone Firmware from Microsoft Skype for Business Server Guide, which

describes how to upgrade firmware via Skype for Business Server.

For support or service, please contact your Yealink reseller or go to Yealink Technical Support online: *http://support.yealink.com/*.

Conventions Used in Yealink Documentations

Yealink documentations contain a few typographic conventions.

You need to know the following basic typographic conventions to distinguish types of in-text information:

Convention	Description
Bold	Highlights the web/phone user interface items such as menus, menu selections, soft keys, or directory names when they are involved in a procedure or user action (e.g., Click on **Security**->**License**). Also used to emphasize text (e.g., **Configuration File**).
Italics	Used to show the format of examples (e.g., *http(s)://[IPv6 address]*), or to show the title of a section in the reference documentations available on the Yealink Technical Support Website (e.g., *Triggering the IP phone to Perform the Auto Provisioning*).
Blue Text	Used for cross references to other sections within this documentation (e.g., refer to Installing a Skype for Business Server Feature License).
Blue Text in Italics	Used for hyperlinks to Yealink resources outside of this documentation such as the Yealink documentations (e.g., *Yealink_Skype_for_Business_HD_IP_Phones_Auto_Provisioning_Guide*.

Table of Contents

Getting Started

This chapter describes the available phone features, and something you need to know before deploying your phone with Skype for Business Server. Topics include:

Available Phone Features

Phone features available on all Yealink phones registered to Skype for Business Server are listed in the following table:

Feature	Function
Auto root certificate fetch	Available using DHCP option 43
Auto root certificate retrieval	Lightweight Directory Access Protocol (LDAP) Domain Name System (DNS) query
Sign in	• PIN Authentication • User Sign-in • Web Sign-in • Sign in via PC
Audio Codec	**For T48G/T46G/T42G/T41P**: G722, PCMA, PCMU, G729, G726-16, G726-24, G726-32, G726-40, iLBC, G723_53, G723_63
	For T40P: G722, PCMA, PCMU, G729, G726-16, G726-24, G726-32, G726-40, iLBC
Call forward, transfer, hold, mute	Phone functions
Full-duplex echo cancellation(FDX)	
Media encryption	SRTP
Direct SIP registration to Skype for Business Server	Microsoft SIP, TLS for SIP Signaling
Peer-to-peer audio calling	Initiate and receive two-party call
Message Waiting Indicator (MWI)	Illumination of MWI lamp indicates new messages

Feature	Function
Voice mail retrieval	Connect to voice mail center
Presence publication	Indicates the status of your contacts
Presence state control	Choose from a menu of presence states
Calls logs	Local call history for missed, placed, received, placed and forwarded calls
Log access	Local phone access to diagnostic logging
Device updates	Centralized phone updates from an out-of-band server
VLAN assignment	LLDP-MED VLAN assignment
Remote worker scenarios	Edge Server registration for off-location users
Firewall traversal	A/V Edge Server support using the ICE, STUN, and TURN protocols
Federation	Connect people across organizations and domains
Provisioning	Support for in-band provisioning from Skype for Business Server
Media bypass	Bypass the Skype for Business Server mediation server to send media directly to a PSTN gateway
Dial now	When the dialed number matches the dial-now rules, the number will be dialed out automatically.
Call forwarding to contacts	Forward incoming calls to another contact
Call forwarding to voicemail	Forward incoming calls directly to voicemail
Response Groups	
Team-Call	
Delegates	
Private Lines	Alternate call-forwarding identity for a Skype for Business Server user's secondary line.
Branch Office Survivability	Ensures basic call functions during a shutdown or outage.
E911	Supports in-band provisioning information for Emergency 911
Location Services	LLDP-MED location based information support
Centralized Conference Control Protocol (CCCP)	Manage conference calls
Skype for Business Server Exchange Integration	Skype for Business Server directory search, Outlook contact search, visual voicemail, call log synchronization between phone, Outlook and Skype for Business Server client.
Boss-Admin	Assign administrative delegates to answer, hold, and

Feature	Function
	transfer calls and make calls on behalf of boss lines
Directory	View detailed contact information for local or Skype for Business contacts and make direct calls from the Local directory and Skype for Business directory
Contact Groups	Display and expand groups in the Skype for Business Server user's contact list
Contacts List	Display Skype for Business Server contacts and their current presence status
TCP Media	RTP Media and ICE negotiation supported over TCP when UDP is unavailable
Better Together over Ethernet (BToE)	Connect your computer to your phone and use your computer to control calls on your phone and Skype for Business client
Link Layer Discovery Protocol (LLDP)	Support for LLDP
Automatic Firmware Update	Receive firmware updates automatically when registered with Skype for Business Server
Call Park	Place a call on a separate call orbit where anyone can retrieve the call
Music on Hold	Enable music for calls on hold

Before You Begin

Before registering your phones with Skype for Business Server, you need to know the following points:

- If you are provisioning your phones, we strongly recommend using Auto Provisioning when deploying multiple phones. In this method, you need to set up a provisioning server and use configuration files to configure phone features.
- If user purchases a phone with Skype for Business Server firmware (also called Skype for Business phone), the phone has a built-in Skype for Business Server feature license which allows user to use the phone in a Skype for Business Server environment.

  If users purchase Yealink phones that aren't running Skype for Business firmware, but want to upgrade it to the Skype for Business firmware, the user must purchase a Skype for Business Server feature license to use Yealink phones in a Skype for Business Server environment. Contact Yealink resellers for more information. You can also use Yealink phones in a Skype for Business Server environment for trial purposes, without purchasing a license, for a maximum of 180 days.
- Yealink releases firmware in two file formats:

  a) **Cabinet (CAB) file:** CAB file format is a Microsoft Windows archive file that supports lossless data compression and embedded digital certificates that maintain archive

integrity. Yealink offers firmware in CAB file format so that user can update firmware from Skype for Business Server and enable the automatic firmware update feature.

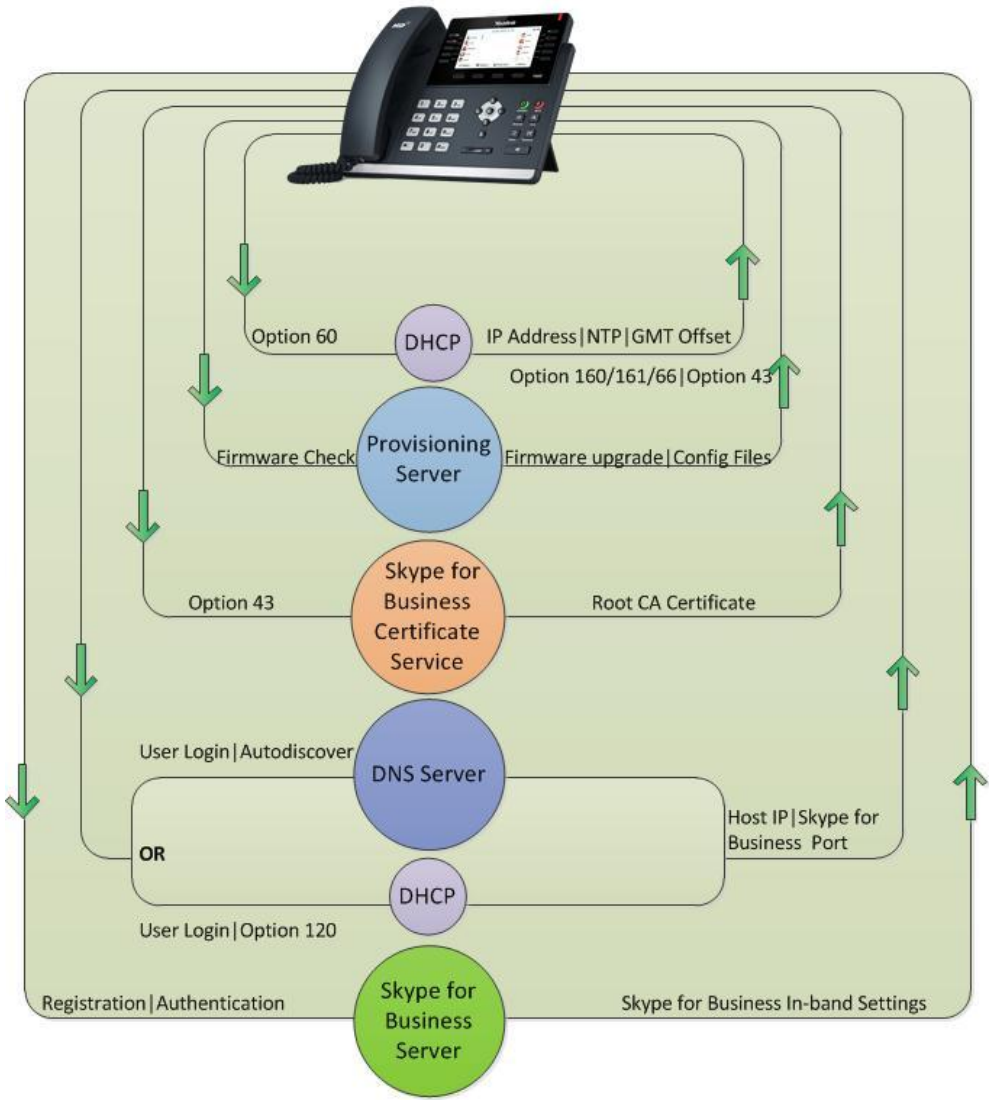
b) **Rom file:** Yealink also offers Skype for Business Server firmware in ROM file format. And the file is compressed in zip file format on *Yealink Website*, you need to download the compressed file, and then extract it into local directory.

Deploying Phones with Skype for Business Server

This chapter provides the information about deploying your phone in Skype for Business Server environment. Provisioning methods are also introduced. Topics include:

- Setting up the Network
- Provisioning Methods
- Installing a Skype for Business Server Feature License

After your phone is powered on and connected to the network, the phone performs a boot-up sequence, as shown next.



Setting up the Network

Setting up a network to connect your phones to Skype for Business Server involves four steps:

1. The Skype for Business phone can discover Skype for Business Server automatically via DHCP Option 120, Autodiscover Service or Domain Name System (DNS) service (SRV) records. The priority is in this order: DHCP Option 120>Autodiscover Service>Domain Name System (DNS) service (SRV) records.

   - Obtaining Server address via DHCP option 120 is disabled by default. To enable this feature, add and set the value of the configuration parameter "sip.option120_get_lync_server.enable" to 1 (Enabled), and then perform Auto Provisioning.
   - For information on Autodiscover Service, refer to *Understanding Autodiscover* on Microsoft TechNet.
   - For information on creating and verifying DNS SRV records, refer to *Required DNS Records for Automatic Client Sign-In* on Microsoft TechNet.

2. Obtain a root certificate authority (CA) security certificate in one of the following three ways:

   - Yealink Skype for Business phones automatically fetch the root certificate using a Lightweight Directory Access Protocol (LDAP) Domain Name System (DNS) query. This feature is disabled by default. To enable this feature, add and set the value of the configuration parameter "sip.ldap_download_rootca.enable" to 1 (Enabled), and then perform Auto Provisioning.
   - You can use Dynamic Host Configuration Protocol (DHCP) Option 43 to download a private CA root security certificate used by Skype for Business Server. The security certificate is required to support secure HTTPS and TLS. In conjunction with DHCP Option 43, ensure that your devices can access Skype for Business Server Certificate Provisioning Web service over HTTP (TCP 80) and HTTPS (TCP 443). For information on configuring DHCP Option 43, see *Set Up DHCP for Devices* on Microsoft TechNet.
   - You can manually install certificates on the phones. The phone will verify the certificate sent by the server to decide whether it is trusted based on the trusted certificates list. For more information, refer to Uploading a Trusted Certificateon page 36.

3. (Optional) If you are using auto provisioning to deploy your phones, place the configuration files on the provisioning server, and use DHCP option 66 (If DHCP option 66 is not available, use Option 160/161 with the address (URL or IP address) of the provisioning server) or use other methods to make the phones obtain the provisioning server address.
4. System administrator should set up accounts on the Skype for Business Server that can be used on the phones to sign in.

Provisioning Methods

Yealink provides three provisioning methods to configure phones.

The following sections describe how to configure Skype for Business phones using each method.

- Phone User Interface
- Web User Interface
- Centralized Provisioning

Phone User Interface

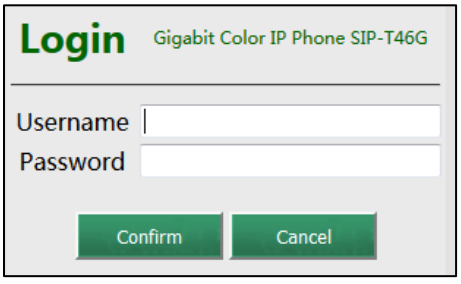
An administrator or a user can configure and use Skype for Business phones via phone user interface. Access to specific features is restricted to the administrator. The default password is "admin"(case-sensitive). Not all features are available on phone user interface. For more information, refer to *Yealink phone-specific user guide*.

Web User Interface

An administrator or a user can configure Skype for Business phones via web user interface. The default user name and password for the administrator to log into the web user interface are both "admin" (case-sensitive). Most features are available for configuring via web user interface. Skype for Business phones support both HTTP and HTTPS protocols for accessing the web user interface.

To access the web user interface from your PC:

1. Press the **OK** key on the phone when the phone is idle to obtain its IP address.
2. Open a web browser on your computer, and enter the IP address in the address bar (e.g., http://192.168.0.10 or 192.168.0.10).



3. Press the **Enter** key on your keyboard.
4. Enter the user name (default: admin) and password (default: admin) in the login page and click **Confirm**.

Centralized Provisioning Method

You can provision multiple phones in two ways:

- **Auto Provisioning Server**: Set up your own provisioning server and customize feature settings using the template configuration files.
- **Skype for Business Server**: Provision multiple phones with firmware from Skype for Business Server and apply default feature settings.

The next figure illustrates how your phone interoperates with provisioning Server and Skype for Business Server.

Auto Provisioning

Before beginning provisioning, you need to obtain configuration files. There are two configuration files both of which are CFG-formatted. We call these two files Common CFG file and MAC-Oriented CFG file. The Skype for Business phone tries to download these CFG files from the provisioning server during auto provisioning.

You can ask Yealink reseller or Yealink FAE for Common CFG and MAC-Oriented files. You can also obtain the Common CFG file and MAC-Oriented file online: *http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.*

The Common CFG file is effectual for all phones of the same model. It uses a fixed name "y0000000000XX.cfg" as the file name, where "XX" equals to the first two digits of the hardware version of the Skype for Business phone model.

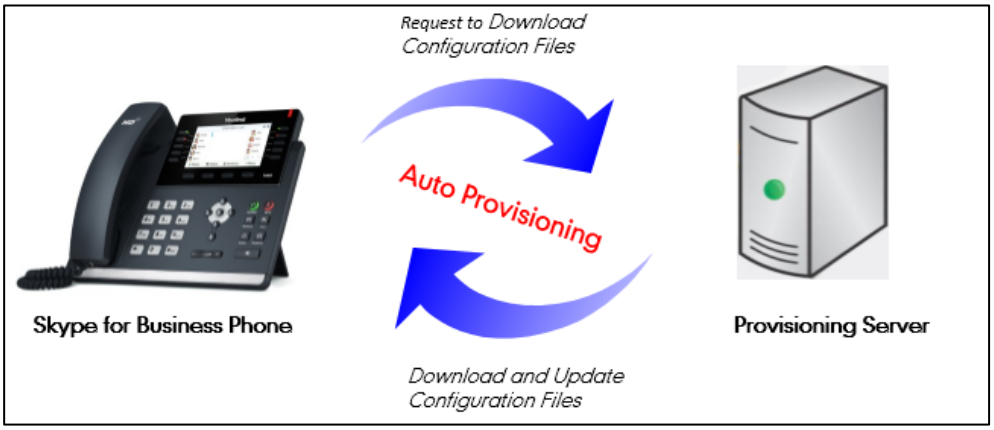
The names of the Common CFG file requirements for the phone model are:

Phone Model	Common CFG File
T48G	y000000000035.cfg
T46G	y000000000028.cfg
T42G	y000000000029.cfg
T41P	y000000000036.cfg
T40P	Y000000000054.cfg

The MAC-Oriented CFG files are only effectual for the specific phone. They use the 12-digit MAC address of the Skype for Business phone as the file name. For example, if the MAC address of the Skype for Business phone is 0015651130F9, the MAC-Oriented CFG file has to be named as 0015651130f9.cfg (case-sensitive) respectively.

After you edit the configuration files, place them in the provisioning server directory. Yealink Skype for Business phones support using FTP, TFTP, HTTP and HTTPS protocols to download configuration files to the phone. You can use one of these protocols for provisioning.

The following figure shows how the Skype for Business phone interoperates with the provisioning server:

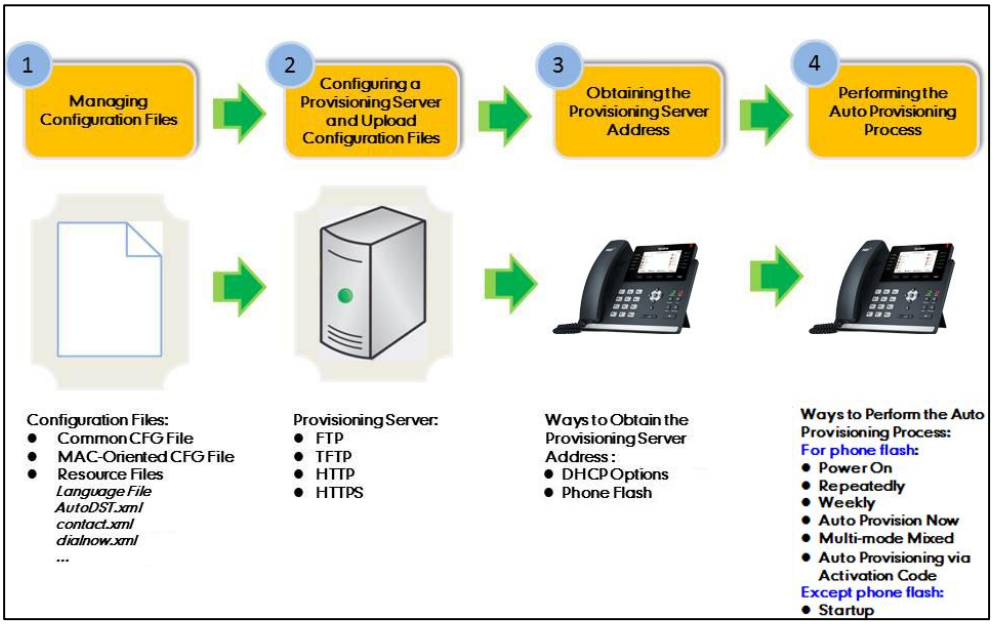


Major Tasks for Auto Provisioning

You need to complete four major tasks to provision Yealink Skype for Business phones via auto provisioning.

1. Editing the configuration files (Common CFG files or MAC-Oriented files).
2. Configure a provisioning server supporting FTP, TFTP, HTTP or HTTPS protocols. And store configuration files in a location on the provisioning server.
3. Make the phones obtain the provisioning server address.
4. Trigger the phones to download and update the configuration files from the provisioning server.

The following figure shows an overview of these tasks:



For more information on how to perform these four provisioning tasks, refer to

Yealink_Microsoft_Skype_for_Business_Edition_IP_Phones_Auto_Provisioning_Guide.

Skype for Business Server

Download firmware in CAB file format and place it on Skype for Business Server. Default feature settings are applied to all your phones.

For more information, refer to Upgrading Firmware from Skype for Business Server on page 45.

Installing a Skype for Business Server Feature License

Skype for Business phone has a built-in Skype for Business Server feature license, which allows user to use Skype for Business features on the phone.

If users purchase phones which aren't running Skype for Business firmware, while the users want to upgrade it to a Skype for Business firmware, then a Skype for Business Server feature license is needed to be uploaded to the phone after the upgrade. Contact Yealink resellers to purchase the license. The following introduces how to install the licence.

Procedure

Skype for Business Server feature license can be configured using the configuration files or locally.

Configuration File	<y0000000000xx>.cfg	Specify the access URL of the Skype for Business Server feature license. **Parameter:** lync_license_dat.url
Local	Web User Interface	Specify the access URL of Skype for Business Server feature license. **Navigate to:** http://<phoneIPAddress>/servlet?p=security-license&q=load

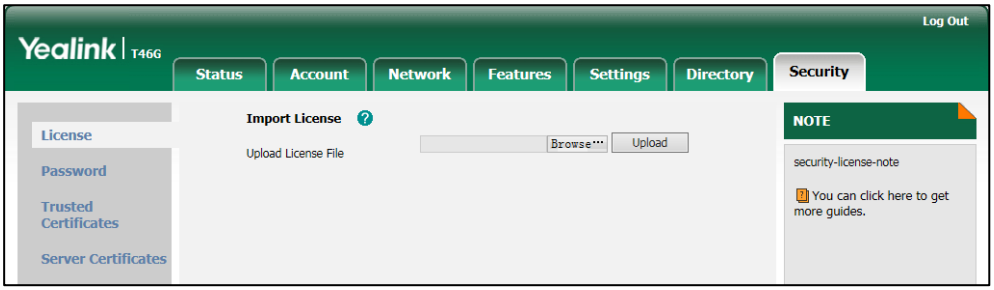
Details of the Configuration Parameter:

Parameter	Permitted Values	Default
lync_license_dat.url	**String within 99 characters**	**Blank**

Parameter	Permitted Values	Default
Description: Configures the access URL of the Skype for Business Server feature license. **Example:** lync_license_dat.url = http://192.168.1.20/License.dat When performing auto provisioning, the phone will request to download the License.dat file from the provisioning server address "http://192.168.1.20". **Web User Interface:** Security->License **Phone User Interface:** None **Note:** If you change this parameter, the Skype for Business phone will reboot to make the change take effect.		

To upload the Skype for Business Server feature license via web user interface:

1. Click on **Security**->**License**.
2. Click **Browse** to locate the Skype for Business Server feature license from your local system.



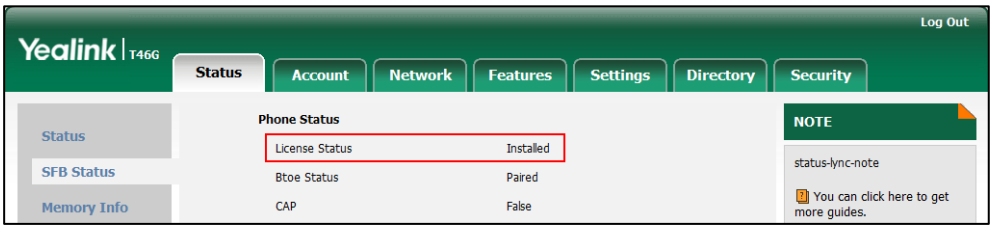
3. Click **Upload** to upload the certificate.

Checking License Installaiton Status

You can check Skype for Business Server feature license installation status via phone user interface or web user interface.

To check installation status of Skype for Business Server feature license via web user interface:

1. Click on **Status**->**SFB Status**.



To check installation status of Skype for Business Server feature license via phone user interface:

1. Press **Menu**->**Status**->**License**.

Note Resetting the phone to factory configurations will not clear the Skype for Business feature license.

Configuring Phones with Skype for Business Server

This chapter provides basic operating instructions for the Skype for Business Server phones. Topics include:

Signing into Skype for Business

Skype for Business users are authenticated against Microsoft Active Directory Domain Service. The following four sign-in methods are available.

- **User Sign-in**: This method uses the user's credentials (sign-in address, user name, and password) to sign into Skype for Business Server. This sign-in method is applicable to Onprem account and Online account.
- **PIN Authentication**: This method uses the user's phone number (or extension) and personal identification number (PIN) to sign into Skype for Business Server. This sign-in method is only applicable to Onprem account.
- **Web Sign-in:** This method uses the unique website shown on the phone to sign in. This sign-in method is only applicable to Online account.
- **Sign in via PC**: when your phone is paired with your computer using Better Together over Ethernet (BToE), use the Skype for Business client to sign in. This sign-in method is applicable to Onprem account and Online account.

Note If the phone reboots after successful login, the login credentials from the previous Sign-In will be cached. User can sign in successfully without reentering the credentials.

User Sign-in

You can sign into Microsoft Skype for Business on your phone with your login credentials, which includes your address, username, and password. Your system administrator provides you with your login credentials.

Procedure

User sign-in method can be configured using the configuration files or locally.

Configuration File	<MAC>.cfg	Configure user sign-in method. **Parameters:** features.user_sign_in.enable account.sign_in.server_address account.sign_in.user_name account.sign_in.password
Local	Web User Interface	Configure user sign-in method. **Navigate to**: http://<phoneIPAddress>/servlet?p=account-register-lync&q=load&acc=0
	Phone User Interface	Configure user sign-in method.

Details of Configuration Parameters:

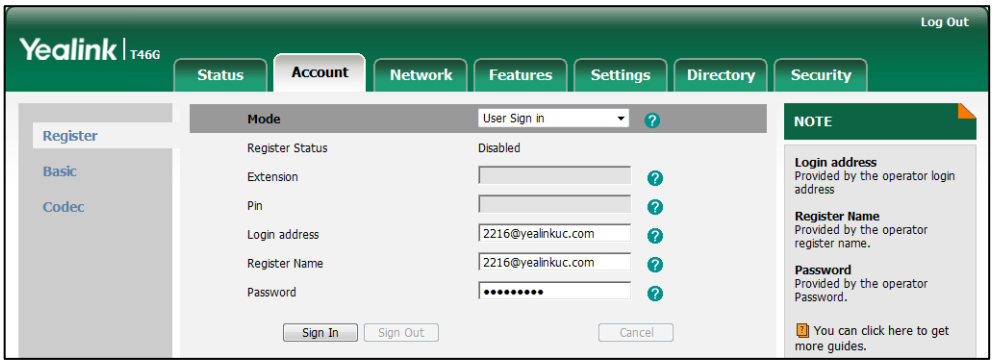
Parameters	Permitted Values	Default
features.user_sign_in.enable	**0 or 1**	**1**
Description: Enables or disables the user to sign into the phone using User Sign-in method. **0**-Disabled **1**-Enabled **Web User Interface:** None **Phone User Interface:** None		
account.sign_in.server_address	**SIP URI**	**Blank**
Description:		

Parameters	Permitted Values	Default
Configures the sign-in address for the user sign-in method. The value format is username@domain.com. **Example:** account.sign_in.server_address= 2216@yealinkuc.com **Web User Interface:** Account->Register->Login address **Phone User Interface:** Sign in->User Sign-in->Address		
account.sign_in.user_name	**String within 128 characters**	**Blank**
Description: Configures the user name for the user sign-in method. The value format is username@domain.com or username@domain, domain.com\username or domain\username. **Example:** account.sign_in.user_name= 2216@yealinkuc.com **Web User Interface:** Account->Register->Register Name **Phone User Interface:** Sign in->User Sign-in->UserName		
account.sign_in.password	**String within 99 characters**	**Blank**
Description: Configures the password for the user sign-in method. **Web User Interface:** Account->Register->Password **Phone User Interface:** Sign in->User Sign-in->Password		

To sign into the Skype for Business Server using user sign-in method via web user interface:

1. Click on **Account**->**Register**.
2. Select **User Sign in** from the pull-down list of **Mode**.
3. Enter your Skype for Business user's sign-in address (e.g., 2216@yealinkuc.com) in the **Login address** field.

4. Enter your Skype for Business user name (e.g., 2216@yealinkuc.com) in the **Register Name** field.
5. Enter the sign-in password in the **Password** field.



6. Click **Sign In** to accept the change.

To sign into the Skype for Business Server using user sign-in method via phone user interface:

1. Press the **Sign in** soft key.
2. Press or or the **Switch** soft key to select **User Sign-in**.
3. Enter your Skype for Business user's sign-in address (e.g., 2216@yealinkuc.com) in the **Address** field.
4. Enter your Skype for Business user name (e.g., 2216@yealinkuc.com) in the **UserName** field.
5. Enter the sign-in password in the **Password** field.

6. Press the **Sign in** soft key.

PIN Authentication

You can sign into Skype for Business on your phone with your PIN Authentication credentials. Your system administrator provides you with your PIN Authentication credentials.

Procedure

PIN Authentication can be configured using the configuration files or locally.

Configuration File	<y0000000000xx>.cfg	Configure PIN Authentication method. **Parameter:** features.pin_authentication.enable
	<MAC>.cfg	Configures the extension for the PIN Authentication method. **Parameter:** account.sign_in.pin_number
		Configures the PIN for the PIN Authentication. **Parameter:** account.sign_in.pin_password
Local	Web User Interface	Configure PIN Authentication method. **Navigate to:** http://<phoneIPAddress>/servlet?p=account-register-lync&q=load&acc=0
		Configure the certificate address of Skype for Business Server. **Navigate to:** http://<phoneIPAddress>/servlet?p=features-general&q=load
	Phone User Interface	Configure PIN Authentication.

Details of Configuration Parameters:

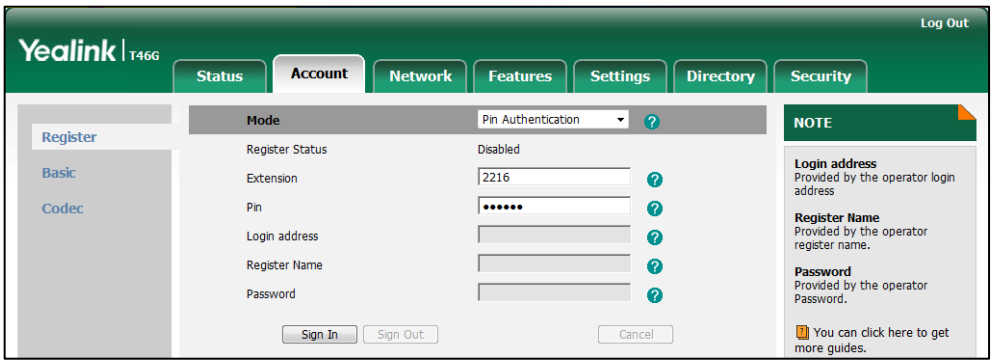
Parameters	Permitted Values	Default
features.pin_authentication.enable	**0 or 1**	**1**
Description: Enables or disables the user to sign into the phone using PIN Authentication method. **0**-Disabled		

Parameters	Permitted Values	Default
1-Enabled **Web User Interface:** None **Phone User Interface:** None		
account.sign_in.pin_number	**String within 128 characters**	**Blank**
Description: Configures the Skype for Business phone's extension for the PIN Authentication method. **Web User Interface:** Account->Register->Extension **Phone User Interface:** Sign in->PIN Authentication->Extension		
account.sign_in.pin_password	**String within 99 characters**	**Blank**
Description: Configures the PIN for the PIN Authentication method. **Web User Interface:** Account->Register->Pin **Phone User Interface:** Sign in->PIN Authentication->PIN		

To sign into the Skype for Business Server using PIN Authentication method via web user interface:

1. Click on **Account**->**Register**.
2. Select **Pin Authentication** from the pull-down list of **Mode**.
3. Enter your Skype for Business user's phone number or extension (e.g., 2216) in the **Extension** field.

4. Enter your personal identification number (e.g., user2216) in the **Pin** field.

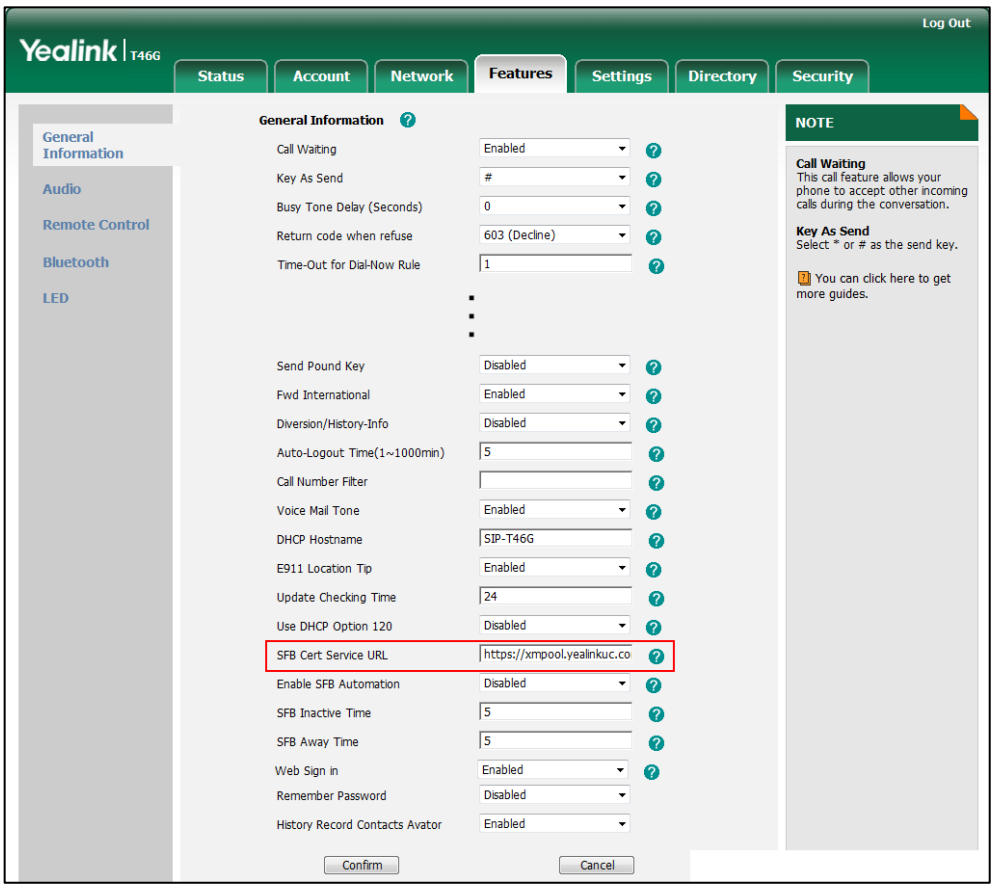


5. Click **Sign In** to accept the change.

If there is no DHCP Server in your environment, you may fail to sign in phone using PIN Authentication method, you can manually configure the certificate address of Skype for Business Server to make the phone sign in successfully.

To manually configure the certificate address of Skype for Business Server via web user interface:

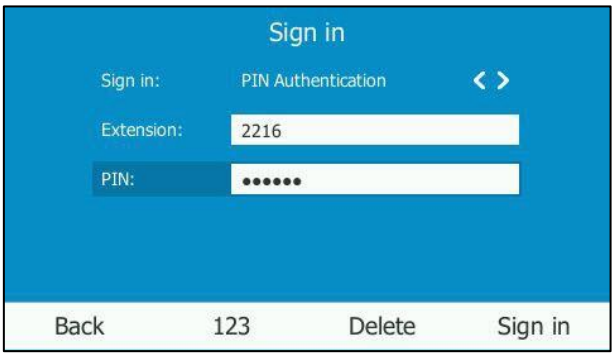
1. Click on **Features->General Information**.
2. Enter the certificate address of Skype for Business Server in the **SFB Cert Service URL** field.



3. Click **Confirm** to accept the change.

To sign into Skype for Business Server using PIN Authentication method via phone user interface:

1. Press the **Sign in** soft key.
2. Press ◄ or ►, or the **Switch** soft key to select **PIN Authentication**.
3. Enter your phone number or extension (e.g., 2216) in the **Extension** field.
4. Enter your PIN in the **PIN** field.



5. Press the **Sign in** soft key.

Web Sign-in

You can sign into your Skype for Business Online account using the Web Sign-In method, which allows you to sign into the phone with your Skype for Business Online account using a web browser. Your system administrator provides you with your login credentials.

Procedure

Web sign-in can be using the configuration files or locally.

Configuration File	<y0000000000xx>.cfg	Configures the Server URL for device pairing. **Parameter:** features.device_pairing.url
		Configure web sign-in method. **Parameter:** features.device_pairing_for_online.enable
Local	Web User Interface	Configure web sign-in method. **Navigate to**: http://<phoneIPAddress>/servlet?p=account-register-lync&q=load&acc=0
	Phone User Interface	Configure web sign-in method.

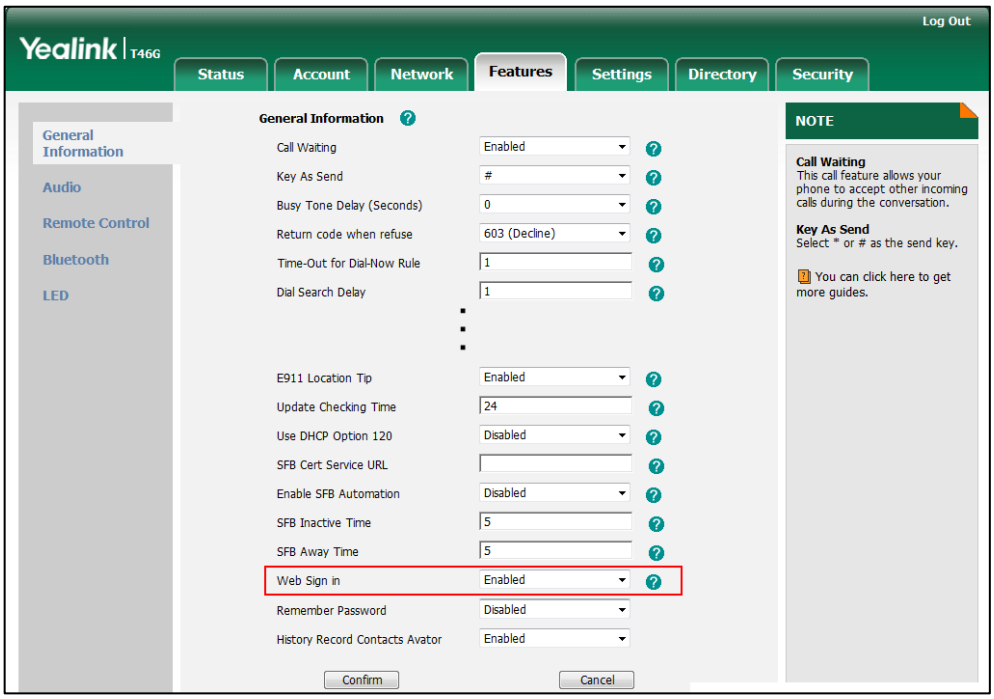
Details of Configuration Parameters:

<table>
<tr><th>Parameters</th><th>Permitted Values</th><th>Default</th></tr>
<tr><td>features.device_pairing_for_online.enable</td><td>0 or 1</td><td>1</td></tr>
<tr><td colspan="3">Description:
Enables or disables the user to sign into the phone using web sign-in method.
0-Disabled
1-Enabled
Web User Interface:
Features->General Information->Web Sign in
Phone User Interface:
None</td></tr>
<tr><td>features.device_pairing.url</td><td>URL within 512characters</td><td>https://bootstrap.pinauth.services.skypeforbusiness.com/</td></tr>
<tr><td colspan="3">Configures the Server URL for device pairing, so that you can sign into the phone using web sign-in method.
Example:
features.device_pairing.url= https://bootstrap.pinauth.services.skypeforbusiness.com/</td></tr>
</table>

To configure web sign-in via web user interface:

1. Click on **Features**->**General Information**.
2. Select the desired value from the pull-down list of **Web Sign in**.
   - If it is enabled, you can sign into the Skype for Business Server using web sign-in method.

- If it is disabled, you cannot sign into the Skype for Business Server using web sign-in method.



3. Click **Confirm** to accept the change.

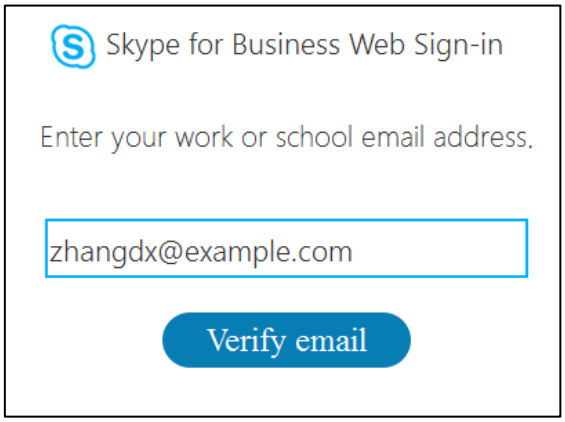
To sign into Skype for Business Server using Web Sign-in method via phone user interface:

1. Press the **Sign in** soft key.
2. Press , or the **Switch** soft key to select **Web Sign-in**.

3. Press the **Sign in** soft key.

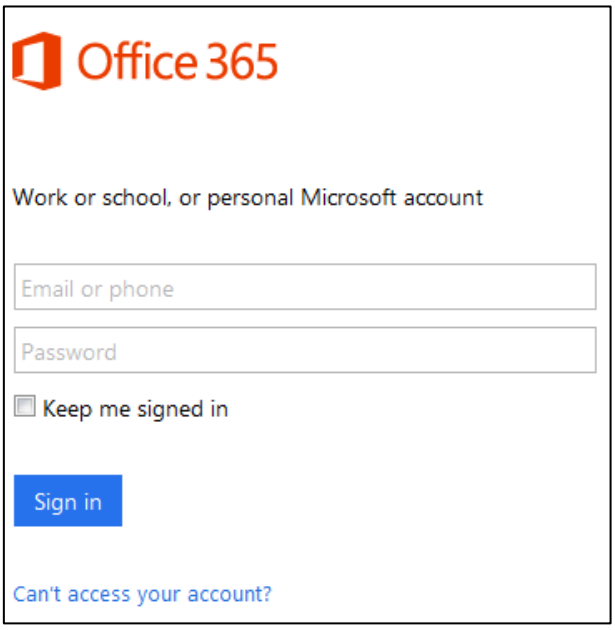
The screen will show the pairing code and URL.

4. Enter the URL (e.g., http://aka.ms/sphone) into your web browser.
5. On the Skype for Business Authentication website, enter your email address (e.g., zhangdx@example.com) in the **Email address** field.

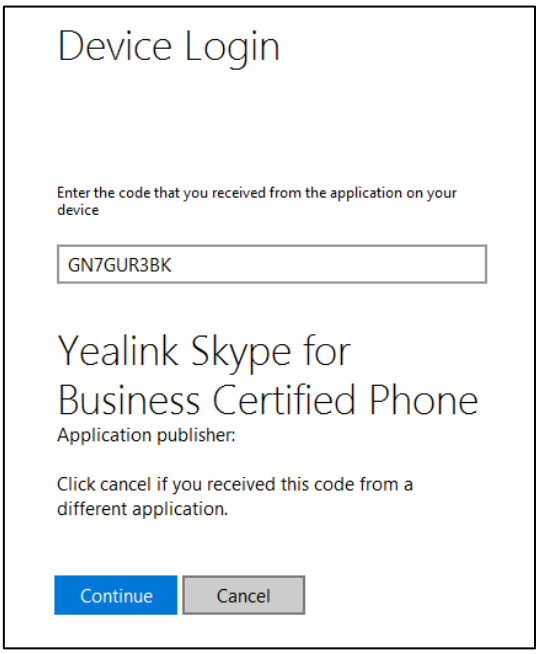


6. Click **Verify email** to check the validity of the email address.

   The sign-in screen will appear if the email address is valid.



7. Enter your Online account and password.
8. (Optional) Check the **Keep me signed in** checkbox, so that you don't need to enter a password next time.
9. Click **Sign in**.
10. Enter the pairing code generated on the phone (e.g., GN7GUR3BK) into the web browser.



11. Click **Continue**.
12. Click the account to sign in.

    A confirmation message is displayed when your phone successfully signs into Skype for Business.

Signing in via PC

You can use this sign-in method when using the Better Together over Ethernet (BToE) feature. The BToE feature enables you to place, answer, and hold audio calls from your phone and the Skype for Business client simultaneously. Note that this method is available after you download the BToE Connector application and pair your computer and phone. For more information, refer to *Better Together over Ethernet* chapter in *Yealink phone-specific user guide*.

Procedure

BToE can be configured using the configuration files.

Configuration File	<y0000000000xx>.cfg	Configure BToE feature. **Parameters:** sip.btoe.enable features.sign_in_via_btoe.enable
		Configures the BToE pairing mode. **Parameters:** sip.btoe.pairing_mode
Local	Web User Interface	Configure BToE feature. **Navigate to**: http://<phoneIPAddress>/servlet?p=settings-btoe&q=load
		Configures the BToE pairing mode. **Navigate to**: http://<phoneIPAddress>/servlet?p=settings-btoe&q=load
	Phone User Interface	Configure BToE feature. Configures the BToE pairing mode.

Details of Configuration Parameters:

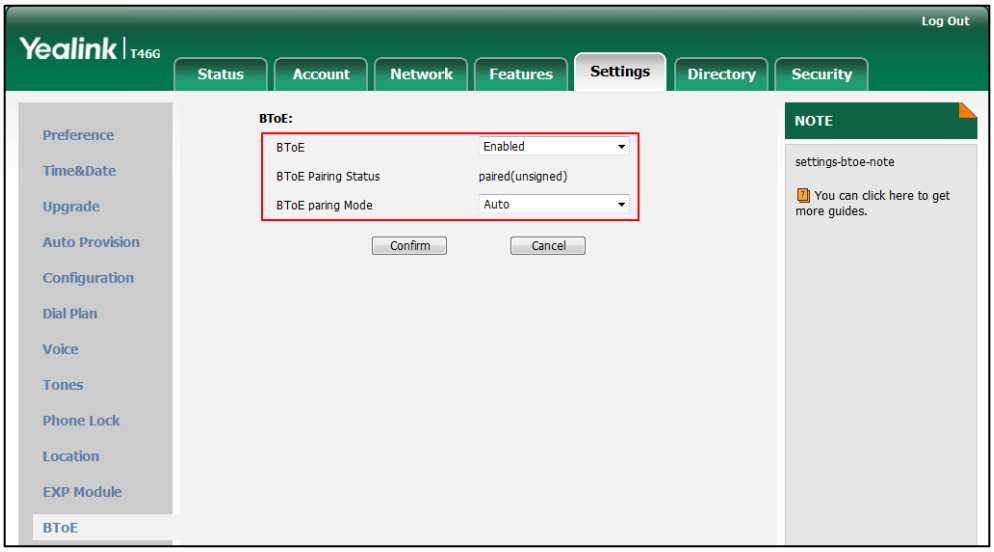
Parameters	Permitted Values	Default
sip.btoe.enable	**0 or 1**	**1**
Description: Enables or disables the BToE (Better Together over Ethernet) feature. **0**-Disabled **1**-Enabled If it is set to 1 (Enabled), BToE is enabled on the phone. Your phone can pair with Skype for Business Client. If it is set to 0 (Disabled), BToE is disabled on the phone. Your phone cannot pair with Skype for Business Client. **Web User Interface:** Settings->BToE->BToE **Phone User Interface:**		

Parameters	Permitted Values	Default
Menu->Features->BToE->BToE		
features.sign_in_via_btoe.enable	**0 or 1**	**1**
Description: Enables or disables the user to sign into the phone via Skype for Business client. **0**-Disabled **1**-Enabled **Note:** It works only if the value of the parameter "sip.btoe.enable" is set to 1 (Enabled). If it is set to 1 (Enabled), make sure your phone has paired with the Skype for Business client using BToE software, so that you can sign into the phone via Skype for Business client. **Web User Interface:** None **Phone User Interface:** None		
sip.btoe.pairing_mode	**0 or 1**	**0**
Description: Configures the BToE pairing mode. If it is set to 0 (Auto), you can pair your phone and computer without a pairing code. If it is set to 1 (Manual), your phone will generate a pairing code when pairing with computer. You need to enter the pairing code on your BToE software manually to pair your phone and computer. **Note:** It works only if the value of the parameter "sip.btoe.enable" is set to 1 (Enabled). **Web User Interface:** Settings->BToE->BToE Paring Mode **Phone User Interface:** Menu->Features->BToE->BToE Pairing Mode		

To configure BToE feature via web user interface:

1. Click on **Settings**->**BToE**.
2. Select the desired value from the pull-down list of **BToE**.

3. Select the desired generation from the pull-down list of **BToE Pairing Mode**.

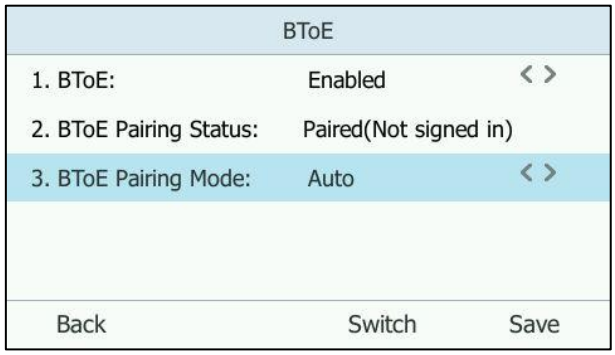


4. Click **Confirm** to accept the change.

To configure BToE feature via phone user interface:

1. Press **Menu**-> **Features**->**BToE**.
2. Press ◄ or ►, or the **Switch** soft key to select **Enabled** from the **BToE** field.
3. Press ◄ or ►, or the **Switch** soft key to select the pairing mode from the **BToE Pairing Mode** field.

   The default value is **Auto**.



4. Press the **Save** soft key to accept the change or the **Back** soft key to cancel.

To use the BToE feature and sign in:

1. Download and install the Yealink BToE Connector application to your computer.
2. Sign into the Skype for Business client on your computer.
3. Enable BToE and pair your phone with your computer. For more information on how to pair, refer to *Better Together over Ethernet* chapter in *Yealink phone-specific user guide*.
4. When no user signs into the phone, a logon dialog will pop up on the Skype for Business client on your computer to prompt you to enter the password.

5. Enter your password and sign in.

   Now that the same account is signed into your phone and the Skype for Business client, your computer and phone are paired, and BToE is activated. You can manage calls on your phone using the Skype for Business client.

   If the Skype for Business Server is configured to forcibly lock the phone. You need to configure an unlock PIN at the initial sign-in.

Signing Out of Skype for Business

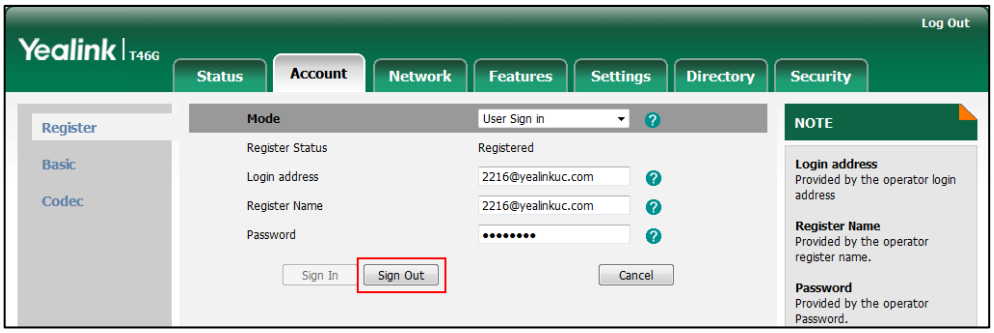
Procedure

Sign-out can be configured locally.

Local	Web User Interface	Sign out of Skype for Business Server. **Navigate to**: http://<phoneIPAddress>/servlet?p=account-register-lync&q=load&acc=0
	Phone User Interface	Sign out of Skype for Business Server.

To sign out of Skype for Business Server via web user interface:

1. Click on **Account**->**Register**.

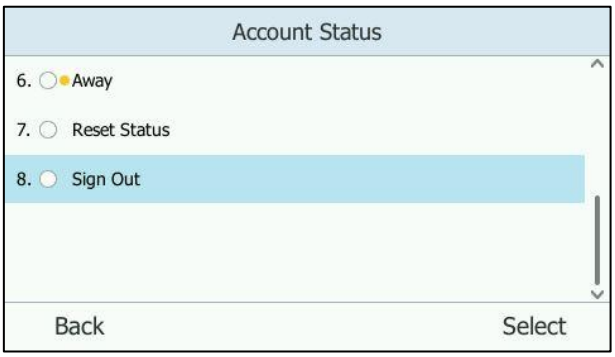


2. Click **Sign Out** to accept the change.

To sign out of Skype for Business Server:

1. Press the **Status** soft key.
2. Press or to select **Sign Out**.

The phone signs out of Skype for Business server.



After you sign out of Skype for Business, the account-related features (calling, viewing Skype for Business contacts, calendar, etc.) are not available. However, you can still use other phone features.

Calendar

Yealink Skype for Business phones integrates with the Microsoft Exchange calendar feature. If your phone is configured to connect to the Microsoft Exchange Server, and the Microsoft® Outlook® application is installed at your site, the Skype conference, appointment, meeting and event scheduled on Microsoft Outlook application will appear on your phone.

To use the calendar feature on your phone, you must sign into the phone using User Sign-in, Web Sign-in or Signing in via PC method.

Procedure

Calendar can be configured using the configuration files only.

Configuration File	<y0000000000xx>.cfg	Configure calendar feature. **Parameters:** sfb.calendar.enable
		Configures the interval (in seconds) for the phone to automatically check if any calendars update available on Microsoft Exchange Server. **Parameters:** phone_setting.calendar.update_time

Details of Configuration Parameters:

Parameters	Permitted Values	Default
sfb.calendar.enable	**0 or 1**	**1**

Parameters	Permitted Values	Default
Description: Enables or disables the calendar feature. **0**-Disabled **1**-Enabled If it is set to 1 (Enabled), user can use calendar feature on the Skype for Business phone. If it is set to 0 (Disabled), user cannot use calendar feature on the Skype for Business phone. **Web User Interface:** None **Phone User Interface:** Menu->Calendar		
phone_setting.calendar.update_time	**Integer from 0 to 1000**	**300**
Description: It configures the interval (in seconds) for the phone to automatically check if any calendars update available on Microsoft Exchange Server. If it is set to 300 (in seconds) , the phone will check if any calendar update available on the Microsoft Exchange Server every 300 seconds. If an update is available, the phone will download the calendars. **Web User Interface:** None **Phone User Interface:** None		

User and Administrator Passwords

Some menu options are protected by two privilege levels, user and administrator, each with its own password. When logging into the web user interface, you need to enter the user name and password to access various menu options. The default user password is "user" and the default administrator password is "admin"

For security reasons, the user or administrator should change the default user or administrator password as soon as possible. A user or an administrator can change the user password. The administrator password can only be changed by an administrator.

Advanced menu options are strictly used by administrators. Users can configure them only if they have administrator privileges.

Procedure

User or administrator password can be changed using the following methods.

Configuration File	<y0000000000xx>.cfg	Change the user or administrator password of the phone. **Parameter:** security.user_password
Local	Web User Interface	Change the user or administrator password of the phone. **Navigate to**: http://<phoneIPAddress>/servlet?p=security&q=load
	Phone User Interface	Change the administrator password of the phone.

Details of the Configuration Parameter:

Parameter	Permitted Values	Default
static.security.user_password	**String within 32 characters**	**user**

Description:

Configures the password of the user or administrator for phone's web user interface access.

The phone uses "user" as the default user password and "admin" as the default administrator password.

The valid value format is username:new password.

Example:

static.security.user_password = user:123 means setting the password of user (current user name is "user") to password 123.

static.security.user_password = admin:456 means setting the password of administrator (current user name is "admin") to password 456.

Note:The phones support ASCII characters 32-126(0x20-0x7E) in passwords. You can set the password to be empty via web user interface only.

Web User Interface:

Security->Password

Phone User Interface:

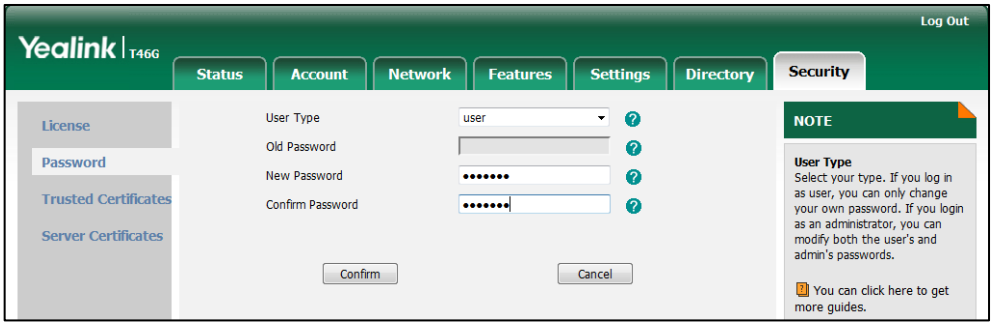
Menu->Advanced (default password: admin) ->Set Password

Note: You cannot change the user password via phone user interface.

To change the user or administrator password via web user interface:

1. Click on **Security**->**Password**.
2. Select the desired value (**user** or **admin**) from the pull-down list of **User Type**.
3. Enter new password in the **New Password** and **Confirm Password** fields.

   Valid characters are ASCII characters 32-126(0x20-0x7E) except 58(3A).



4. Click **Confirm** to accept the change.

Note If logging into the web user interface of the phone with the user credential, you need to enter the old user password in the **Old Password** field.

To change the administrator password via phone user interface:

1. Press **Menu**-> **Advanced** (default password: admin) ->**Set Password**.
2. Enter the current administrator password in the **Current PWD** field.
3. Enter new password in the **New PWD** field and **Confirm PWD** field.

   Valid characters are ASCII characters 32-126(0x20-0x7E).
4. Press the **Save** soft key to accept the change.

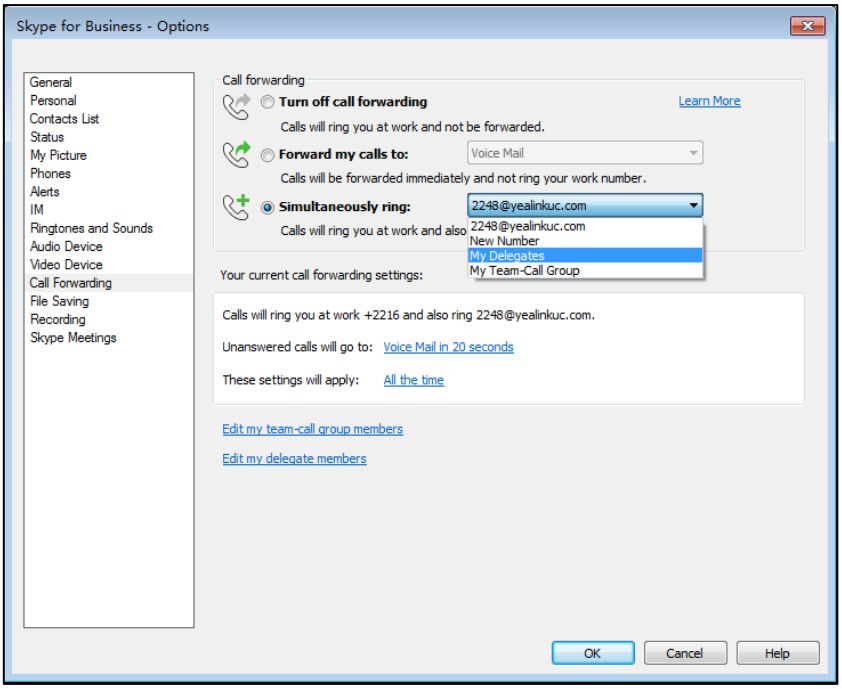
Configuring Boss-Admin Feature

The boss-admin feature, which is also called boss-delegate feature, enables a "boss" phone and delegates' phones to ring simultaneously when a user calls the boss. When one party answers the call, the other phone will stop ringing. A boss can assign delegates and delegates can manage calls on behalf of the boss's line. For more information, refer to *Yealink phone-specific user guide*.

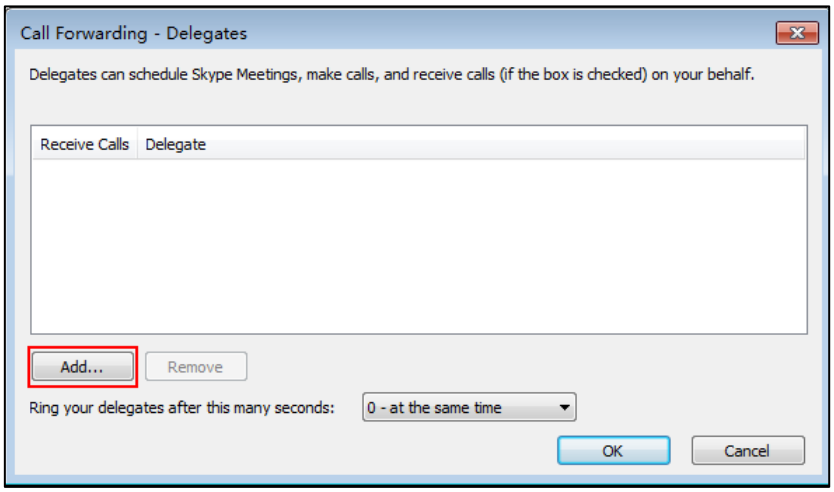
To assign delegates using Skype for Business client:

1. Open Skype for Business client.
2. Sign into Skype for Business client as the person who wants to assign a delegate.
3. Click the button, and then click **Call Forwarding Settings**.
4. Mark the radio box in **Simultaneously ring** field.

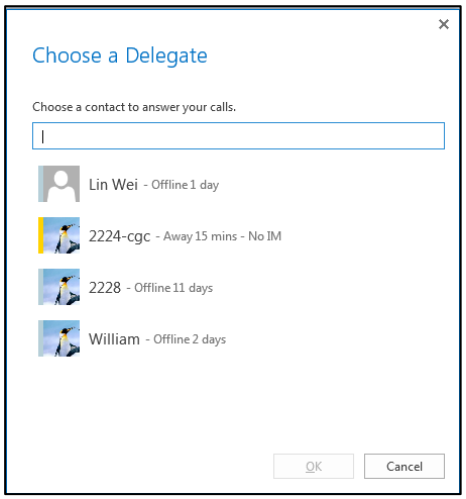
5. Select **My Delegates** from the pull-down list of **Simultaneously ring**.



6. In the **Delegate**s dialog box, click **Add**. Each delegate must be a Skype for Business contact.



7. Select the desired delegates from the **Choose a Delegate** dialog box.

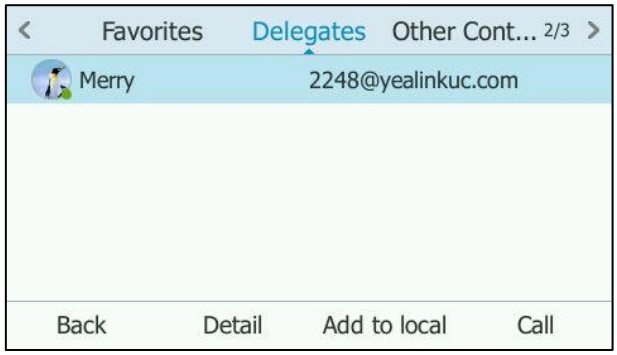


8. Click **OK**.
9. Click **OK** in the **Delegates** dialog box.
10. Click **OK** in the **Options** dialog box.

To view your delegates when you are a boss:

Once you assign delegates on the Skype for Business Server client, a Delegates group will be added your phone automatically.

1. Press the **Directory** soft key.
2. Press or to select **Delegates**, and then presss the **Enter** soft key.
   Your delegate(s) will be displayed.

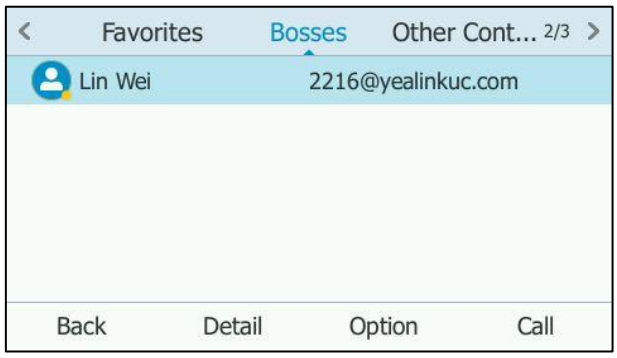


To view your bosses when you are a delegate:

Once you are assigned to be a delegate on the Skype for Business Server client, a Bosses group will be added to your phone automatically.

1. Press the **Directory** soft key.
2. Press or to select **Bosses**, and then presss the **Enter** soft key.

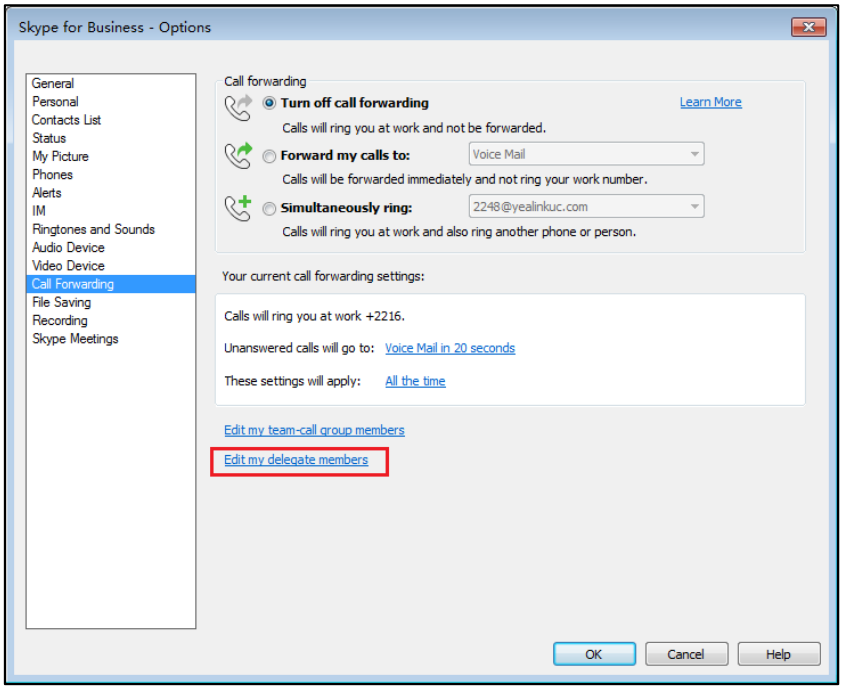
Your boss(es) will be displayed.



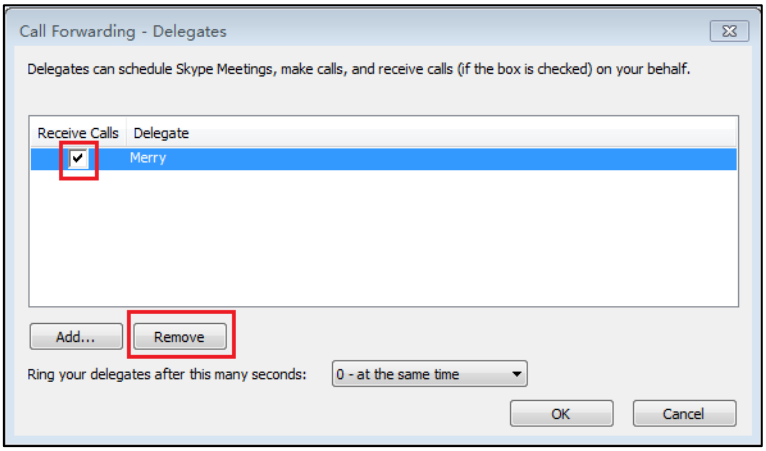
To remove a delegate from Skype for Business client:

1. Open Skype for Business client.
2. Sign into Skype for Business client as the person who wants to remove a delegate.

   Make sure **My Delegates** option is not selected in either the **Simultaneously ring** or **Forward my calls to** list.
3. Click **Edit my delegate members**.



4. Check the checkbox of the delegate you want to remove.



5. Click **Remove**.
6. Click **OK** in the **Delegates** dialog box.
7. Click **OK** in the **Option**s dialog box.

Uploading a Trusted Certificate

When the Skype for Business phone requests a TLS connection with a server, the Skype for Business phone should verify the certificate sent by the server to decide whether it is trusted based on the trusted certificates list.

The Skype for Business phone has 49 built-in trusted certificates. You can upload 10 custom certificates at most. The format of the trusted certificate files must be *.pem,*.cer,*.crt and *.der and the maximum file size is 5MB.

Yealink Skype for Business phones trust the following CAs by default:

- DigiCert High Assurance EV Root CA
- Deutsche Telekom AG Root CA-2
- Equifax Secure Certificate Authority
- Equifax Secure eBusiness CA-1
- Equifax Secure Global eBusiness CA-1
- GeoTrust Global CA
- GeoTrust Global CA2
- GeoTrust Primary CA
- GeoTrust Primary CA G2 ECC
- GeoTrust Universal CA
- GeoTrust Universal CA2
- Thawte Personal Freemail CA
- Thawte Premium Server CA
- Thawte Primary Root CA - G1 (EV)

- Thawte Primary Root CA - G2 (ECC)
- Thawte Primary Root CA - G3 (SHA256)
- Thawte Server CA
- VeriSign Class 1 Public Primary Certification Authority
- VeriSign Class 1 Public Primary Certification Authority - G2
- VeriSign Class 1 Public Primary Certification Authority - G3
- VeriSign Class 2 Public Primary Certification Authority - G2
- VeriSign Class 2 Public Primary Certification Authority - G3
- VeriSign Class 3 Public Primary Certification Authority
- VeriSign Class 3 Public Primary Certification Authority - G2
- VeriSign Class 3 Public Primary Certification Authority - G3
- VeriSign Class 3 Public Primary Certification Authority - G4
- VeriSign Class 3 Public Primary Certification Authority - G5
- VeriSign Class 4 Public Primary Certification Authority - G2
- VeriSign Class 4 Public Primary Certification Authority - G3
- VeriSign Universal Root Certification Authority
- Microsoft_IT_SSL_SHA2.cer
- CNNIC_Root.cer
- baltimoreCyberTrust.cer
- UserTrust.cer
- AAA Certificate Services.cer
- DigiCert Assured ID Root CA.cer
- Entrust.net Certification Authority (2048).cer
- Entrust Root Certification Authority
- Entrust.net Secure Server Certification Authority
- GTE CyberTrust Global Root.cer
- Starfield Class 2 Certification Authority.cer
- AddTrust External CA Root
- Go Daddy Class 2 Certification Authority
- StartCom Certification Authority
- DST Root CA X3
- ISRG Root X1 (intermediate certificates: Let's Encrypt Authority X1 and Let's Encrypt Authority X2 are signed by the root certificate ISRG Root X1.)
- Baltimore CyberTrust Root
- AddTrust External CA Root

- Starfield Root Certificate Authority - G2

Note

Yealink endeavors to maintain a built-in list of the most commonly used CA Certificates. Due to memory constraints, we cannot ensure a complete set of certificates. If you are using a certificate from a commercial Certificate Authority not in the list above, you can send a request to your local distributor. At this point, you can upload your particular CA certificate into your phone.

DST Root CA X3, ISRG Root X1, Let's Encrypt Authority X1, Let's Encrypt Authority X2, Baltimore CyberTrust Root，AddTrust External CA Root，Starfield Root Certificate Authority - G2 certificates are only applicable to T48G/T46G/T42G/T41P/T40P Skype for Business phones running firmware version X.8.0.50 or later.

Uploading a Trusted Certificate from the Provisioning Server

Procedure

Configuration changes can be performed using the configuration files or locally.

Configuration File	<y0000000000xx>.cfg	Upload the trusted certificates. **Parameter:** trusted_certificates.url
Local	Web User Interface	Upload the trusted certificates. **Navigate to**: http://<phoneIPAddress>/servlet?p=server-cert&q=load

Details of Configuration Parameters:

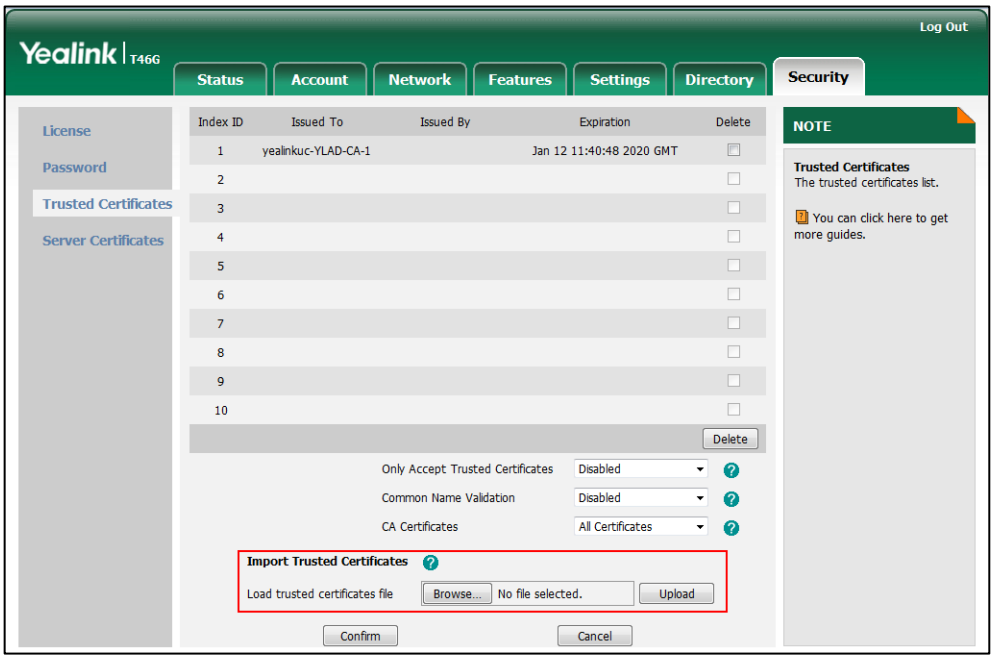
Parameters	Permitted Values	Default
trusted_certificates.url	**URL within 511 characters**	**Blank**
Description: Configures the access URL of the custom trusted certificate used to authenticate the connecting server. **Example:** trusted_certificates.url = http://192.168.1.20/tc.crt **Note**: The certificate you want to upload must be in *.pem, *.crt, *.cer or *.der format. **Web User Interface:** Security->Trusted Certificates->Load trusted certificates file		

Parameters	Permitted Values	Default
Phone User Interface: None		

Uploading a Trusted Certificate via Web User Interface

To upload a trusted certificate via web user interface:

1. Click on **Security**->**Trusted Certificates**.
2. Click **Browse** to select the certificate (*.pem, *.crt, *.cer or *.der) from your local system.



3. Click **Upload** to upload the certificate.

Upgrading Phone Firmware

Common reasons for updating firmware include fixing bugs or adding features to the device. You can download the latest firmware for your product online:

http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage.

Yealink supports three methods to upgrade phone firmwares:

- **Upgrade firmware from provisioning server**: Download firmware in ROM file format, and use auto provisioning method to upgrade the firmware. This method requires setting up a provisioning server, and uses configuration files to provision the phone.
- **Upgrade firmware via web user interface**: Download firmware in ROM file format from Yealink website, and upload it to the phone via web user interface. This method can deploy small number of phones.
- **Upgrade firmware from Skype for Business Server**: Download firmware in CAB file format, and place the firmware on Skype for Business Server to provision the phones.

The following table lists the associated and latest firmware name for each Skype for Business phone model (X is replaced by the actual firmware version).

Phone Model	Associated Firmware Name	Firmware Name(.rom)	Firmware Name(.cab)
T48G	35.x.x.x.rom	35.8.0.60.rom	Yealink_ver_35.8.0.60.cab
T46G	28.x.x.x.rom	28.8.0.60.rom	Yealink_ver_28.8.0.60.cab
T42G/T41P	29.x.x.x.rom	29.8.0.60.rom	Yealink_ver_29.8.0.60.cab
T40P	54.x.x.x.rom	54.8.0.60.rom	Yealink_ver_54.8.0.60.cab

Note Do not unplug the network and power cables when the phone is upgrading firmware.

Upgrading Firmware from the Provisioning Server

Skype for Business phones support using FTP, TFTP, HTTP and HTTPS protocols to download configuration files and firmware from the provisioning server, and then upgrade firmware automatically.

Skype for Business phones can download firmware stored on the provisioning server in one of two ways:

- Check for configuration files and then download firmware during startup.
- Automatically check for configuration files and then download firmware at a fixed interval or specific time.

Method of checking for configuration files is configurable.

Procedure

Configuration changes can be performed using the configuration files or locally.

Configuration File	<y0000000000xx>.cfg	Configure the way for the Skype for Business phone to check for configuration files. **Parameters:** auto_provision.power_on auto_provision.repeat.enable auto_provision.repeat.minutes auto_provision.weekly.enable auto_provision.weekly.begin_time auto_provision.weekly.end_time auto_provision.weekly.dayofweek
		Specify the access URL of firmware. **Parameter:** firmware.url
		Configure the phone to be reset to factory after an upgrade. **Parameter:** auto_provision.reset_factory.enable
Local	Web User Interface	Configure the way for the Skype for Business phone to check for configuration files. **Navigate to**: http://<phoneIPAddress>/servlet?p=settings-autop&q=load

Details of Configuration Parameters:

Parameters	Permitted Values	Default
auto_provision.power_on	**0 or 1**	**1**
Description: Triggers the power on feature to on or off. **0**-Off **1**-On If it is set to 1 (On), the Skype for Business phone will perform an auto provisioning process		

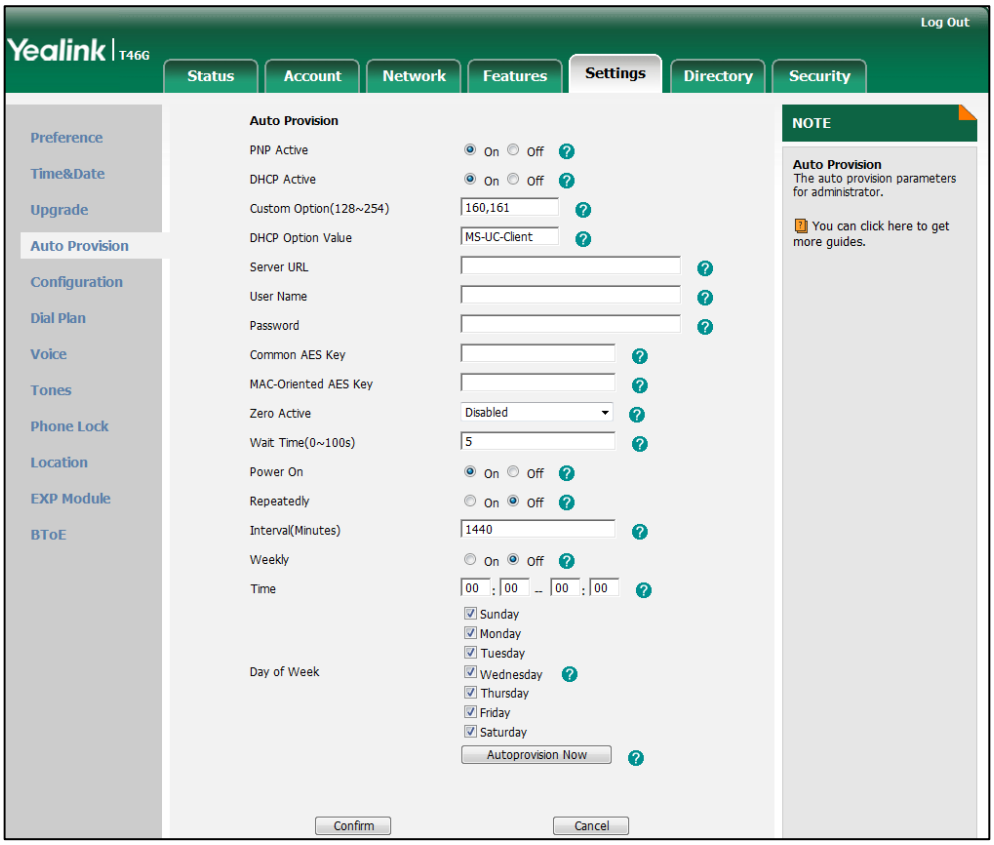
Parameters	Permitted Values	Default
when powered on. **Web User Interface:** Settings->Auto Provision->Power On **Phone User Interface:** None		
auto_provision.repeat.enable	**0 or 1**	**0**
Description: Triggers the repeatedly feature to on or off. **0**-Off **1**-On If it is set to 1 (On), the Skype for Business phone will perform an auto provisioning process repeatedly. **Web User Interface:** Settings->Auto Provision->Repeatedly **Phone User Interface:** None		
auto_provision.repeat.minutes	**Integer from 1 to 43200**	**1440**
Description: Configures the interval (in minutes) for the Skype for Business phone to perform an auto provisioning process repeatedly. **Note**: It works only if the value of the parameter "auto_provision.repeat.enable" is set to 1 (On). **Web User Interface:** Settings->Auto Provision->Interval(Minutes) **Phone User Interface:** None		
auto_provision.weekly.enable	**0 or 1**	**0**
Description: Triggers the weekly feature to on or off. **0**-Off **1**-On If it is set to 1 (On), the Skype for Business phone will perform an auto provisioning process		

Parameters	Permitted Values	Default
weekly. **Web User Interface:** Settings->Auto Provision->Weekly **Phone User Interface:** None		
auto_provision.weekly.begin_time	**Time from 00:00 to 23:59**	**00:00**
Description: Configures the begin time of the day for the Skype for Business phone to perform an auto provisioning process weekly. **Note**: It works only if the value of the parameter "auto_provision.weekly.enable" is set to 1 (On). **Web User Interface:** Settings->Auto Provision->Time **Phone User Interface:** None		
auto_provision.weekly.end_time	**Time from 00:00 to 23:59**	**00:00**
Description: Configures the end time of the day for the Skype for Business phone to perform an auto provisioning process weekly. **Note**: It works only if the value of the parameter "auto_provision.weekly.enable" is set to 1 (On). **Web User Interface:** Settings->Auto Provision->Time **Phone User Interface:** None		
auto_provision.weekly.dayofweek	**0, 1, 2, 3, 4, 5, 6 or a combination of these digits**	**0123456**
Description: Configures the days of the week for the Skype for Business phone to perform an auto provisioning process weekly. **0**-Sunday **1**-Monday **2**-Tuesday		

Parameters	Permitted Values	Default
3-Wednesday **4**-Thursday **5**-Friday **6**-Saturday **Example**: auto_provision.weekly.dayofweek = 01 It means the Skype for Business phone will perform an auto provisioning process every Sunday and Monday. **Note**: It works only if the value of the parameter "auto_provision.weekly.enable" is set to 1 (On). **Web User Interface:** Settings->Auto Provision->Day of Week **Phone User Interface:** None		
firmware.url	**URL within 511 characters**	**Blank**
Description: Configures the access URL of the firmware file. **Example:** firmware.url = http://192.168.1.20/28.8.0.60.rom **Note:** If you change this parameter, the Skype for Business phone will reboot to make the change take effect. **Web User Interface:** Settings->Upgrade->Select and Upgrade Firmware **Phone User Interface:** None		
auto_provision.reset_factory.enable	**0 or 1**	**0**
Description: Enables or disables the phone to be reset to factory after you upgrade the phone firmware. **0**-Disabled **1**-Enabled **Note**: This parameter only take effect once. Next time you upgrade the phone firmware, the phone will not be reset to factory.		

To configure the way for the Skype for Business phone to check for configuration files via web user interface:

1. Click on **Settings**->**Auto Provision**.
2. Make the desired change.



3. Click **Confirm** to accept the change.

When the "Power On" is set to **On**, the Skype for Business phone will check configuration files stored on the provisioning server during startup and then will download firmware from the server.

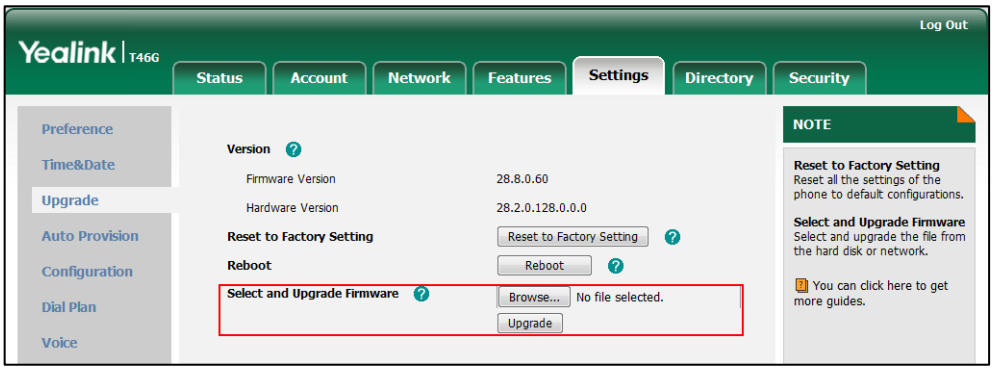
Upgrading Firmware via Web User Interface

To manually upgrade firmware via web user interface, you need to store firmware to your local system in advance.

To upgrade firmware manually via web user interface:

1. Click on **Settings**->**Upgrade**.
2. Click **Browse** to locate the required firmware from your local system.
3. Click **Upgrade**.

A dialog box pops up to prompt "Firmware of the SIP Phone will be updated. It will take 5 minutes to complete. Please don't power off!".



4. Click **OK** to confirm the upgrade.

Note Do not close and refresh the browser when the phone is upgrading firmware via web user interface.

Upgrading Firmware from Skype for Business Server

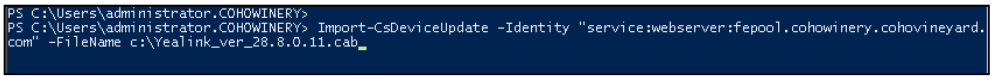
The following section briefly describes the upgrade process. For more detailed information, refer to *Updating Phone Firmware from Microsoft Skype for Business Server Guide*.

To upgrade firmware from Skype for Business Server:

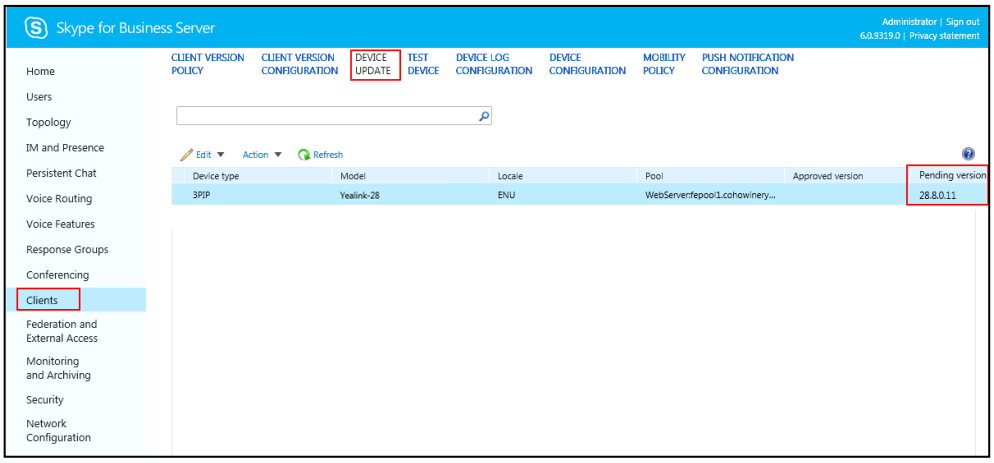
1. Download firmware in CAB file format (e.g., Yealink_ver_28.8.0.11.cab) to your computer.
2. Go to Skype for Business Server and copy the CAB file to a C: drive directory.
3. Use the Windows PowerShell to go to a particular directory.
4. In the Windows PowerShell, run the following import command:

   Import-CsDeviceUpdate -Identity "service:webserver:fepool.cohowinery.cohovineyard.com" -FileName c:\Yealink_ver_28.8.0.11.cab

   The -Identity value format is important and must be exactly service:webServer:< Skype for Business FQDN>, while the -FileName value is simply an absolute path of the CAB file.

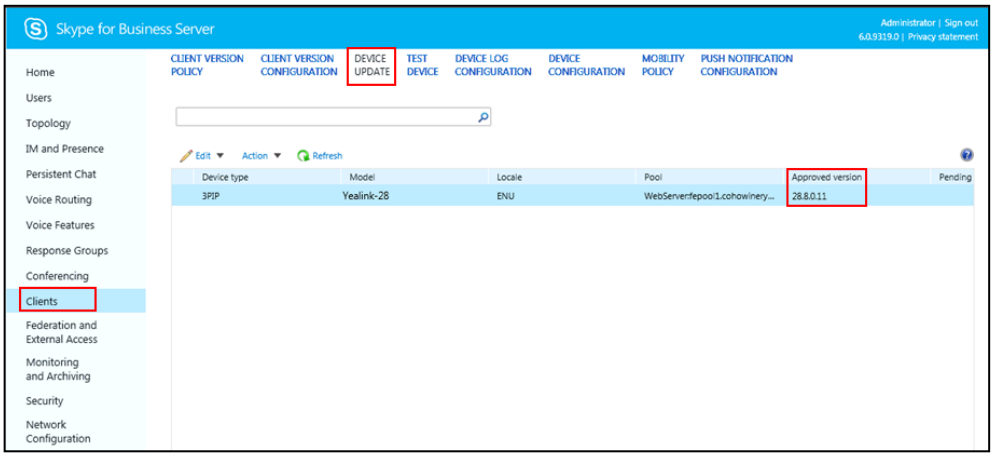


5. In the Skype for Business Control Panel, click on **Clients ->DEVICE UPDATE** to view firmware versions available on Skype for Business Server.



6. Click on **Clients > DEVICE UPDATE-> Action > Approve** to approve the firmware.

   The firmware version will be displayed as Approved Version.



There are two ways for the phones to update firmware from Skype for Business Server:

- Automatic Update
- Manual Update

Automatic Update

When the phone has been signed in, it will update firmware automatically in following situations:

Reboot

When the phone connects to the network and is powered on, it automatically checks if an update is available on Skype for Business Server. If there is an update available on Skype for Business Server, the phone will automatically update firmware.

Regular Update When a User Signs in

If the phone is powered on, and a user signs in, the phone automatically checks if an update is available on Skype for Business Server when the auto update timer (24 hours) expires. If there is an update available on Skype for Business Server, the phone will automatically update firmware.

Note

The Skype for Business phone will not perform an update check when a user signs in/out. It only performs an update check when the auto update timer (24 hours) expires. The timer will be cleared when the phone reboots or a user signs in/out.

If no user signs into the phone or there is no update available on Skype for Business Server, the Skype for Business phone will not update firmware automatically when the timer expires.

Manual Update

You can initiate an update immediately, just power off the phone and power on it again. The phone will boot up, check for updates and apply the updates. You can also trigger an update manually via phone user interface.

To trigger an update manually via phone user interface:

1. Press **Menu**->**Advanced** (default password: admin)->**Firmware Update**.

   The LCD screen prompts "Update now?".

2. Press the **Update** soft key.
3. Press the **OK** soft key to confirm the update.

   If there is no update available on Skype for Business Server, the LCD screen prompts "The firmware is the latest".

Resetting the Phone to Factory Default Settings

Reset the phone to factory configurations after you have tried all appropriate troubleshooting suggestions but still have not solved your problems.

When factory resetting the phone, the following happens:

- The call logs will be deleted.
- Passwords will be reset to default.
- All configuration parameters will be reset to default values.
- All custom files will be deleted. Such as, local contacts and registered accounts.

Three ways to reset the phone:

- **Full Reset**: All configurations and userdata on the phone will be reset.
- **Config Reset**: All configurations (e.g., account, call history) set on the phone will be reset.
- **Userdata Reset**: All custom data (e.g., ring tone) set on the phone will be reset.

To reset the phone via phone user interface:

1. Press **Menu**->**Advanced** (default password: admin) ->**Reset to Factory**.
2. Press or or the **Switch** soft key to select the desired value from the **Reset Option** field.
3. Press the **Save** soft key.

   The LCD screen prompts the following warning:

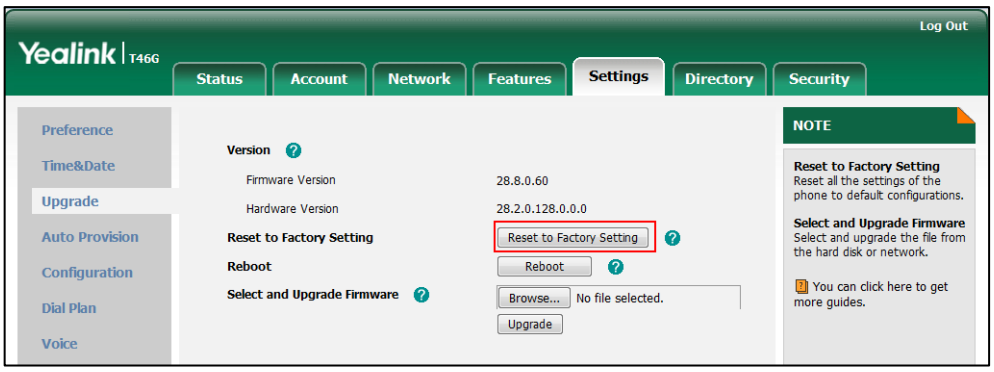
4. Press the **OK** soft key.

   The LCD screen prompts "Resetting to factory,please wait...".

   The phone will be reset to factory settings sucessfully after startup.

To reset the phone via web user interface:

1. Click on **Settings**->**Upgrade**.



2. Click **Reset to Factory Setting** in the Reset to Factory Setting field.

   The web user interface prompts the message "Do you want to reset to factory?".

3. Click **OK** to confirm the resetting.

   The Skype for Business phone will be reset to factory sucessfully after startup.

Note Reset of your phone may take a few minutes. Do not power off until the phone has started up successfully.

Branch Office Resiliency

Branch office resiliency is critical for multi-site deployments of Microsoft Skype for Business Server where the control servers are located at a central site or data center. It allows branch site users to continue to have Enterprise Voice service and voice mail (if voice mail rerouting settings are configured) when the branch site loses the connection to the central site.

When the WAN connection between the branch site and central site is unavailable, the phone goes into resiliency mode:

- Branch site user on the phone stays signed in with an indication of "Limited service due to outage".
- Presence icon on the phone LCD screen is displayed as Unknown icon: (T46G/T48G)/ (T42G/T41P/T40P).
- Call between branch site users is established successfully with 2-way audio.
- Conference between branch site users can be established successfully.
- The call history cannot get modified. (Already downloaded call log entries will not be deleted)
- Calls can be placed from the call history on the Skype for Business phone.
- Contact list is unavailable but you can search for a contact on the Skype for Business phone.
- User is not able to change his presence state manually.

- User is not able to use calendar feature.
- User is not able to receive the voice mail as exchange is unreachable and when Skype for Business phone comes out of resiliency mode, it downloads the yet undownloaded voice mail items and updates the voice mail screen.
- Calls between the branch office phones can be transferred to another branch site user.
- Call forward settings cannot be changed.

When the WAN connection between the branch site and central site becomes available, the phone comes out of resiliency mode automatically. You can use phone features as normal.

Note For more information on branch office resiliency, contact your system administrator.

Troubleshooting

This chapter provides an administrator with general information for troubleshooting some common problems that he (or she) may encounter while using Skype for Business phones.

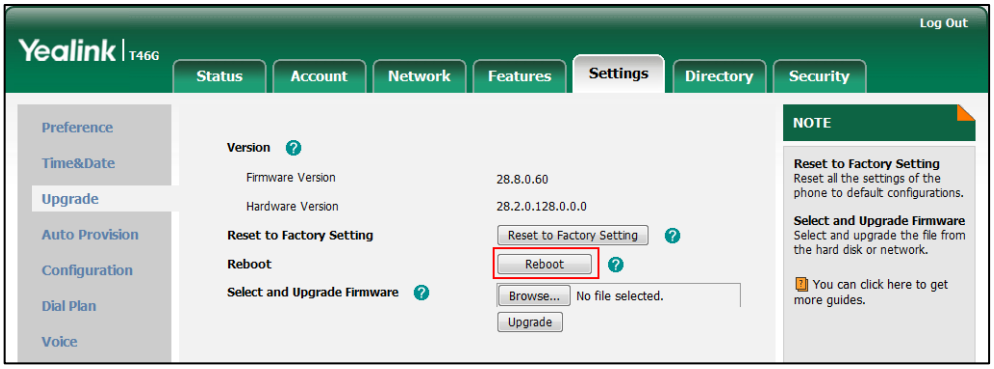
Why can't I sign into Skype for Business on the phone?

- Check your phone is properly connected to the switch or hub.
- Validate your domain name and sign-in information are correct.
- Ensure that DNS address is properly configured on the phone, or DHCP is configured to provide DNS address as part of DHCP response.

How to reboot the phone?

To reboot the phone via web user interface:

1. Click on **Settings**->**Upgrade**.
2. Click **Reboot** to reboot the Skype for Business phone.



Any reboot of the phone may take a few minutes.

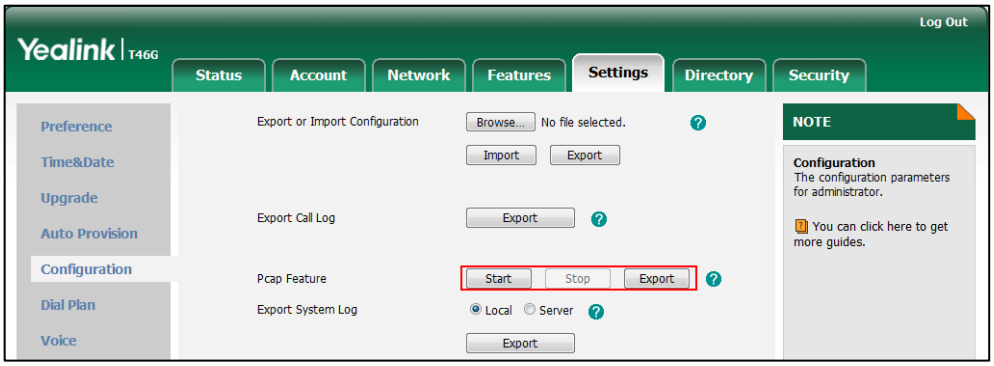
How to export PCAP trace?

We may need you to provide a PCAP trace to help analyze your problem.

To export a PCAP trace via web user interface:

1. Click on **Settings**->**Configuration**.
2. Click **Start** to begin capturing signal traffic.
3. Recreate the error to be documented in the trace.
4. Click **Stop** to stop the capture.

5. Click **Export** to open file download window, and then save the file to your local system.



Exporting the Global Log File

If your Skype for Business phone encounters some problems, commonly the global log files are needed. You can export the global log files to a local system, a syslog server or the Skype for Business Server. You can also specify the severity level of the global log and module log to be reported. The default global log and module log are 3.

Log parameters are described below:

Module	Parameter	Description
Export System Log	Local	Export the global log files to a local system (e.g., PC).
	Server	Export the global log files to a syslog server.
Global Log Level Setting	Global log Level	Specify the severity level of the global log.
	Max Log File Size (1-3072KB)	Specify the maximum size of the global log.
Module Log Level Settings	Register Log Level	Specify the severity level of the registration log.
	Subscribe Log Level	Specify the severity level of the subscription log.
	Call Log Level	Specify the severity level of the call log.
	Ice Log Level	Specify the severity level of the ICE log.
	Btoe Log Level	Specify the severity level of the BToE log.
	Exchange Log Level	Specify the severity level of the Exchange log.

Note Global Log consists of Module logs. The severity level of the exported Module Log will not be greater than the Global Log Level. For example, if you set Global Log Level to 3 and set ICE log Level to 6, the exported ICE log Level will be 3.

The following lists the log level of events you can log:

0: system is unusable

1: action must be taken immediately

2: critical condition

3: error conditions

4: warning conditions

5: normal but significant condition

6: informational

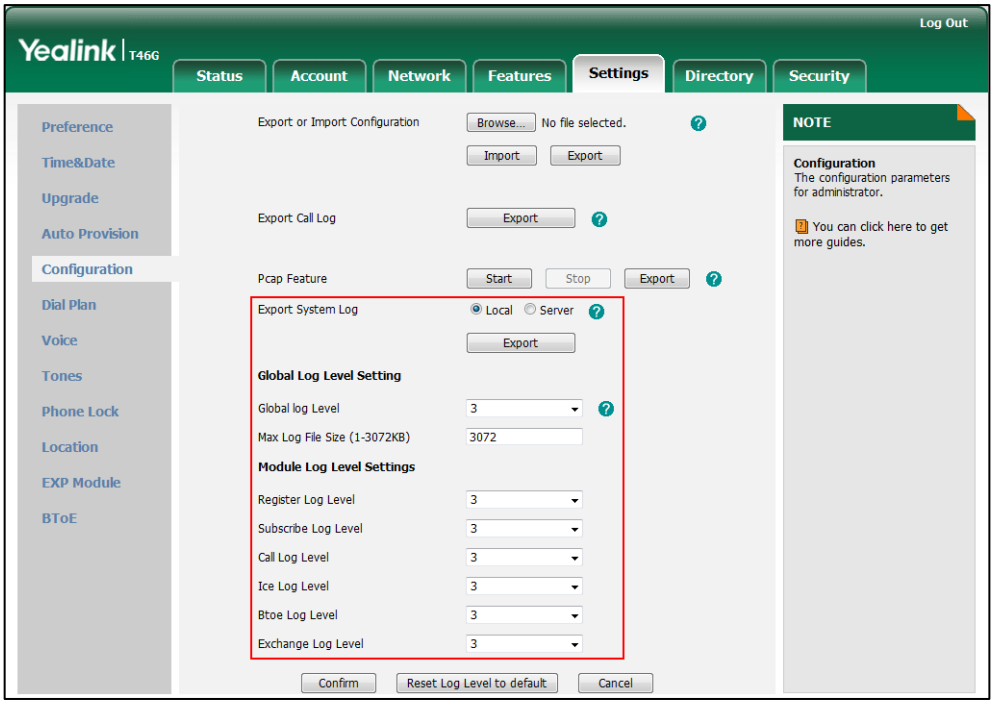
Exporting the Global Log File to the Local System

To export a global log file to the local system via web user interface:

1. Click on **Settings**->**Configuration**.
2. Mark the **Local** radio box in the **Export System Log** field.
3. Select the desired log level from the corresponding pull-down list.
4. Enter the maximum log size in the **Max Log File Size(1-3072KB)** field.
5. Click **Confirm** to accept the change.

   A dialog box pops up to prompt "Do you want to restart your machine?". The configuration will take effect after a reboot.
6. Click **OK** to reboot the Skype for Business phone.
7. Reproduce the issue (e.g., account registration).

8. Click **Export** to open file download window, and then save the file to your local system.



A log file "MAC address-sys.log" is successfully exported to your local system.

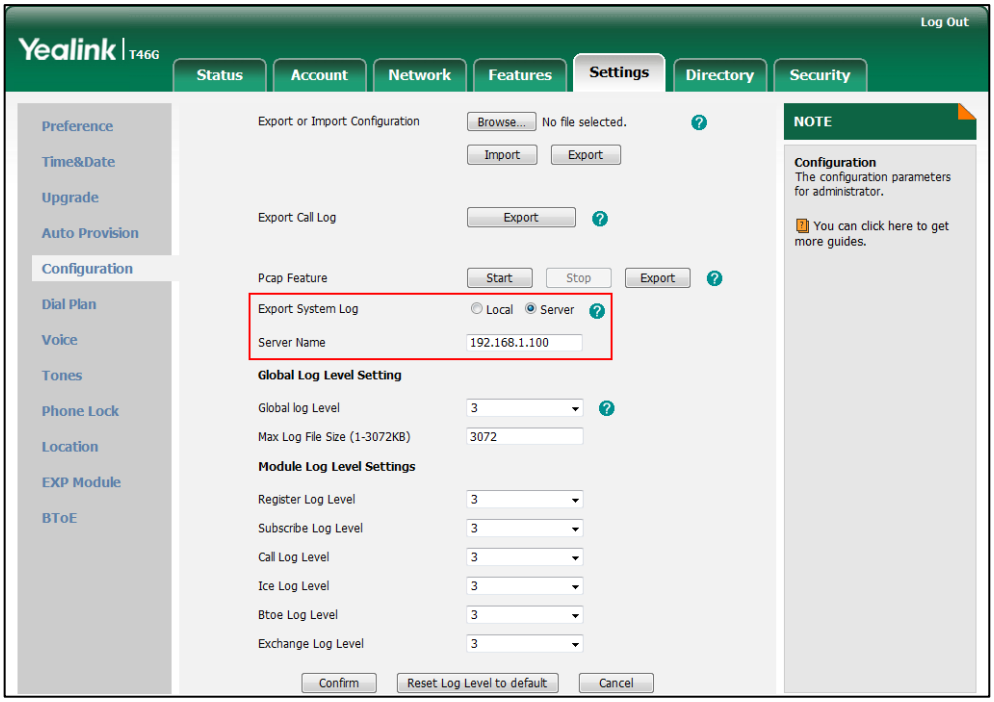
Exporting the Global Log File to a Syslog Server

To configure the phone to export the global log file to a syslog server via web user interface:

1. Click on **Settings**->**Configuration**.
2. Mark the **Server** radio box in the **Export System Log** field.
3. Enter the IP address or domain name of the syslog server in the **Server Name** field.

   For example, the IP address of your syslog server is 192.168.1.100.
4. Select the desired log level from the corresponding pull-down list.

5. Enter the maximum log size in the **Max Log File Size(1-3072KB)** field.



6. Click **Confirm** to accept the change.

   A dialog box pops up to prompt "Do you want to restart your machine?". The configuration will take effect after a reboot.

7. Click **OK** to reboot the phone.

   The system log will be exported successfully to the desired syslog server (192.168.1.100) after a reboot.

Exporting the Global Log File to the Skype for Business Server

You can upload global log file to the Skype for Business Server via phone user interface only.

To export a global log file to the Skype for Business Server via phone user interface:

1. Press **Menu**->**Basic**->**Log Upload**.
2. Press the **Upload** soft key.

   A dialog box pops up to prompt "Log Upload Successfully！".

   The global log file can be found on the Skype for Business Server at %ocsfilestore%\%domain%-WebServices-1\DeviceUpdateLogs\Cient.