



ADMINISTRATOR GUIDE

Release 1.5 | May 2017 | 3725-11529-003C

Polycom® Zero Touch Provisioning



Copyright© 2017, Polycom, Inc. All rights reserved. No part of this document may be reproduced, translated into another language or format, or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Polycom, Inc.

6001 America Center Drive
San Jose, CA 95002
USA

Trademarks Polycom®, the Polycom logo and the names and marks associated with Polycom products are trademarks and/or service marks of Polycom, Inc., and are registered and/or common law marks in the United States and various other countries.



All other trademarks are property of their respective owners. No portion hereof may be reproduced or transmitted in any form or by any means, for any purpose other than the recipient's personal use, without the express written permission of Polycom.

Disclaimer While Polycom uses reasonable efforts to include accurate and up-to-date information in this document, Polycom makes no warranties or representations as to its accuracy. Polycom assumes no liability or responsibility for any typographical or other errors or omissions in the content of this document.

Limitation of Liability Polycom and/or its respective suppliers make no representations about the suitability of the information contained in this document for any purpose. Information is provided "as is" without warranty of any kind and is subject to change without notice. The entire risk arising out of its use remains with the recipient. In no event shall Polycom and/or its respective suppliers be liable for any direct, consequential, incidental, special, punitive or other damages whatsoever (including without limitation, damages for loss of business profits, business interruption, or loss of business information), even if Polycom has been advised of the possibility of such damages.

End User License Agreement By installing, copying, or otherwise using this product, you acknowledge that you have read, understand and agree to be bound by the terms and conditions of the End User License Agreement for this product. The EULA for this product is available on the Polycom Support page for the product.

Patent Information The accompanying product may be protected by one or more U.S. and foreign patents and/or pending patent applications held by Polycom, Inc.

Open Source Software Used in this Product This product may contain open source software. You may receive the open source software from Polycom up to three (3) years after the distribution date of the applicable product or software at a charge not greater than the cost to Polycom of shipping or distributing the software to you. To receive software information, as well as the open source software code used in this product, contact Polycom by email at OpenSourceVideo@polycom.com.

Customer Feedback We are striving to improve our documentation quality and we appreciate your feedback. Email your opinions and comments to DocumentationFeedback@polycom.com.

Polycom Support Visit the [Polycom Support Center](#) for End User License Agreements, software downloads, product documents, product licenses, troubleshooting tips, service requests, and more.

Contents

- About This Guide 5**
 - Audience, Purpose, and Required Skills 5
 - Terminology Used in this Guide 5
 - Get Help 6
 - The Polycom Community 6

- Deploying the Zero Touch Provisioning Solution 7**
 - Browser Requirements 7
 - Supported Polycom Video Endpoints 8
 - Supported Polycom Phones 8
 - Updating Software with the ZTP Server 8
 - Prerequisites for Deploying Devices Using ZTP 8
 - Launch the Polycom ZTP Console 9
 - ZTP Provisioning Process 9
 - Limitations 10

- Configuration Profiles 11**
 - Create a Profile for Phones 11
 - Create a Profile for RealPresence Group Series 12
 - Create a Profile for RealPresence Debut 13
 - Search for a Profile or Device 14
 - Modify a Profile 15
 - Delete a Profile 16

- Manage Profile Associations 17**
 - Profile with a Single Device 17
 - Associate a Profile with Multiple Devices 18
 - CSV Format 19
 - Example Configurations 19
 - Subscription Status of CSV file 19
 - Modify the Associated Device Properties 20
 - Copy a Device Profile 20

Change the Device Associated with a Profile	21
Delete a Device from a Profile	21
Troubleshooting ZTP Issues	22
Identifying Provisioning Issues	22
Troubleshoot Issues Using the ZTP Console	23
Troubleshoot Issues Using a Device or Web Configuration Utility	24
Troubleshoot Settings on the Device	24
Search Results Not Displayed	25
Device Not Able to Communicate with ZTP	26
Verify that the Device has HTTP/HTTPS Access to ZTP	26
Verify the Security Certificates	26
Re-enabling ZTP on Devices	27
Enable/Disable the ZTP using the Phone's Interface	27
Enable/Disable the ZTP using the Phone's Configuration File	27
Reset ZTP on RealPresence Group Series	27
Reset ZTP on RealPresence Debut System	28
Additional Troubleshooting Information	28

About This Guide

This guide describes steps on how to operate the Polycom® Zero Touch Provisioning (ZTP) solution while provisioning Polycom phones and video endpoints. This document also describes operations to perform device association without using the ZTP console.

Audience, Purpose, and Required Skills

The primary audience for this document are resellers or service providers responsible for managing the deployment of the ZTP solution.

- **Reseller**
 - Represents any company that delivers Polycom devices to end-users or customers.
 - Responsible for device associations, typically on behalf of a service provider.
- **Service Provider**
 - Represents any company offering VOIP services to subscribers. The service provider may either operate on its own network or may purchase VOIP network services from a carrier as a complete solution or white label service.
 - Responsible for creating and managing device profiles and optionally performing device association operations.

Terminology Used in this Guide

The following table introduces the terms and acronyms you will find in this provisioning guide.

Terms and Acronyms Used in this Guide

Term	Definition
Admin	Any Polycom administrator.
Association	A relationship between a device and a profile. Associations are the primary mechanism by which configuration profiles are associated to devices within the ZTP solution.
Company	The company identifier for an entity that has access to the ZTP solution.
CPE	Customer Premise Equipment.
Device	A device configured to use ZTP. Typically, one or more devices are assigned to a Subscriber (customer) and are associated with a ZTP profile.
MAC Address	The unique number used to identify Ethernet devices. Use this number to track devices within the ZTP solution.

Terms and Acronyms Used in this Guide (continued)

Term	Definition
Profile	A set of configuration details created by a service provider. The profile name is used for device association operations and communicates “out of band” to people that need to associate devices to this profile.
Reseller	An organization that sells Polycom devices to end customers. This entity uses ZTP to associate devices to an appropriate configuration profile that has been set up by a service provider.
Service Provider	An organization that provides services to customers using Polycom devices. This entity uses ZTP to enable reseller partners to associate devices to a certain configuration profile.
Subscriber	An entity within ZTP that has one or more devices assigned to it. This entity is tracked by a reference ID created by the user when performing device associations.
ZTP	Zero Touch Provisioning

Get Help

For more information about installing, configuring, and administering Polycom products, refer to [Polycom Support](#).

The Polycom Community

The [Polycom Community](#) gives you access to the latest developer and support information. Participate in discussion forums to share ideas and solve problems with your colleagues. To register with the Polycom Community, simply create a Polycom online account. When logged in, you can access Polycom support personnel and participate in developer and support forums to find the latest information on hardware, software, and partner solutions topics.

Deploying the Zero Touch Provisioning Solution

The Zero Touch Provisioning (ZTP) solution is a cloud-based service designed to simplify the deployment of Polycom devices. Using the ZTP Console, you can create and manage provisioning profiles that enable your customers to install their own devices without the need of a supplier or skilled installer to deploy the phones. Most Polycom phones are configured to look for the ZTP server first when connected to a network that has outside access.

You can also use the ZTP solution to perform the following tasks on VoIP phones:

- Software updates.
- Set additional configuration parameters that simplify deployment such as a custom CA certificate for HTTPS provisioning.

The Polycom ZTP users can access the following services and components:

- An automated server available 24×7 that accepts requests from Polycom devices and provides an initial configuration of the product
- A partner web portal and API accessible by registered partners and channels that you can use to do the following:
 - Create configuration profiles
 - Associate devices to a configuration profile
 - Generate reports and query the status of devices associated with the ZTP solution

Browser Requirements

The Polycom ZTP server is compatible with the following browsers:

- Microsoft® Internet Explorer 9.0 or later
- Mozilla® Firefox® 22 or later
- Google Chrome™ 20 or later
- Apple® Safari® 6.04 or later

Supported Polycom Video Endpoints

You can only provision video endpoints with a provisioning server address. Any provisioning profile must be provisioned on the final provisioning server.

Device	Supported Software Versions
Polycom® RealPresence® Group Series Systems manufactured after October 1, 2015	Version 5.0 or later
Polycom® RealPresence Debut™	Version 1.2.0 or later

Supported Polycom Phones

You can use the ZTP server to provision the following Polycom phones:

Device	Supported Software Versions
Polycom® SoundPoint® IP conference phones	UC Software 4.0.8 or later
Polycom® SoundStation® IP conference phones	UC Software 4.0.8 or later
Polycom® VVX® business media phones	UC Software 4.0.8 or later

Updating Software with the ZTP Server

You can use ZTP to deliver software updates for phones only and only during the initial provisioning. ZTP is designed to be used once for your initial device installation. It is not designed to be used for ongoing management of devices.

You cannot use ZTP to update software on video endpoints. These systems must use a provisioning server, such as RealPresence Resource Manager, to obtain software updates.

Prerequisites for Deploying Devices Using ZTP

Before you deploy devices using ZTP, ensure that all of the following conditions are met:

- All devices have HTTP or HTTPS access to *ztp.polycom.com*. You may experience TLS connection issues if you use an http proxy at the customer location.
- No server address is configured in DHCP Option 66 or 160 on the local deployment network DHCP server. Ensure that the *rtcconfig* SRV record is not configured for DNS.

- The following settings are configured on each device:

<i>Polycom Products</i>	<i>Settings</i>
Phones and Video Endpoints	<ul style="list-style-type: none"> • Phones and video endpoints have a factory-installed device certificate. To find out if your phone model has a factory-installed device certificate, refer to Feature Profile 37148: Device Certificates on Polycom Phones. • The Provisioning Server Address field listed in the VOIP device menu system is Null. By default, this field is set to Null on all Polycom devices.
RealPresence Debut Systems	<p>For RealPresence Debut systems configured manually using the web interface,</p> <ul style="list-style-type: none"> • Ensure that the Provisioning Server Type is set to Polycom ZTP. • Do configure the DHCP Server Option with a server address.

Launch the Polycom ZTP Console

Before you can set up devices, you must launch the Polycom ZTP console. Functions displayed along the console window vary depending on whether you are logged in as a service provider or a reseller.

To launch the Polycom ZTP console:

- 1 Open the Zero Touch Provisioning Support page on [Polycom Support](#).
- 2 Enter the authenticated email address and password that you use to access other Polycom sites.
- 3 Click **Log In**.

ZTP Provisioning Process

ZTP Provisioning Server Discovery Process includes an automated method of communicating the provisioning server address to the device using a DHCP option.

- 1 The device uses DHCP to search for the ZTP server:
 - UCS Devices and RealPresence Debut: If DHCP provisioning server discovery is set on the device to Custom, Option 66, or Custom+Option 66 (the factory default), the device will look for a provisioning server address in DHCP or DHCP INFORM.
 - RealPresence Group systems: The device will look for the provisioning server address in DHCP record option 66.
- 2 The device searches for the ZTP server address:
 - UCS Devices and RealPresence Debut: The device will look for a statically configured provisioning server address (not 0.0.0.0 or Null).
 - RealPresence Group systems: The device will query DNS for the rtconfig SRV record.

- 3 If ZTP is enabled, the device contacts the ZTP server.
- 4 The device or video endpoint requests its own MAC address from the ZTP server, and the endpoint and ZTP server establishes a mutually authenticated TLS connection.
- 5 The ZTP server delivers the configuration profile associated with the device.

Limitations

You may encounter the following limitations and workarounds while using ZTP:

- **Downgrade not supported for versions of RealPresence Group Series earlier than 5.0**
Downgrading to a software version earlier than RealPresence Group Series 5.0 creates TLS certificate errors and causes ZTP to become non-operational.
- **Configuration file size**
To avoid processing delays, the single configuration file is limited to a maximum of 1000 entries.

Configuration Profiles

You can create profiles by providing a central provisioning server address that automatically redirects multiple customer devices to your provisioning server and also manage configuration profiles and devices using the **Profile Management** function. This Profile Management function is available only when logged in as a service provider.

The Profile Management function enables service providers to perform the following operations:

- [Create a Profile for Phones](#)
- [Create a Profile for RealPresence Group Series](#)
- [Create a Profile for RealPresence Debut](#)
- [Search for a Profile or Device](#)
- [Modify a Profile](#)
- [Delete a Profile](#)

Create a Profile for Phones

You can create a profile to use for phones.

To create a profile for phones:

- 1 Launch the ZTP console and click **Profile Management**.
- 2 In the **Profile Editor**, fill in the following fields.



If the details for the **Provisioning Server Username**, **Provisioning Server Password**, or **Provisioning Server Address** are already included in the configuration profile, leave the fields blank to avoid overriding the values in the configuration profile.

<i>Field Name</i>	<i>Description</i>
Profile Name	The name of the configuration profile that provisions the devices.
Vendor Model	Select Polycom_UCS_Device .
Upload File	Click Choose File to choose a configuration file associated with the configuration profile. Note: You must format this file according to the Polycom Unified Communications (UC) Software configuration file format.
Provisioning Server Address	The provisioning server address of the service provider from which you download the configuration file.

<i>Field Name</i>	<i>Description</i>
Provisioning Server Username	The user name for authentication with the provisioning server
Provisioning Server Password	The password used for authentication with the provisioning server.
Software Version	The software version to which the device updates.
Enable Provisioning Polling	You can enable or disable polling.
Boot Server DHCP Option setting	The boot server use options.
Option 60 Type	The DHCP options for SIP. You can select ASCII or Binary .
Enable Quick Setup	You can enable or disable quick setup. For more information about this function, see the <i>"Polycom UC Software Administrator Guide"</i>
Language	The language for the SIP device. Note: The ZTP server does not support downloading language files for the device. Polycom recommends that you download the language files using the appropriate version of Polycom UC Software and place the language file on the final provisioning server. For more information, see the <i>Polycom UC Software Administrator Guide</i> .

3 Click **Add**.

[Launch the Polycom ZTP Console](#)

Create a Profile for RealPresence Group Series

You can create a profile to use for RealPresence Group Series systems. You cannot use the same profile for RealPresence Group Series endpoints as for RealPresence Debut systems.

To create a profile for RealPresence Group Series systems:

- 1 Launch the ZTP console and click **Profile Management**.
- 2 In the **Profile Editor**, fill in the following fields.

<i>Field Name</i>	<i>Description</i>
Profile Name	The name of the configuration profile that provisions the devices.
Vendor Model	Select RealPresence_Group_Device .
Provisioning Server Address	The provisioning server address of the service provider from which you download the configuration file.

<i>Field Name</i>	<i>Description</i>
Provisioning Server Username	The user name for authentication with the provisioning server.
Provisioning Server Password	The password used for authentication with the provisioning server.
Server Type	Select the server type from the drop down menu. The options available are CMA/RPRM, DMS and others.

- 3 Click **Add**.

Create a Profile for RealPresence Debut

You can create a profile to use for RealPresence Debut systems. You cannot use the same profile for RealPresence Debut systems as for RealPresence Group Series endpoints.

To create a profile for RealPresence Debut systems:

- 1 Launch the ZTP console and click **Profile Management**.
- 2 In the **Profile Editor**, fill in the following fields.



If a field is not listed in the following table, leave the field blank in the **Profile Editor** screen.

<i>Field Name</i>	<i>Description</i>
Profile Name	The name of the configuration profile that provisions the devices.
Vendor Model	Select Polycom_UCS_Device .
Provisioning Server Address	The provisioning server address of the service provider from which you download the configuration file. Note: Prepend https:// in the field. You can enter the url in this field in the following format: <code>https://rprm.vc.polycom.com</code>
Provisioning Server Username	The user name for authentication with the provisioning server. Note: Prepend the domain name in the field before the user name. You can enter the user name in this field in the following format: <code>polycom/polyedge</code>
Provisioning Server Password	The password used for authentication with the provisioning server.

- 3 Click **Add**.

Search for a Profile or Device

You can search for profiles and devices to associate a configuration profile with one or more devices or to manage your profile and device associations.

To search for a profile or device:

- 1 Launch the Polycom ZTP console.
- 2 On the left navigation bar in the ZTP console, select **Find Operations**.
- 3 Enter search criteria in the fields as required.

<i>Field Name</i>	<i>Description</i>
First Name	First name of the subscriber.
Last Name	Last name of the subscriber.
Reference ID	A unique identifier that helps you reference a profile association. You can reference one or more devices with this identifier.
Phone Number	Phone number of the subscriber.
City	City where the subscriber is located.
Serial Number	The serial number of the device. UC Software devices use the MAC address as the serial number.
Model	The device model.
MAC Address	The MAC address of the device.
Configuration Profile	The configuration profile is created by the service provider and contains parameters specific to the service provider network such as redirection URL or software version.
Device View	Enable this check box to display search results by device MAC address or serial number rather than the default Reference ID.
No. of Results Per Page	By default, 10 search results are displayed per page. The minimum number of search results per page is two.
Download Results	Enable this check box to save search results to a local file rather than viewing them on the screen. A dialog box prompts you to choose a location where the records are downloaded. The results are saved in CSV file that you can import into Microsoft Excel for better analysis.
Max Number of Entries	The number of search records you want to save to the file. By default, all records are saved.
Ignore Case	Enable this option to ignore capitalization during searching. (MAC addresses in the Device Info section are always in lower case.)

Field Name	Description
Subscriber Status	Refers to the status of an association. You can search for Complete or Partial associations.
Send to Email	Enable this check box to email a file with the search results.

- 4 Select the desired search result view.

MAC Address	The device MAC address and links to the Device Summary Report screen, which displays device association information.
Details	Links to the Detailed Subscriber Information page, which provides customer information from the search result.
Name	Displays the first and last name of the subscriber. Click on the active column heading name to sort the list by subscriber name.
Profile	Displays the names of the configuration profile associated with the device.
Serial Number	Displays the device serial number.
Reference ID	Displays the reference ID of the device association. If the reference ID is linked, you can click it to retrieve more information about the association and to sort the column in ascending or descending order.
Device ZTP Access Status	Displays the Device ZTP Access Status of the device association. If the reference ID is linked, you can click it to retrieve more information about the association and to sort the column in ascending or descending order.

- 5 Click **Search**.

[Configuration Profiles](#)

Modify a Profile

You can modify a configuration profile by changing the profile parameters.

To modify a profile:

- 1 Launch the ZTP console and click **Profile Management**.
- 2 Click the **Profile Name** of the configuration profile that you want to modify.
- 3 Edit any fields in the Profile Editor.
- 4 Click **Modify**.

Delete a Profile

You can delete a profile from the list of configuration profiles.

To delete a profile:

- 1 Launch the ZTP console and click **Profile Management**.
- 2 Click **Delete (x)** beside the profile you want to delete.
- 3 Click **OK**.

Manage Profile Associations

After creating the profiles you need, you must associate the profiles with devices. You can choose to associate one device at a time or do a bulk association.

You can manage the following tasks:

- [Profile with a Single Device](#)
- [Associate a Profile with Multiple Devices](#)
- [Modify the Associated Device Properties](#)
- [Copy a Device Profile](#)
- [Change the Device Associated with a Profile](#)
- [Delete a Device from a Profile](#)

Profile with a Single Device

You can associate one device with a profile.

To associate a profile with a single device:

- 1 Launch the ZTP console and click **Find Operations**.
- 2 Search for a device profile using the available fields.
- 3 In the **Search Results** screen, click on an entry under **Reference ID**.
- 4 Click **Add** to add a device one at a time.
- 5 In the Create page, enter the customer contact profile details in the following fields:

Customer contact profile fields

<i>Field Name</i>	<i>Description</i>
MAC Address	The MAC address of the device.
Serial Number	The serial number of a device. For Bulk Associations, you can leave this field blank.
Vendor Model	<ul style="list-style-type: none">• Polycom_UCS_Device for the UCS devices.• Polycom Video Endpoint for RealPresence Group Series systems.• Polycom_UCS_Device for RealPresence Debut systems. You can leave this field blank for Bulk Associations.
Configuration Profile	Enter the name of the configuration profile that you want to associate with this device.

- 6 Click on **Click Here to Enter Vendor Extension** expand menu and enter the following fields:

Per-device Vendor Extension fields

<i>Field Name</i>	<i>Description</i>
Click Here to Enter Vendor Extension	Click this option to expose and view available parameters for single devices. Note: Any settings you make in these fields override settings in the Configuration Profile.
SIP Server Address	The SIP registration server address.
Outbound Proxy Address	The IP address or URL/FQDN of the applicable SIP Outbound Proxy server.
Provisioning Server Address	The provisioning server address of the service provider from which you download the configuration file. As a shortcut, you can embed the port number, username, and password in the URL you enter in this field in the following format: <code>protocol://username:password@hostname.domain.ca:port/filepath/</code>
Provisioning Server Username	The user name for authentication with the provisioning server.
Provisioning Server Password	The password used for authentication with the provisioning server.
Enable Provisioning Polling	None, Enable, or Disable.
SIP Authentication User ID	The user name of the SIP device.
SIP Authentication Password	The password of the SIP device.
Line Label	The line label that will display on the SIP device.
SIP Display Name	The name of the SIP device that you want to display.

- 7 Click on **Done**.

[Search for a Profile or Device](#)

Associate a Profile with Multiple Devices

You can associate multiple devices with a profile by creating and uploading a CSV file that contains your device information.

To associate a profile with multiple devices:

- 1 Launch the ZTP console click **Find Operations**.
- 2 Search for a device profile using the following fields:
- 3 In the **Search Results** screen, click on an entry under **Reference ID**.
- 4 Click **Bulk_Add** to add multiple devices.

- In the **Bulk Profile Association** screen, click **Upload File** to upload the CSV file.
The file takes several minutes to upload depending on the number of profile associations it contains.
The file uploads to ZTP and displays the Subscription Status screen.

CSV Format

Create a CSV file that contains your device information.

The data in each line should contain comma separated values without double quotes. Any optional values not entered should be identified by a pair of commas. You do not have to enter commas if you do not enter any vendor extension fields.

Example Configurations

This section provides five example associations. You can enter association separately or in a single CSV file.

Association Examples are as follows:

Association Example Format	Description
0000cafebab,,,profile1	This CSV format is applicable for no serial number, vendor model and for vendor extension passed.
0000cafebab,,, Polycom_UCS_Device,profile1	This CSV format is applicable for no serial number and if vendor extension is passed.
0000cafe1234,0000CAFE1234, Polycom_UCS_Device,profile1	This CSV format is applicable if no vendor extension parameter is passed.
0000cafe1234,0000CAFE1234,Pol ycom_UCS_Device,profile1,19 2.168.1.178, 192.168.1.171	This CSV format is applicable if the vendor extension includes SIP Server Address and Outbound Proxy Address.
0000cafe1234,0000CAFE1234,Pol ycom_UCS_Device,profile1,19 2.168.1.178,,,user,password	This CSV format is applicable if the vendor extension includes SIP Server Address, provisioning server, user name and provisioning server password.

Subscription Status of CSV file

After uploading the file to ZTP, you can check the subscription status of processing the multiple device associations until the status changes.

To check the subscription status:

- Launch the ZTP console and click **Find Operations**.
- Search for a **Reference ID**, and click the **Details** link for a record.
- ZTP provides the following status details in the **Detailed Subscriber Information** screen:
 - **Completed**- Processing has completed successfully.

- **Completed with Errors**- Processing has completed but with errors.

You can click on the Completed with Errors link to display a file that lists the errors encountered in one or more records. You must correct these errors and reupload the file entries.



The correct entries are applied to the database. You need to reupload only those files that shows the status as **Completed with Errors**.

Modify the Associated Device Properties

You can use ZTP to modify the configuration profile of a device or properties of that profile. This is useful when updating the phone to a new location.

To modify the device properties:

- 1 Launch the ZTP console and click **Find Operations**.
- 2 Search for a device association using the following fields:
- 3 In the **Search Results** screen, click on an entry under **Reference ID**.
- 4 In the **Modify Service or Package** window, click on the MAC address of the device you want to modify.
- 5 Modify any of the device properties and click **Done**.
- 6 Click **OK**.

Copy a Device Profile

You can copy the profile of an existing device to a new device without having to enter a new configuration profile.

To copy a device profile:

- 1 Launch the ZTP console and click **Find Operations**.
- 2 Search for a device profile using the available fields.
- 3 In the **Search Results** screen, click on an entry under **Reference ID**.
- 4 Locate the device you want to copy by MAC address and click **Copy**.
- 5 Enter the details in the following fields:

<i>Field Name</i>	<i>Description</i>
MAC Address	MAC Address of the device.
Serial No.	Serial number of the device.

- 6 Click **Done**.

Change the Device Associated with a Profile

You can interchange the devices associated with different configuration profiles.

To change the device associated with a profile:

- 1 Launch the ZTP console and click **Find Operations**.
- 2 Search for a profile or device association using the available fields
- 3 In the **Search Results** screen, click on the **Reference ID**.
- 4 Locate the MAC address or Device ID of the device you want to change or swap and click **Change**.
- 5 Enter the details in the following fields:

<i>Field Name</i>	<i>Description</i>
MAC Address/Device ID	MAC Address of the device.
New MAC Address/Device ID	New MAC Address of the device.
Serial No.	Serial number of the device.

The MAC address of the device you are changing or swapping displays in the **MAC Address/Device ID** field

- 6 Click **Done**.

Delete a Device from a Profile

You can delete one or more devices from a profile.

To delete a device:

- 1 Search from a profile or device association using the available fields:
- 2 In the **Search Results** screen, click **Reference ID**.
- 3 Locate the device you want to delete by MAC address, and click **Delete (x)**.
- 4 Verify the details and click **Done**.

Troubleshooting ZTP Issues

These are troubleshooting tips for ZTP users and are intended primarily for Polycom and partner support personnel.

You can use the following strategies to troubleshoot ZTP:

- The ZTP Web console.
- The device user interface if you have access to the device.

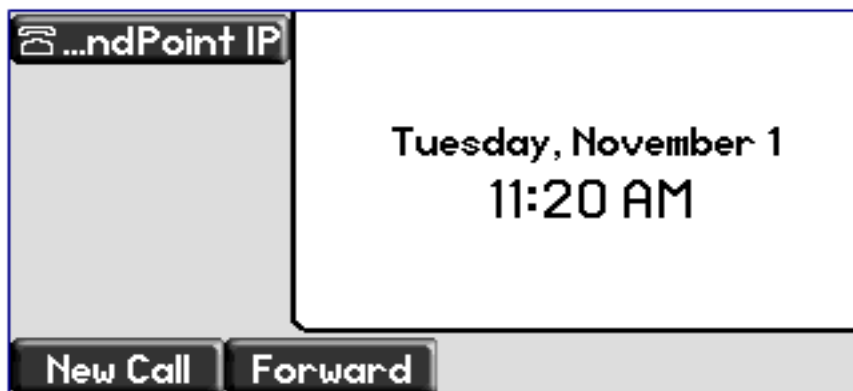


If ZTP is not functioning properly for video endpoints, the system will automatically go through the normal out-of-box wizard.

Identifying Provisioning Issues

There might be an issue with your provisioning if you observe any of the following scenarios:

- The phone does not show a registration icon on the display screen that remains idle.
- The time and date display is flashing, indicating the phone did not get a valid time setting.
- The line key label displays as SoundPoint IP, as shown in the following illustration.



There are a number of ways to troubleshoot ZTP provisioning issues.

- If ZTP is disabled on the device:
 - The software running on the phone might not support ZTP.
 - Ensure that ZTP is enabled on the device.
- If the device could not contact the ZTP server:

- Ensure that the device has internet access to `https://ztp.polycom.com`.
- If Mutual TLS authentication fails:
 - Ensure that the device has a Polycom factory-installed certificate.
 - There can be an issue getting the system time, which caused the phone to reject the server certificate.
- If the device association is partial or not correctly applied:
 - Ensure that the device is associated with a configuration profile.
 - Ensure that the profile for the device is correct.

Troubleshoot Issues Using the ZTP Console

You can use the ZTP console to identify and resolve provisioning issues.

To troubleshoot using the ZTP console:

- 1 Obtain the MAC address of the device you are troubleshooting. If you do not know the MAC address, the end user can locate the MAC address of a Polycom device in one of two ways:
 - On a label on the back of the device. The MAC address is a hexadecimal number located on the bar code label, directly above the bar code, in the following format: 0004f2000001.
 - Navigate to the Polycom device:
 - ◆ If you are using a SoundPoint IP or VVX device, go to **Menu > Status > Platform > Phone**. The MAC address is in the Serial Number (S/N) field.
 - ◆ If you are using a SpectraLink device, navigate to **Settings > Status > Platform > Phone**. The MAC address is in the MAC field.
- 2 Once you have the MAC address, log in to the ZTP console and click **Find Operations**.
- 3 Check **Device View**, and enter the MAC address of the device into the **MAC Address** field.
- 4 Click **Search**. The device details display in the Search Results screen.

If your device search yields no search results, then the device association was not performed correctly or was performed by someone outside of your company.
- 5 In the Search Results screen, view the **Device ZTP Access Status** field for the device you want to troubleshoot. This field can display any of the following details:
 - **Last access time:** This can indicate any of the following events:
 - ◆ The last time the device contacted the ZTP server.
 - ◆ The device contacted ZTP and downloaded at least one configuration file at the time indicated.
 - ◆ If someone viewed a configuration file from the ZTP console.
 - ◆ If the configuration file download failed due to an issue, for example, a failed TLS transaction or network issue.
 - **Number of times accessed:** indicates that an association exists, and how many times the device has contacted the ZTP server.

- **Double-dashes (--):** indicates that the device has not contacted the ZTP server.



Display of the **Device ZTP Access Status** field does not necessarily indicate that a device was properly associated with a profile.

Device Not Able to Communicate with ZTP

Troubleshoot Issues Using a Device or Web Configuration Utility

In addition to using the ZTP console to troubleshoot, you can also use either a device's user interface, if you have access to it, or the Web Configuration Utility. There are a number of device fields you can use to verify that the device accessed ZTP during boot-up, which you can reset by rebooting the phone.

To troubleshoot using the device interface:

- 1 Navigate to **Menu > Settings > Advanced**, enter the password (default 456), and press **Enter**.
- 2 Navigate to **Admin Settings > Network Configuration > Provisioning Server**, and press **Select**.
The **Server Address** field should be set to the provisioning server address. If the **Server Address** field is **Null**, then the ZTP did not find an association for the device.
- 3 Scroll down to the **ZTP** field.
ZTP is automatically disabled each time the device accesses ZTP. If the ZTP field reads **Enabled**, then the device could not access ZTP.

Troubleshoot Settings on the Device

Before troubleshooting settings on the device, ensure that the ZTP is enabled.

To troubleshoot settings on the device:

- 1 To verify that ZTP is enabled on the device, navigate to **Menu > Settings > Advanced**, enter the password (default 456), and press **Enter**.
- 2 Select **Admin Settings > Network Configuration > Provisioning Server**, and press **Select**. Scroll down to **ZTP** and choose **Enabled**.



Each time the device contacts ZTP, the ZTP field becomes disabled.

- 3 Verify that the **Boot Server** menu is set to **Static**.
- 4 On the **Provisioning Server** menu, do the following:
 - a Choose **DHCP Menu** and press **Select**.
 - b Set the **Boot Server** field to **Static**.

- c Press the **Back** soft key twice and choose **Save Configuration**.
- 5 Verify the information in the provisioning server **Server Address** field. If the **Server Address** field is **Null**, the device likely did not contact the ZTP server.

Search Results Not Displayed

If your device search yields no search results, then the device association was not performed correctly or was performed by someone outside of your company. If you used the **Find Operations** function to search for devices and no search results display:

- The MAC address might have been incorrectly entered during the association.
- The association was started but not fully completed. These partial associations are labeled **Partial** in the **Subscriber Status** field.



FIND OPERATIONS

<ul style="list-style-type: none"> <li style="background-color: #eee; padding: 2px; margin-bottom: 2px;">Find Operations <li style="background-color: #eee; padding: 2px; margin-bottom: 2px;">Profile Association <li style="background-color: #eee; padding: 2px; margin-bottom: 2px;">Profile Management <li style="background-color: #eee; padding: 2px; margin-bottom: 2px;">Logout 	<p>First Name <input style="width: 100%;" type="text"/></p> <p>Reference ID <input style="width: 100%;" type="text"/></p> <p>Email <input style="width: 100%;" type="text"/></p> <p>Serial Number <input style="width: 100%;" type="text"/></p> <p>MAC Address <input style="width: 100%;" type="text"/></p> <p>Device View <input type="checkbox"/></p> <p>Download Results <input type="checkbox"/></p> <p>Ignore Case <input type="checkbox"/></p> <p>Send to Email <input type="checkbox"/></p>	<p>Last Name <input style="width: 100%;" type="text"/></p> <p>Phone Number <input style="width: 100%;" type="text"/></p> <p>City <input style="width: 100%;" type="text"/></p> <p>Model <input style="width: 100%;" type="text" value="Select Model"/></p> <p>Configuration Profile <input style="width: 100%;" type="text"/></p> <p>No. of Results Per Page <input style="width: 100%;" type="text" value="10"/></p> <p>Max No. of Entries <input style="width: 100%;" type="text"/></p> <p>Subscriber Status <input style="width: 100%;" type="text" value="partial"/></p>
--	---	--

To search for partial associations:

- 1 Enter the MAC address of a device in the **MAC Address** field or enter the % character if you want to search for all partial associations. The % character is a wild card and will generate search results for all matches for that field.
- 2 In the **Subscriber Status** field, select **partial**.
The **Subscriber Status** field is available to service providers. If you are logged in as a reseller, the Subscriber Status field will not be available and both partial and complete associations will be displayed for all searches.



Partial associations, which display in the **Subscriber Status** field, are removed from the database after a few hours.

- 3 Click **Search**. The **Search Results** screen displays all partial device association.
- 4 Click **Reference ID** of a device.

- 5 Click **OK**. You must click **OK** to enter the device association to the ZTP database.

To find out whether the MAC address was entered incorrectly or the association is partial, return to the **Find Operations** screen and enter other information that identifies the device. For example, a customer name that was entered during the association.

If the association was performed by someone outside of your company, try to associate the device to a profile yourself. If the device has already been associated, you see a warning message. Contact [Polycom Tech Support](#) to resolve this issue.

Device Not Able to Communicate with ZTP

If the device is not able to establish a communication with ZTP, then do the following:

- Troubleshoot settings on the device
- Verify the VLAN settings
- Verify the device certificate

Verify that the Device has HTTP/HTTPS Access to ZTP

To check whether the device network allows access to the ZTP server, perform the following:

- Enter the URL `http://ztp.polycom.com/000000000000.cfg`. If the device can access the server, you should be able to view this configuration file. If you encounter an error, then it is likely that your network does not allow access to the ZTP server.

Verify the Security Certificates

The Mutual TLS transactions that enable the device and ZTP to communicate require that the device and server cross-validate security certificates. During this process, validation steps might fail and cause ZTP server communication to terminate. If this occurs:

- The phone might have failed the server certificate because the date is outside the validity range.
- If a time server is configured but not reachable, the certificate check is carried out and might fail. In this scenario the time and date displayed on the phone is inaccurate and flashes. The phone does not check the server certificate date validity if there is no time server configured either statically or in the **Time Server DHCP** Option.

You can also check if the certificate is installed on the device. The server rejects the connection if the device does not contain a factory installed device certificate.

To confirm whether a certificate is installed on the device:

- » Navigate to **Menu > Status > Platform > Phone**, and scroll down to **Device Certificate**.
 - The device certificate must be set to **Factory Installed** for the device to access ZTP. If the device certificate is set to **Not Installed** or **Self-Signed**, the device cannot access ZTP.



Even if the device cannot access ZTP, ZTP logs an access.

- The **Device Certificate** field on devices that were updated to UC Software 4.0.0 and subsequently downgraded indicates **Factory Installed** even though the certificate might not been installed. For more information on phone revisions that include factory installed device certificates, Refer to [Feature Profile 37148: Device Certificates on Polycom Phones](#).

Re-enabling ZTP on Devices

ZTP is automatically disabled after provisioning is complete. If for any reason you need to re-enable the ZTP option on a device, you can do so.

Enable/Disable the ZTP using the Phone's Interface

You can enable or disable the ZTP option via the phone interface.

To enable or disable the ZTP on the phone:

- 1 On the phone, press **Menu > Settings > Advanced**.
- 2 Enter the phone password (default is 456).
- 3 Select **Admin Settings > Network Configuration > Provisioning Server/Server Menu/ZTP**.

Enable/Disable the ZTP using the Phone's Configuration File

You can enable or disable the ZTP using the phone's configuration file.

To enable or disable using configuration file:

- » Locate the following parameters in either the device.cfg or site.cfg template configuration file, and set the value of each of the parameters to 1:

- ◆ device.set
- ◆ device.prov.ztpEnabled
- ◆ device.prov.ztpEnabled.set

For Video Endpoints, the ZTP is disabled and the endpoint remains connected to the provisioning server.

Reset ZTP on RealPresence Group Series

On RealPresence Group Series, verify that the device successfully provisions directly and then apply the same settings to the ZTP profile. The device must be able to contact ZTP properly once the RealPresence Group Series is system reset.

To perform a system reset on GS, access the system using a Telnet Client on port 24 and execute the following command:

```
resetsystem deletesystemsettings
```

This should reset the system and trigger an attempt to lookup the ZTP profile on the ZTP Server.

Reset ZTP on RealPresence Debut System

After configuring the RealPresence Debut system successfully, you must reset it as follows:

- 1 Reset the RealPresence Debut system through the WebUI in the following location: **>>Admin Settings>>Factory Reset>>Reset**.
- 2 Once the Debut system reboots, the language screen appears. Follow the steps to proceed through the out-of-box screens to **“Start to experience”**.
- 3 The RealPresence Debut system should reach out to the ZTP Server and download the ZTP Profile. If able to communicate with ZTP Server, the RealPresence Debut system reboots and is now provisioned.

Additional Troubleshooting Information

You can perform additional troubleshooting in the following methods:

- Restart the phone, repeat the steps in [Launch the Polycom ZTP Console](#), and observe changes in **Device ZTP Access Status** field.
- Delete the profile association, perform the profile association again, and restart the device.
- Open and view the configuration file, and confirm that the settings match your expectations.

[Troubleshoot Issues Using the ZTP Console](#)

To view the configuration files:

- 1 Perform the steps in [Launch the Polycom ZTP Console](#).
- 2 From the **Search Results** screen, choose a device and click on **Details**. The **Detailed Subscriber Information** screen displays.
- 3 Click on a blue configuration file icon to display the configuration parameters.
- 4 Confirm if the settings match the expectations. If the configuration settings do not match, navigate to **“Manage Configuration Profiles”** and review the settings in the **Profile Editor** on the **Profile Management** screen.