



Provisioning Guide

How to Provision a Polycom Phone

This guide shows you how to provision a Polycom® phone with the minimum settings required to place and receive Voice over Internet Protocol (VoIP) calls over IP networks. This document assumes:

- You have no prior familiarity with Polycom phones. If you are familiar with Polycom phones, see the [*Polycom® UC Software 4.0.1 Administrators' Guide*](#) for full details on how to provision multiple Polycom phones and configure all phone features. The provisioning process outlined in this document is compatible with Polycom Unified Communications Software (UCS) version 4.0.1 or later.
- You are set up with one of Polycom's call server partners. Polycom phones support the FTP, TFTP, HTTP, and HTTPS protocols for file provisioning and are configured by default to use File Transfer Protocol (FTP). The example configuration in this guide will use FTP, a network protocol used to transfer files over the internet.

The provisioning information in this guide applies to the following Polycom phones:

- SoundPoint IP
- SoundStation IP
- SoundStation Duo
- VVX 500 business media phones, and
- VVX 1500 business media phones.

Getting Started

This section shows the first steps you need to perform to begin provisioning. The provisioning method discussed in this guide uses FTP and a personal computer (PC) as the provisioning server. To begin, you need to install and set up tools on your PC and gather some information.

Turn on the phone

Provide power to the phone using a Power over Ethernet (PoE) switch, if available, or, if no PoE switch is available, using an external power adapter and a network cable to connect the phone to your network.

Install and set up the following tools on your PC:

- Ensure that you have an XML editor, such as XML Notepad 2007, installed on your computer.

- If you have an FTP server application installed on your computer, launch it now. If not, you will need to install one. [FileZilla](#) and *wftpd* are free FTP applications for windows and *vsftpd* is typically available with all standard Linux distributions. Once installation is complete, launch the application.
- Create a root FTP directory on the provisioning computer with full read and write access to all directories and files. You will be placing provisioning files in this root directory. In your FTP server application, create a user account for the phone to use and take note of the user name and password as you will need these later in the provisioning process.



Note: Add FTP as an Exception to Your PC Firewall

When setting up your FTP server, you may need to add the FTP server as an exception to the computer's firewall to allow the IP phone to communicate with the FTP server.

Gather the following information:

- **SIP Server address** This is the hostname or IP address of the call server that handles VoIP services on your network.
- **SIP account information** This may include SIP credentials such as a user name and password, and the phone's registration address. Although a user name and password are not required to get the phone working, Polycom strongly recommends using them. You will need to obtain SIP account information from your system administrator.
- **MAC address** This is a phone's unique 12-digit serial number just above the phone's bar code on a label on the back of the phone.
- **Your computer's IP address** To use your PC as the provisioning boot server, you will need your computer's IP address. Jot this number down as you will need it at the end of the provisioning process.

Downloading the Configuration Files

After setting up your phone and FTP server and gathering the information you need, your next step is to download the Polycom UCS files. Current build archives include both the split and combined UCS versions. The split files are available for specific phone models, have a smaller size, faster update time, and reduce internal network traffic during reboots and updates. Note that if you use the split files, you will not be able to upgrade legacy phones. The combined files are a larger size and contain software files for all Polycom phone models. All configuration files are saved in compressed ZIP file format and must be uncompressed before use.

To download the configuration files:

- 1 Go to [Polycom UC Software Support Center](#) for up-to-date UC software versions, shown next, and locate the Polycom UC software release and supporting documentation you want.
- 2 Download and uncompress the combined **[Combined]** or split **[Split]** release of Polycom UC Software to the root FTP directory you created. For example, the following illustration shows the software downloads and support document listings available for UC software 4.0.2.

Polycom UC Software 4.0.2B

Download Polycom UC Software 4.0.2B and find supporting documentation for product features and solutions. If you are running a UC Software version prior to 4.0.0, you need to update to UC Software 4.0.x using the [Polycom Upgrader 4.4.0B Utility](#). Before you download and install Polycom UC Software version 4.0.0 or higher, Polycom strongly recommends that you review changes to the upgrade procedures detailed in the [Polycom UC Software 4.0.0 Administrators' Guide](#) and in [Polycom UC Software 4.0.x Upgrade and Downgrade Methods \(Engineering Advisory 64731\)](#).

Software Downloads

- » [Polycom UC Software 4.0.2 B \[Combined\] \(LINK\)](#)
- » [Polycom UC Software 4.0.2 B \[Split\] \(LINK\)](#)
- » [BootROM 4.4.0B Upgrader Utility \(LINK\)](#)
- » [Polycom UC Downgrader 4.5.0B Utility \(LINK\)](#)
- » [Polycom Desktop Connector \(PDC\) \(LINK\)](#)

Supporting Documentation

- » [Polycom UC Software 4.0.2 B Release Notes \(PDF\)](#)
- » [Polycom UC Software 4.0.1 Administrators' Guide \(PDF\)](#)
- » [Provisioning Polycom Phones for Use with Microsoft® Lync Server 2010 \(Provisioning Guide\) \(PDF\)](#)
- » [Polycom Unified Communications Solution for Microsoft® Environments \(LINK\)](#)
- » [Polycom UC Software 4.0 Web Configuration Utility User Guide \(PDF\)](#)

Note: For tips and best practices on provisioning Polycom phones and on using the configuration files, refer to the following documents:

- » [How to Provision a Polycom Phone \(Provisioning Guide 68638\) \(PDF\)](#)
- » [Provisioning with the Master Configuration File \(Best Practices 75907\) \(PDF\)](#)
- » [Provisioning UC Software Provisioning Best Practices \(White Paper 60806\) \(PDF\)](#)

Documentation supporting Polycom UC Software 4.0.2B is available for the following product solutions: SoundPoint IP 321/331, 335, 450, 550, 560, 650, 670; SoundStation IP 5000, 6000, 7000, Duo; Business Media Phones VVX 500, VVX 1500, VVX 1500 D; SpectraLink 8400 Series Wireless Telephone; SoundStructure C Series.

- 3 In the root directory, open the folder named *Config* and identify the following three files you will be editing:
 - *reg-basic.cfg*
 - *sip-basic.cfg*
 - *0000000000.cfg* (the master configuration file)
- 4 To simplify provisioning, place copies of these three files in the root directory and not in a subfolder. Polycom recommends editing copies of each file as a best practice to ensure that you have original template files containing the default values.
- 5 Right click on each file, and choose **Properties**. On the *General* tab, ensure that the *Read-only* option is not checked since you will be modifying these files, and click **OK**.

Editing Configuration Files

Next, you will edit each of the three configuration files. Once you have disabled the Read-only status of each file, open each file with an XML editor such as XML Notepad 2007.



Settings: Check Configuration File Names

After you have saved a file edited with an XML editor, ensure that an extension has not been added to the existing file name. By default, many XML editors will add an .xml extension or replicate an existing extension as part of the new file name. All of the files you edit and save should have the .cfg extension only.

To edit the *reg-basic.cfg* file:

- 1 Open *reg-basic.cfg*, shown next.

The screenshot shows the XML Notepad 2007 interface. The title bar reads "XML Notepad - C:\Documents and Settings\reg-basic.cfg". The menu bar includes File, Edit, View, Insert, Window, and Help. The toolbar has standard icons for opening, saving, and cutting/pasting. The status bar shows the file path "C:\Documents and Setting\reg-basic.cfg".
The left pane is titled "Tree View" and shows the XML structure:

```
Tree View XSL Output
  - xml
  - #comment
  - polycomConfig
    - xmlns:xsi
    - xsi:noNamespaceSchemaLocation
    - call
    - reg
      - reg.1.address
      - reg.1.auth.password
      - reg.1.auth.userId
      - reg.1.label
      - reg.1.outboundProxy.address
      - reg.2.address
      - reg.2.auth.password
      - reg.2.auth.userId
      - reg.2.label
      - reg.2.outboundProxy.address
```


The right pane displays the XML code:

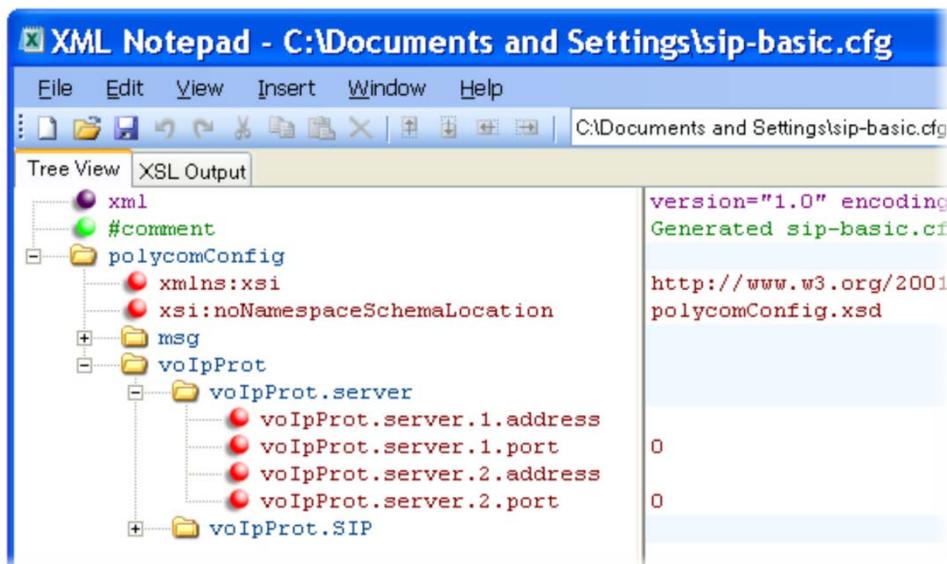
```
version="1.0" encoding="UTF-8" standalone="yes"
Generated reg-basic.cfg Configuration File
http://www.w3.org/2001/XMLSchema-instance
polycomConfig.xsd
```

- 2 In *reg > reg.1.address*, enter the SIP address assigned to the phone.
- 3 Enter the SIP account user name in *reg.1.userId* and password in *reg.1.auth.password*.

- 4 In `reg.1.label`, enter an abbreviated number or text to display on the line key label for this registration. Typically, the line key label displays an extension number or a name. If you enter no value, the phone displays the SIP address you entered in `reg.1.address`.
- 5 Optionally, you can enter a caller ID in `reg.1.displayName`. The value you enter here will display to others when you place a call. If you enter no value, the phone uses the value you entered in `reg.1.address`.
- 6 Save the file to your FTP root directory and rename it in a way that identifies the purpose, phone model, or user of the phone. For example, you can name your file `IP_550_reg-basic.cfg` or `reg_billybob.cfg`. If you save your file in a location other than the root directory, be sure to prepend the file path to the file name, for example, `config/IP_550_reg-basic.cfg` or `files/reg_billybob.cfg`.

To edit the `sip-basic.cfg` file:

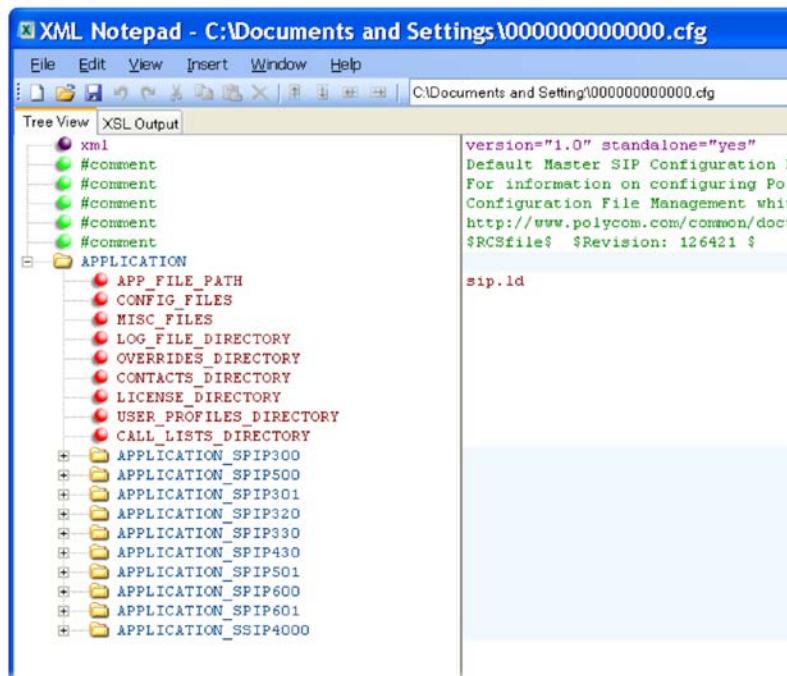
- 1 Open `sip-basic.cfg`, shown next.



- 2 In `voIpProt > voIpProt.server > voIpProt.server.1.address`, enter the call server information.
- 3 Save the file to your FTP root directory and rename it in a way that identifies the purpose, phone model, or user of the phone. For example, you can name your file `IP_550_sip-basic.cfg` or `sip_billybob.cfg`. If you save your file in a location other than the root directory, be sure to prepend the file path to the file name, for example, `config/IP_550_sip-basic.cfg` or `files/sip_billybob.cfg`.

To edit the master configuration file:

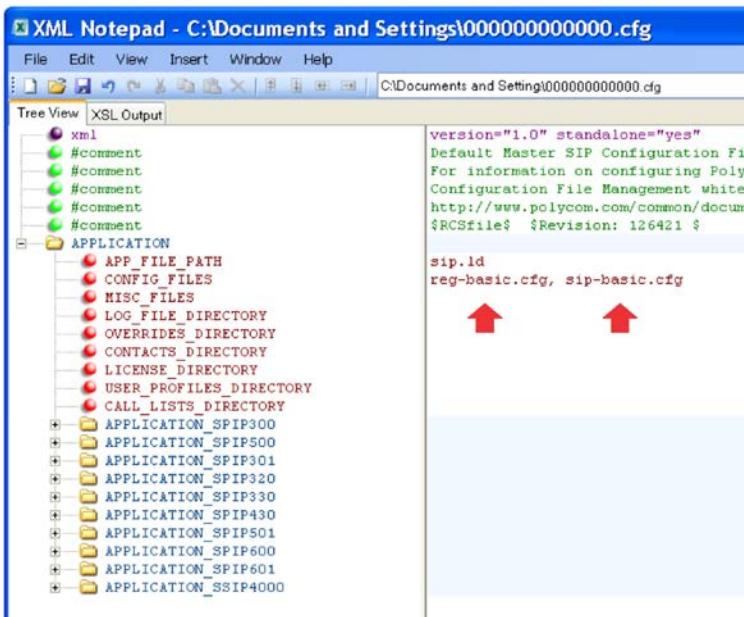
- 1 Open **000000000000.cfg**, the master configuration file, shown next.



```
version="1.0" standalone="yes"
Default Master SIP Configuration File
For information on configuring Polycom
Configuration File Management whiteboard
http://www.polycom.com/common/documents
$RCSfile$ $Revision: 126421 $
```

sip.id

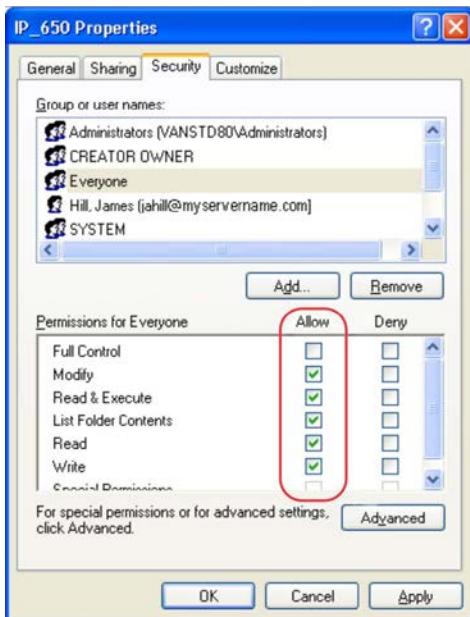
- 2 In APPLICATION > CONFIG_FILES, using a comma-separated list, list the *reg-basic.cfg* and the *sip-basic.cfg* files, as shown next. If you saved your files in a location other than the FTP root directory, be sure to prepend the file path to the file name of each file.



```
version="1.0" standalone="yes"
Default Master SIP Configuration File
For information on configuring Polycom
Configuration File Management whiteboard
http://www.polycom.com/common/documents
$RCSfile$ $Revision: 126421 $
```

sip.id
reg-basic.cfg, sip-basic.cfg

- 3 Save the file to your FTP root directory using the 12-digit MAC address of the phone as the file name. For example, if the MAC address of the phone is 0004f2000001, name the file *0004f2000001.cfg*.
- 4 Set security permissions on the FTP directory folder. You will need to define a user or group name and allow permissions to read, write, and modify files. Security permissions vary by organization. An example using a Windows platform is shown next:



Your computer will now act as the FTP provisioning boot server.



Web Info: Advanced Provisioning with Multiple Endpoints

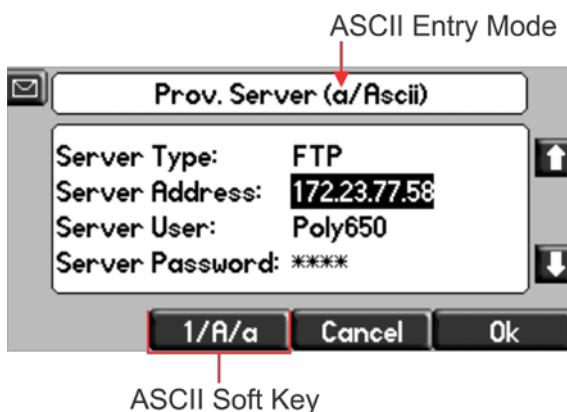
The provisioning procedures in this document show you how to provision one endpoint out of the box. If you are provisioning a number of endpoints using configuration files, see [Provisioning with the Master Configuration File](#) to gain greater familiarity with how the configuration files work and in particular, the master configuration file.

Entering the FTP Provisioning Server Credentials to Your Phone

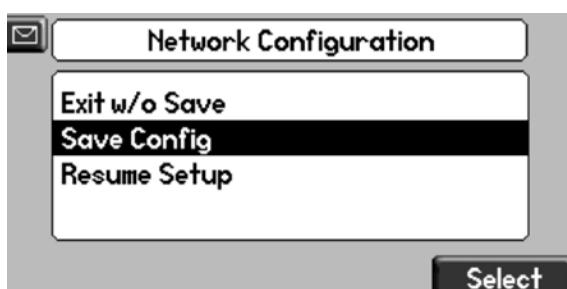
Next, to enable the phone to connect to the provisioning server, you will need to enter the provisioning boot server credentials to the phone. The boot server credentials include your computer's IP address and the same user name and password you set up in the FTP server application.

To enter your FTP provisioning boot server information to the phone:

- 1 On the phone, press **Menu > Settings > Advanced** and enter the phone's password. The default is 456.
- 2 Choose **Admin Settings > Network Configuration > Provisioning Server**, and press the **Select** soft key.
- 3 Scroll to a field, press the **Edit** soft key, and enter the FTP provisioning boot server information—in this example your computer's IP address—user name, and password. Press the alpha-numeric (ASCII) soft key, highlighted in the following illustration, to change entry mode. To enter periods press the star key (*) on your phone's keypad. If you enter an incorrect number, you can press the backspace/delete button located under the arrow buttons to backspace/delete your entry. Your entries should look like the following example illustration.



- 4 When finished, press the **OK** soft key, and the **Back** soft key once or twice. A prompt screen will display, shown next.



- 5 Choose **Save Config** and press the **Select** soft key to reboot the phone and save the new configuration.

You can now place and receive calls.

Verify Your Setup

As a final step, you can verify that the phone is reading the configuration files and communicating with your provisioning boot server.

- On the phone, press **Menu > Status > Lines**.

Your phone line shows a registration and the call server name displays, as shown next.



You can now send and receive calls.

Additional References

This provisioning guide has shown you how to provision a single Polycom phone using FTP and a PC as the provisioning boot server. If you want more information on Polycom phones, or if you want to begin provisioning multiple phones, the [Polycom UC Software Administrators' Guide 4.0.1](#) provides detailed information in the following areas:

- If you want an overview of Polycom UC Software, see *Chapter 2: The Polycom UC Software Big Picture*.
- If you are familiar with Polycom phones and with provisioning a large number of SIP phones, see *Part II: Setting Up Your System*, which shows you how to set up your phone network and your provisioning server.
- Refer to *Part III: Configuring Your System* of the Administrators' Guide for instructions, with examples, on how to add and modify all Polycom phone features.

If you are familiar with Polycom phones and are provisioning multiple phones, or for tips on provisioning multiple endpoints, see [Provisioning with the Master Configuration File: Best Practices 35361](#) for a detailed explanation, with examples, of how to use the master configuration file.

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