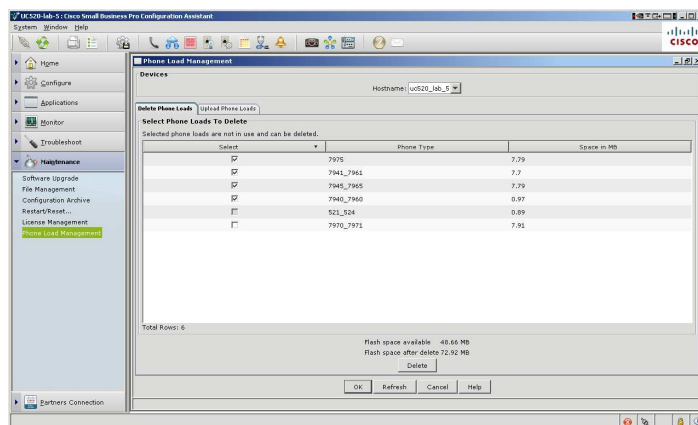


# Cisco Small Business Pro Smart Business Communication System Technical Enablement Labs



## Lab 20

### Cisco 79xx IP Phone Firmware Upgrade

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## Introduction

The latest release of CCA includes a “Drag & Drop” capability, allowing you to upgrade the UC 500 system with a SPA5xx series phone load, by simply dragging the file from your PC desktop to the UC500 icon in the topology view of CCA. This takes care of all the otherwise manual steps you need to configure to get a new phone load to a SPA5xx series phone.

CCA also includes a capability under the Maintenance Drawer called the Phone Load Manager (PLM) which operates automatically during Software Upgrade, or can be launched standalone. The PLM reads the UC500 bundle zip, however, so if the phone load you are interested in pushing to a phone is not already in an official bundle zip, then it won't help with an individual phone load.

When we first introduced the drag & drop, we knew it would be the more prevalent case where the newer phones (SPA5xx series) which probably undergo more frequent FW upgrades to address issues, since they are new. It was made easier to implement since these phones have only 1 file that needs to be dropped. Traditional Cisco IP Phones (like 79xx) have multiple files, and not as easy to implement drag and drop. As it was also not a higher priority since these phone models don't usually get upgrades too frequent, and when they do, we drop them in the next bundle zip for the UC 500.

In is in the cases where a partner needs to upgrade a Cisco 79xx phone load manually, where this document would be needed. It includes all the steps you need to execute to get the phone upgraded automatically the next time they reset.

## Prerequisites

Go to Cisco.com and download the phone firmware files to your PC and if zipped, unzip and extract the individual files to a folder on your PC. <http://www.cisco.com/cisco/web/download/index.html>

The screenshot shows the Cisco Download Software page. At the top, there is a navigation menu with tabs for Solutions, Products & Services, Ordering, Support, Training & Events, and Partner Central. Below the menu, there is a search bar and a "Download Software" button. The main content area is titled "Download Software" and includes a progress indicator with four steps: 1. Select Product, 2. Select Software Type, 3. Select Software, and 4. Download. A search bar is present with the text "Search for a Product on this page:" and a "GO" button. A tree view of product categories is displayed, including Cisco Telepresence Products, Communications Infrastructure, Customer Contact, IP Telephony, Call Control, and IP Phones. The IP Phones category is expanded, showing sub-categories like Cisco ATA 180 Series Analog Telephone Adaptors, Cisco IP Communicator, Cisco IP SoftPhone, Cisco Small Business IP Phones, Cisco Small Business Pro SPA 500 Series IP Phones, Cisco Small Business Voice Accessories, Cisco Unified IP Phones 9900 Series, Cisco Unified IP Phones 8900 Series, Cisco Unified IP Phones 7900 Series, Cisco IP Conference Station 7935, and Cisco Unified IP Conference Station 7937G.

Have a TFTP server running on your PC, which you must be sure to shut down when CCA is running, or it will definitely interfere with it. But for this case, we aren't using CCA, so run your TFTP server (I use Solarwinds).

## Manual Phone Load Steps

I used this phone model as an example. It is the Cisco 7925 Wifi phone, which had a new 1.3.4 FW released for it (bundle zip includes 1.3.3) to correct some voice quality issues.

It is important to note that there are rare cases where a phone needs to go through an 'intermediate' firmware image before it can get to the ultimate load. This is not the case here. Just be aware that if you follow all these steps and the phone still doesn't accept the upgrade, it could be that case. Just call TAC to get that cleared up if it happens.

### 1) TFTP the files from your PC to the UC 500 flash directory

The phone directory on flash: includes sub directories for each phone model. Make sure you put the loads in the right directory... Instigate this from the UC500 SSH or telnet window. My PC is connected to the Data VLAN and has an IP address which the UC500 will see as the TFTP server (remember I am running solarwinds TFTP server).

```
UC520#copy tftp flash:
Address or name of remote host []? 192.168.10.20
Source filename []? APPSH-1.3.4.SBN
Destination filename [/phones/7925/APPSH-1.3.4.SBN]?
Accessing tftp://192.168.10.20/APPSH-1.3.4.SBN...
Loading APPSH-1.3.4.SBN from 192.168.10.20 (via BVI1): !!!!!!!!!!!!!
[OK - 2603162 bytes]
2603162 bytes copied in 22.656 secs (114899 bytes/sec)
```

```
UC520#copy tftp flash:
Address or name of remote host [192.168.10.20]?
Source filename [APPSH-1.3.4.SBN]? CP7925G-1.3.4.LOADS
Destination filename [/phones/7925/CP7925G-1.3.4.LOADS]?
Accessing tftp://192.168.10.20/CP7925G-1.3.4.LOADS...
Loading CP7925G-1.3.4.LOADS from 192.168.10.20 (via BVI1): !
[OK - 918 bytes]
918 bytes copied in 0.728 secs (1261 bytes/sec)
```

```
UC520#copy tftp flash:
Address or name of remote host [192.168.10.20]?
Source filename [CP7925G-1.3.4.LOADS]? GUIH-1.3.4.SBN
Destination filename [/phones/7925/GUIH-1.3.4.SBN]?
Accessing tftp://192.168.10.20/GUIH-1.3.4.SBN...
Loading GUIH-1.3.4.SBN from 192.168.10.20 (via BVI1): !!!!!!!!!!!!!
[OK - 1894787 bytes]
1894787 bytes copied in 15.600 secs (121461 bytes/sec)
```

```
UC520#copy tftp flash:
Address or name of remote host [192.168.10.20]?
Source filename [GUIH-1.3.4.SBN]? MISCH-1.3.4.SBN
Destination filename [/phones/7925/MISCH-1.3.4.SBN]?
Accessing tftp://192.168.10.20/MISCH-1.3.4.SBN...
Loading MISCH-1.3.4.SBN from 192.168.10.20 (via BVI1): !
[OK - 1916 bytes]
1916 bytes copied in 0.744 secs (2575 bytes/sec)
```

```
UC520#copy tftp flash:
Address or name of remote host [192.168.10.20]?
Source filename [MISCH-1.3.4.SBN]? SYSH-1.3.4.SBN
```

```
Destination filename [/phones/7925/SYSH-1.3.4.SBN]?
Accessing tftp://192.168.10.20/SYSH-1.3.4.SBN...
Loading SYSH-1.3.4.SBN from 192.168.10.20 (via BVI1): !!!!!!!!
[OK - 2118620 bytes]
2118620 bytes copied in 17.896 secs (118385 bytes/sec)
```

```
UC520#copy tftp flash:
Address or name of remote host [192.168.10.20]?
Source filename [SYSH-1.3.4.SBN]? TNUXH-1.3.4.SBN
Destination filename [/phones/7925/TNUXH-1.3.4.SBN]?
Accessing tftp://192.168.10.20/TNUXH-1.3.4.SBN...
Loading TNUXH-1.3.4.SBN from 192.168.10.20 (via BVI1): !!!!
[OK - 939425 bytes]
939425 bytes copied in 8.916 secs (105364 bytes/sec)
```

```
UC520#copy tftp flash:
Address or name of remote host [192.168.10.20]?
Source filename [TNUXH-1.3.4.SBN]? WLANH-1.3.4.SBN
Destination filename [/phones/7925/WLANH-1.3.4.SBN]?
Accessing tftp://192.168.10.20/WLANH-1.3.4.SBN...
Loading WLANH-1.3.4.SBN from 192.168.10.20 (via BVI1): !!!!!!!!
[OK - 1946034 bytes]
```

## **2) Adjust the TFTP-SERVER statements on the UC500**

Now that the phone loads are on flash, you have to tell the UC500 to be the TFTP server for the phones. This is how it distributes images and so forth to the phones (TFTP). The easiest thing to do is do a “show run | include tftp-server” and in the result display, cut and paste your phone model to a notepad. Put a “no” in front of every line, then insert these lines again with the new phone load as shown. You can then cut and paste this into your telnet/ssh window in configuration terminal mode, and it will read it all in for you.

### **CONF T mode**

```
no tftp-server flash:/phones/7925/CP7925G-1.3.3.LOADS alias CP7925G-1.3.3.LOADS
no tftp-server flash:/phones/7925/GUIH-1.3.3.SBN alias GUIH-1.3.3.SBN
no tftp-server flash:/phones/7925/MISCH-1.3.3.SBN alias MISCH-1.3.3.SBN
no tftp-server flash:/phones/7925/SYSH-1.3.3.SBN alias SYSH-1.3.3.SBN
no tftp-server flash:/phones/7925/TNUXH-1.3.3.SBN alias TNUXH-1.3.3.SBN
no tftp-server flash:/phones/7925/WLANH-1.3.3.SBN alias WLANH-1.3.3.SBN
!
tftp-server flash:/phones/7925/CP7925G-1.3.4.LOADS alias CP7925G-1.3.4.LOADS
tftp-server flash:/phones/7925/GUIH-1.3.4.SBN alias GUIH-1.3.4.SBN
tftp-server flash:/phones/7925/MISCH-1.3.4.SBN alias MISCH-1.3.4.SBN
tftp-server flash:/phones/7925/SYSH-1.3.4.SBN alias SYSH-1.3.4.SBN
tftp-server flash:/phones/7925/TNUXH-1.3.4.SBN alias TNUXH-1.3.4.SBN
tftp-server flash:/phones/7925/WLANH-1.3.4.SBN alias WLANH-1.3.4.SBN
```

## **3) Modify the telephony-service “Load” statement**

```
UC520#conf t
UC520(config)#telephony-service
UC520(config-telephony)#no load 7925 CP7925G-1.3.3
Updating CNF files
CNF files update complete for phonetype(7925)
```

```
UC520(config-telephony)#load 7925 CP7925G-1.3.4
Updating CNF files
CNF files update complete for phonetype(7925)
UC520(config-telephony)#end
UC520#wr
Building configuration...
```

#### **4) Create CNF**

While I think the above load statement took care of this, I have been burt before where not doing this step will make it not work ☺ SO just do it. What this does, is adjusts the xml file that the phone first looks for on the UC 500 in system:its to read in it, what FW it needs to ask for...

```
UC520#conf t
UC520(config)#cont f
UC520(config)#Telephony-service
UC520(config)#no create cnf
UC520(config)#create cnf
```

#### **5) You can actually check to see that the above mentioned xml file is adjusted to call for the new load for the phone (in this case, 7925)**

Please DO NOT attempt to edit this file (ever) manually yourself.

```
UC520#cd system:its
UC520#more XMLDefault7925.cnf.xml
```

```
<device>
<versionStamp>{7925 Mar 14 2010 22:19:23}</versionStamp>
<ipAddressMode>0</ipAddressMode>
<allowAutoConfig>>false</allowAutoConfig>
<devicePool>
<dateTimeSetting>
<dateTemplate>M/D/YA</dateTemplate>
<timeZone>Eastern Standard/Daylight Time</timeZone>
</dateTimeSetting>
<callManagerGroup>
<members>
<member priority="0">
<callManager>
<ports>
<ethernetPhonePort>2000</ethernetPhonePort>
</ports>
<processNodeName>10.1.1.1</processNodeName>
</callManager>
</member>
</members>
</callManagerGroup>
</devicePool>
<loadInformation>CP7925G-1.3.4</loadInformation>
<userLocale>
<name>English_United_States</name>
<winCharSet>iso-8859-1</winCharSet>
<langCode>en</langCode>
</userLocale>
<networkLocale>United_States</networkLocale>
<networkLocaleInfo>
```

```
<name>United_States</name>
</networkLocaleInfo>
<idleTimeout>0</idleTimeout>
<authenticationURL>http://10.1.10.1/voiceview/authentication/authenticate.do</authenticationU
RL>
<directoryURL>http://10.1.1.1:80/localdirectory</directoryURL>
<idleURL></idleURL>
<informationURL></informationURL>
<messagesURL></messagesURL>
<proxyServerURL></proxyServerURL>
<servicesURL>http://10.1.1.1:80/CMEserverForPhone/serviceurl</servicesURL>
<dscpForSCCPPhoneServices>0</dscpForSCCPPhoneServices>
<dscpForCm2Dvce>96</dscpForCm2Dvce>
<vendorConfig>
<videoCapability>1</videoCapability>
<ehookenable>1</ehookenable>
</vendorConfig>
</device>
```

There, that looks good.

## **6) Reset the phone and verify it gets the correct (new) firmware.**

Power off and then power on the 7925 and see if that works.

You can also reset any phone right from the CCA topology view (right mouse click and you'll see it).

Its not a bad idea to run "debug tftp events" and then "terminal monitor" on the Telnet/SSH window to see what happens. You should see it all work ;-)