

Avaya Solution Interoperability Test Lab

Configuring DHCP server Site Specific Option Number for Avaya one-X® IP Deskphone Firmware Distribution with Avaya File Server Application MV_IPTel – Issue 1.0

Abstract

These Application Notes describe a sample DHCP server configuration utilizing Avaya File Server Application MV_IPTel for controlling firmware and configuration updates for multiple groupings of Avaya one-X® IP Deskphone endpoints via DHCP Site Specific Option Number (SSON).

These Application Notes provide information for the setup, configuration, and verification of this solution.

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1. Introduction

These Application Notes describe a sample DHCP server configuration utilizing Avaya File Server Application MV_IPTel for controlling firmware and configuration updates for multiple groupings of Avaya one-X® IP Deskphone endpoints via DHCP Site Specific Option Number (SSON). The Solution Interoperability Lab test environments utilize this configuration as there are separate communities of phones that require different firmware and settings for testing. i.e., Environment needs to test a small community of Avaya one-X® IP Deskphones on firmware release 6.2.0.44 before upgrading all phones from firmware release 6.2.0.38. This approach could also be used in environments containing a mix of 9600 and 96x1 Series one-X® IP Deskphones.

The configuration utilizes the Site Specific Option Number (SSON) of a DHCP server to provide basic variables of the environment for the one-X® IP Deskphone. These Application Notes are specific for running Avaya File Server Application MV_IPTel on a Microsoft Windows platform. Avaya File Server Application MV_IPTel is also available for Linux platforms.

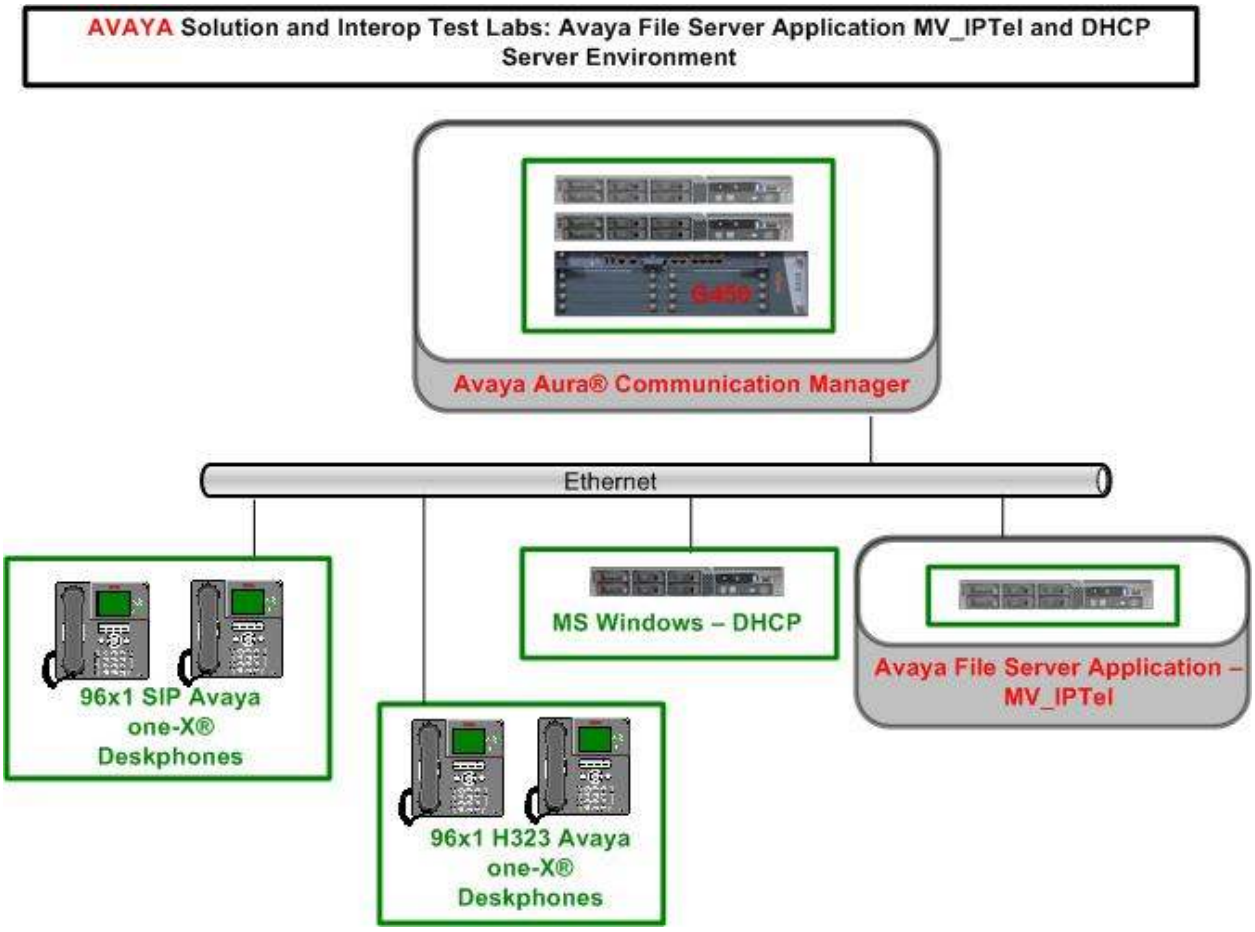


Figure 1 – Avaya File Server Application MV_IPTel and DHCP Server Environment

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2. Equipment and Software Validated

The following equipment and software were used for the sample configuration.

Component	Software Version
Avaya Aura® System Communication Manager on S8800 server with a G450 Gateway	Avaya Aura® Communication Manager Release R016x.02.0.823.0 • Patch 19555
Avaya File Server Application MV_IPTel	1.00.0002 • Workstation - Microsoft Windows XP SP3
Avaya one-X® Edition IP Deskphone 9600 Series – 96x1 H323	• 96x1 H323 6.2 - R6_2_0_09 • 96x1 H323 6.2 - R6_2r922C
Avaya one-X® Edition IP Deskphone 9600 Series – 96x1 SIP	• 96x1 SIP 6.2 – 6.2.0.44 • 96x1 SIP 6.2 – 6.2.0.38
DHCP Server	Microsoft Windows Server 2008 R2 Enterprise SP 1

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3. Installing Avaya File Server Application MV_IPTel

This section describes the details for installing the Avaya File Server Application MV_IPTel application. The Avaya File Server Application MV_IPTel will provide HTTP server support for updating configuration files and firmware for Avaya one-X ® Edition IP Deskphone endpoints. The file server application is installed on a Microsoft Windows platform for the sample configuration.

This document assumes the basic installation and administration of the Microsoft Windows workstation is complete.

From the Microsoft Windows XP workstation the following administration steps will be described:

- Download Avaya File Server Application MV_IPTel
- Install Avaya File Server Application MV_IPTel
- Stage Avaya one-X Edition Deskphone 9600 Series firmware

Note: Some administration screens have been abbreviated for clarity.

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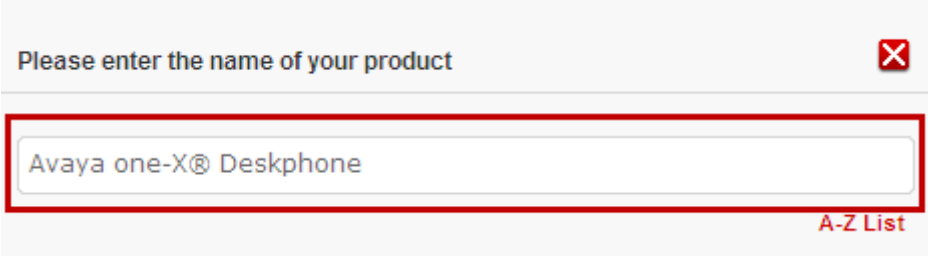
3.1 Download Avaya File Server Application MV-IPTel

Avaya File Server Application MV_IPTel is posted under the Avaya one-X® IP Deskphone H.323 3.1.x product on http://support.avaya.com.

To download Avaya File Server Application MV_IPTel open a web browser to http://support.avaya.com. From there select **Downloads.**



The Product Search window is displayed. Enter the **Avaya one-X® Deskphone** for the product name.



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From the drop down menu select **H323 3.1.x**. Now select **Avaya File Server Application – MV_IPTel**



Navigate to the **Downloads** tab. Select and download the file **MV_IPTel_setup2.0.2.exe** for installation on Microsoft Windows platform.

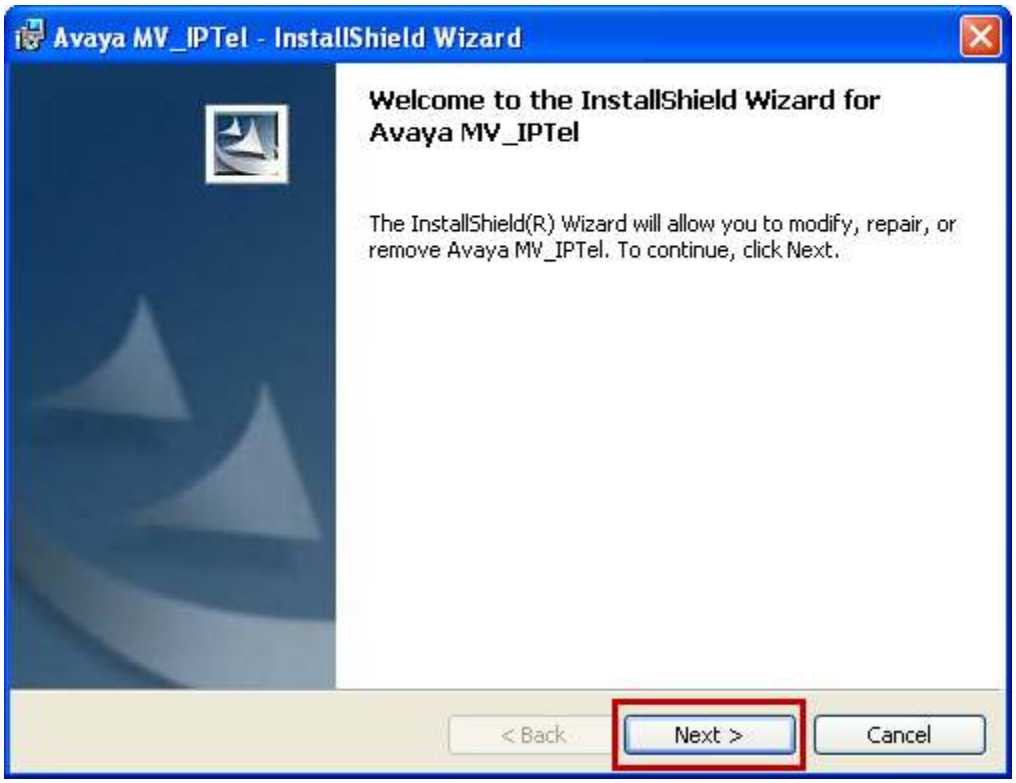
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3.2 Install Avaya File Server Application MV-IPTel

From the Microsoft Windows XP platform log in with an administrator account and launch the installation file downloaded in **Section 3.1 - MV_IPTel_setup2.0.2.exe.**

The **Avaya MV_IPTel Installation Wizard** page is displayed. Press **Next**.



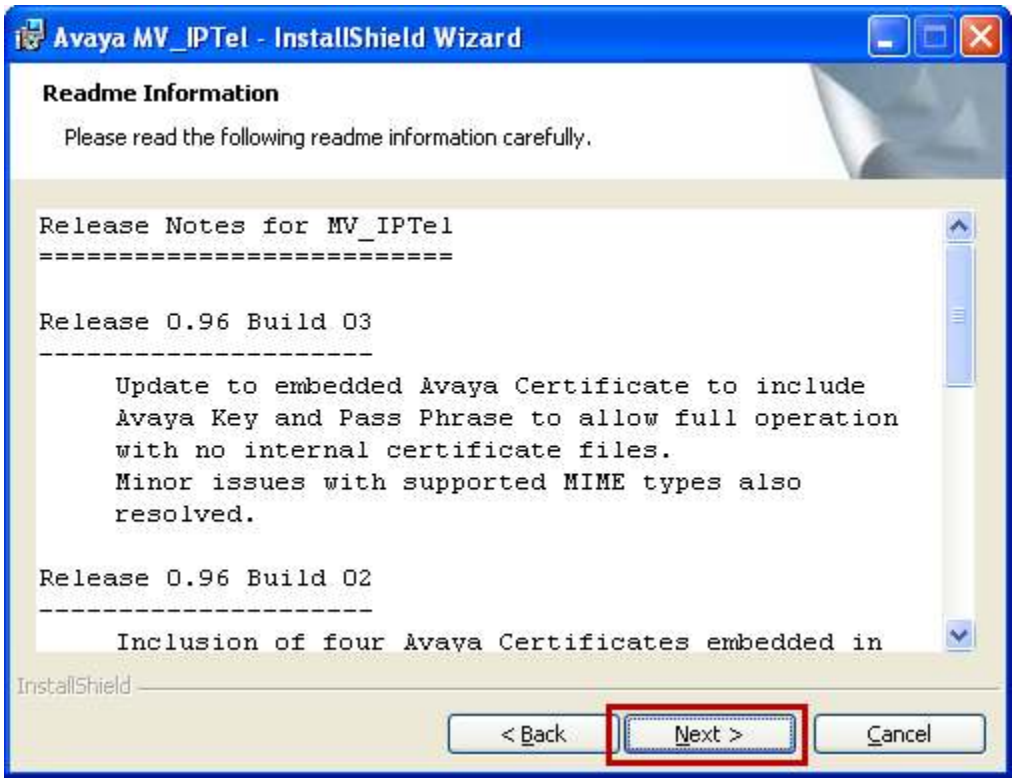
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The **License Agreement** page is displayed. Accept the license agreement. Press **Next**.



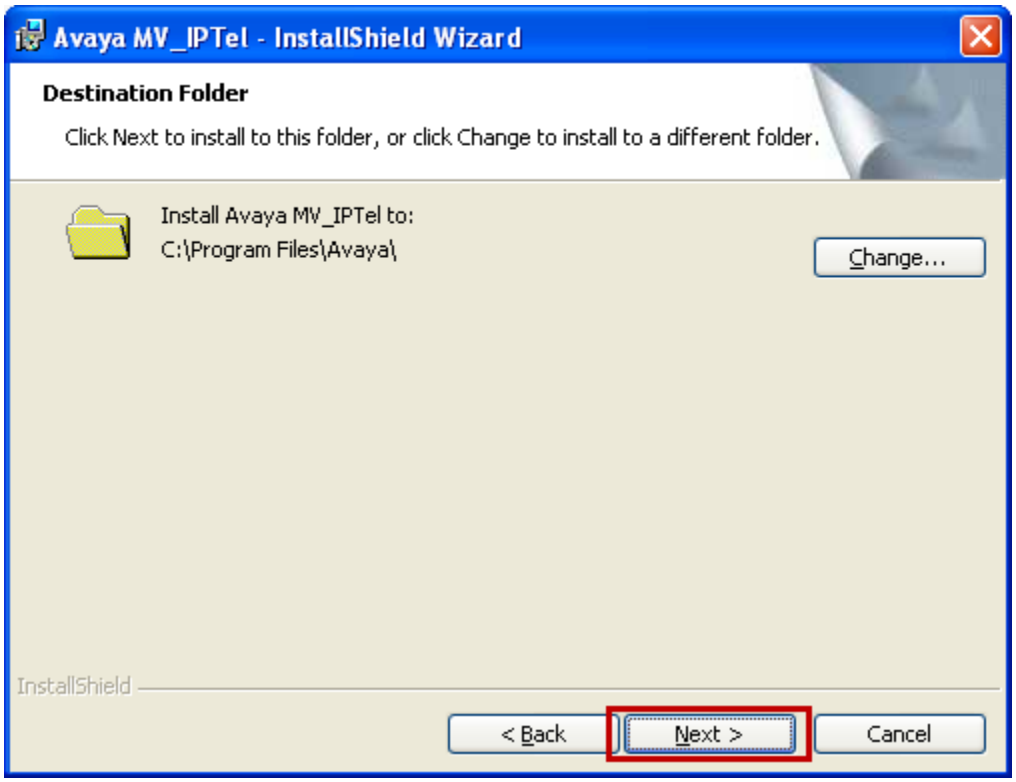
The **Readme Information** page is displayed. Press **Next**.

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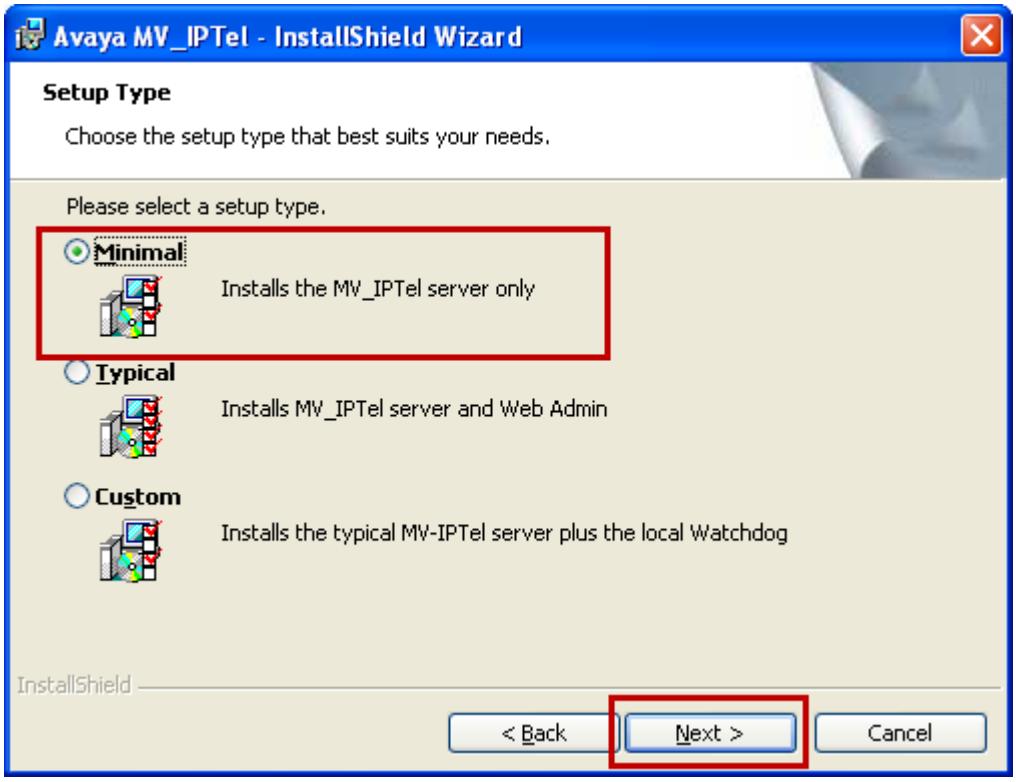


The **Destination Folder** page is displayed. Press **Next**. The default installation folder is C:\Program Files\Avaya.

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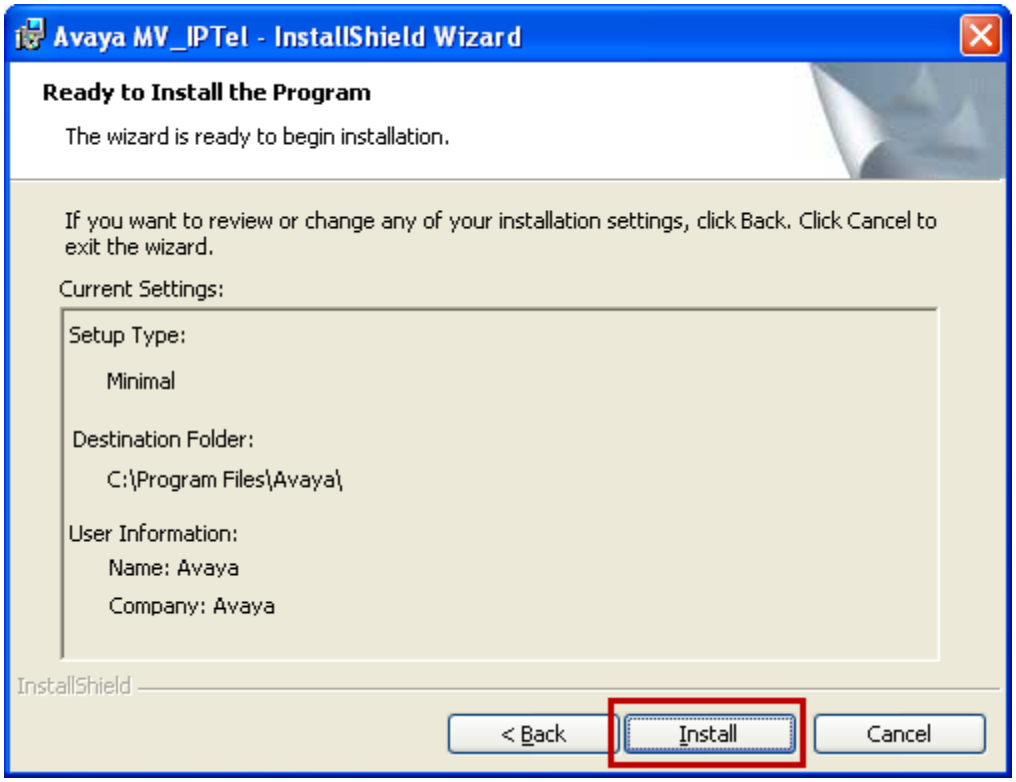


The **Setup Type** page is displayed. Select **Minimal**. Press **Next**.



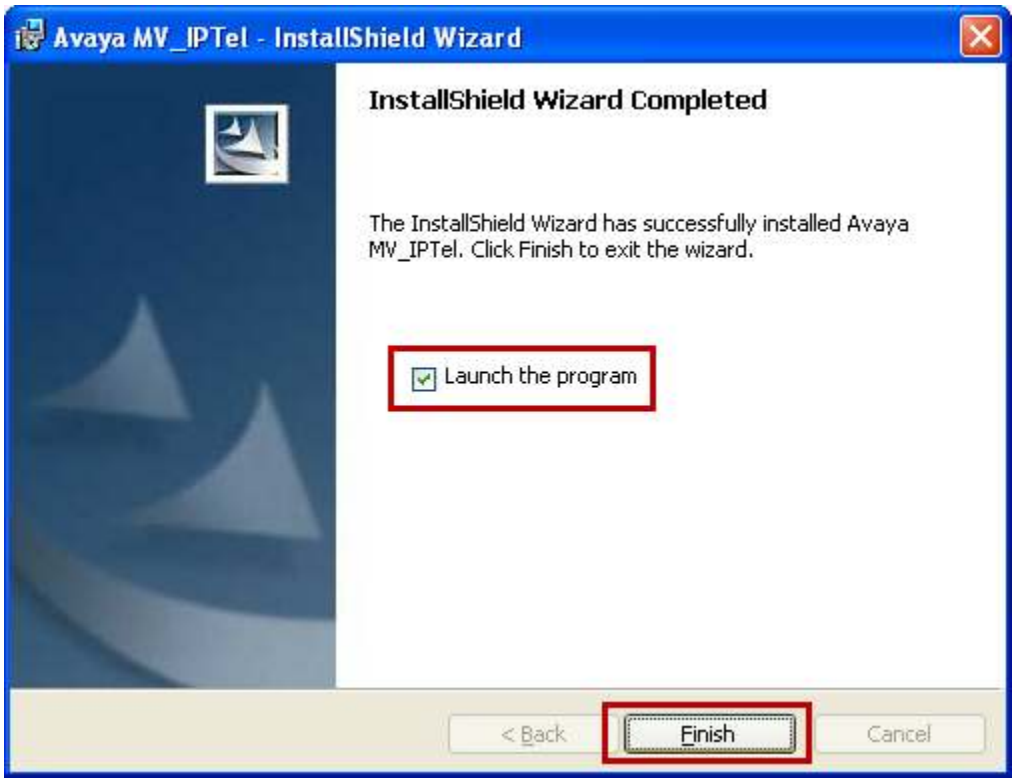
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The **Ready to Install the Program** page is displayed. Press **Install**.

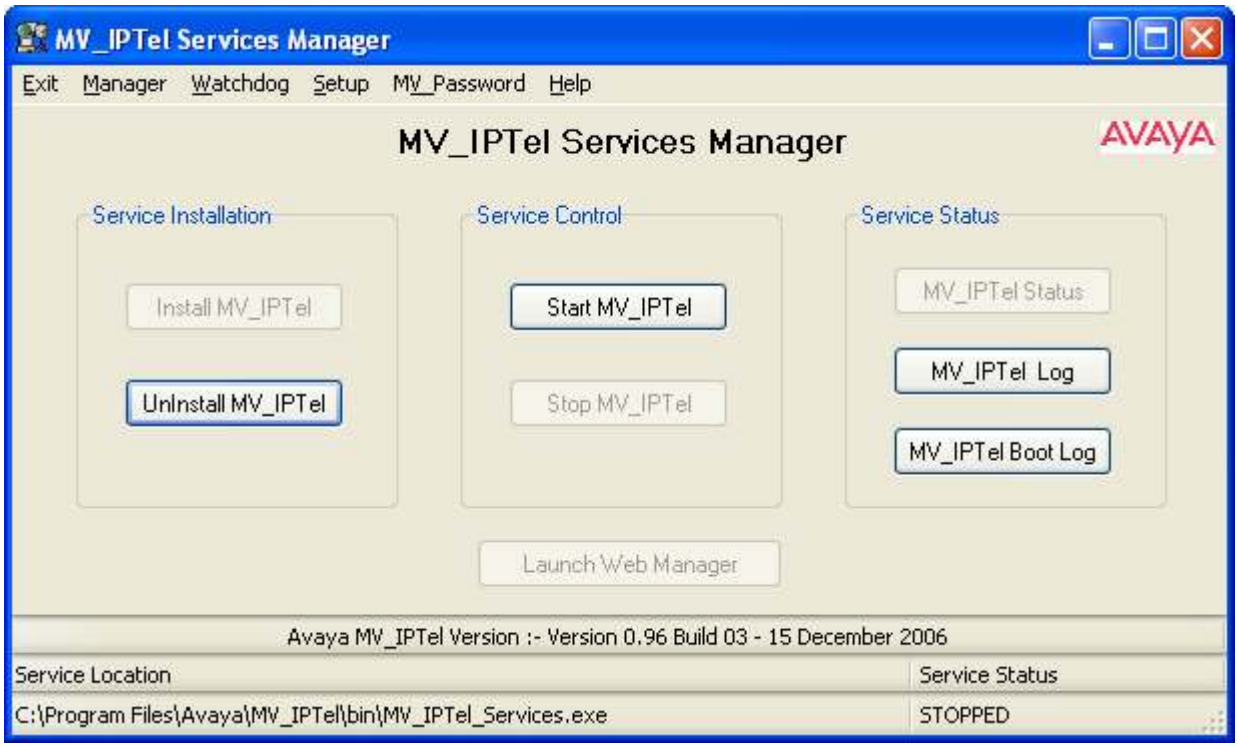


Once the installation completes select **Launch the Program**. Press **Finish**.

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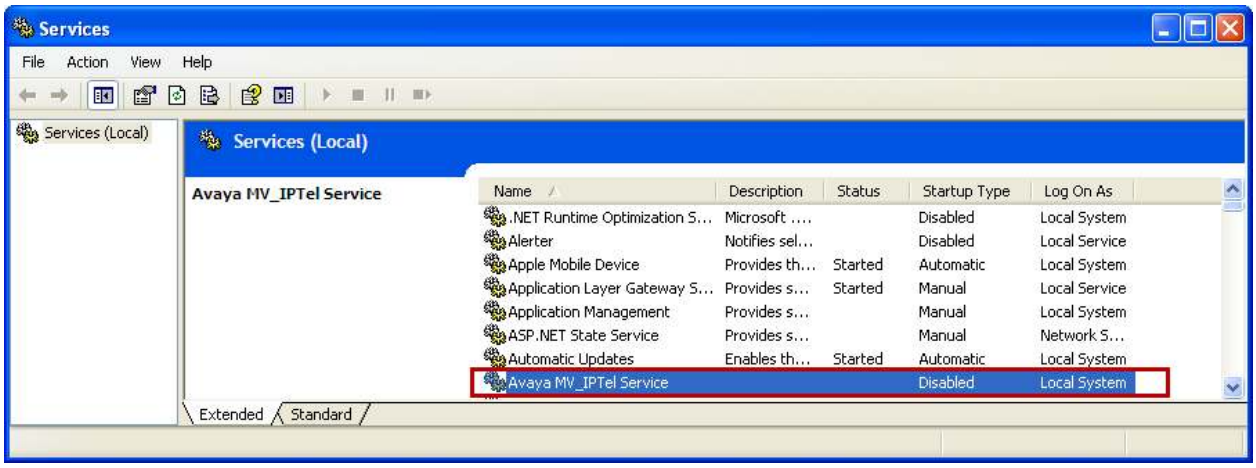


The **MV_IPTel** application is launched.

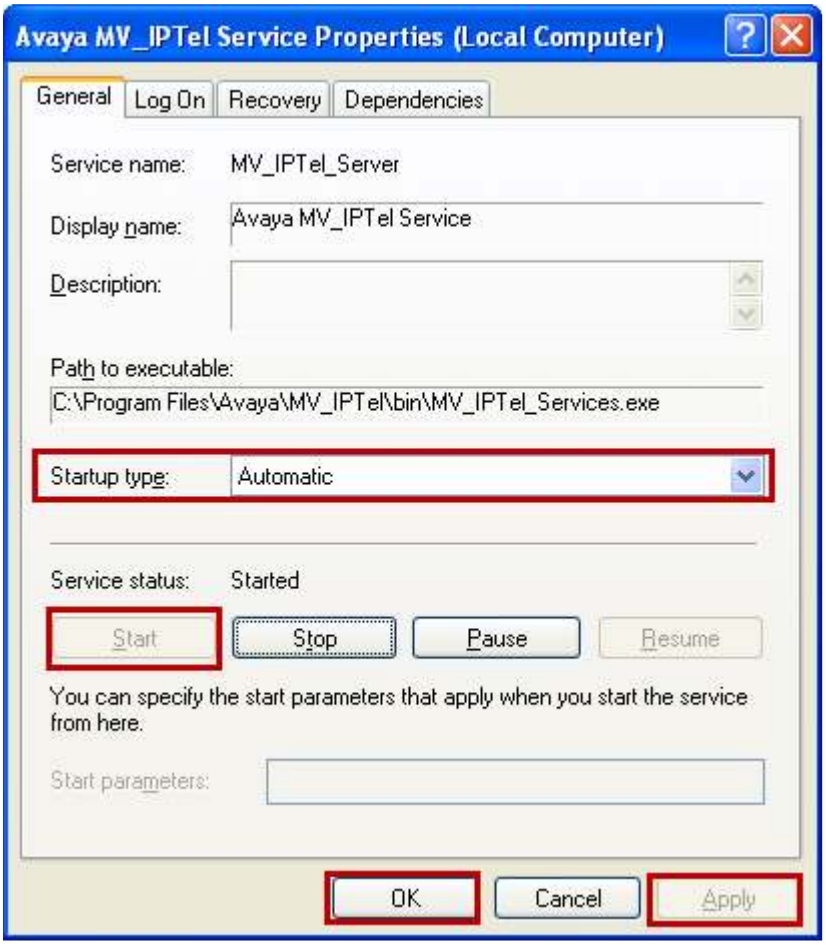


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By default the MV_IPTel server services are disabled. To first enable, navigate to the Microsoft Windows Server Services administration tool. Double-click **Avaya MV_IPTelService**.



The **Service Properties** window is displayed. From the **Startup type** drop down menu select **Automatic**. Press **Apply**. Press **Start**. Press **OK**. The MV_IPTel application server services are now running.



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3.3 Stage Settings and Firmware Files

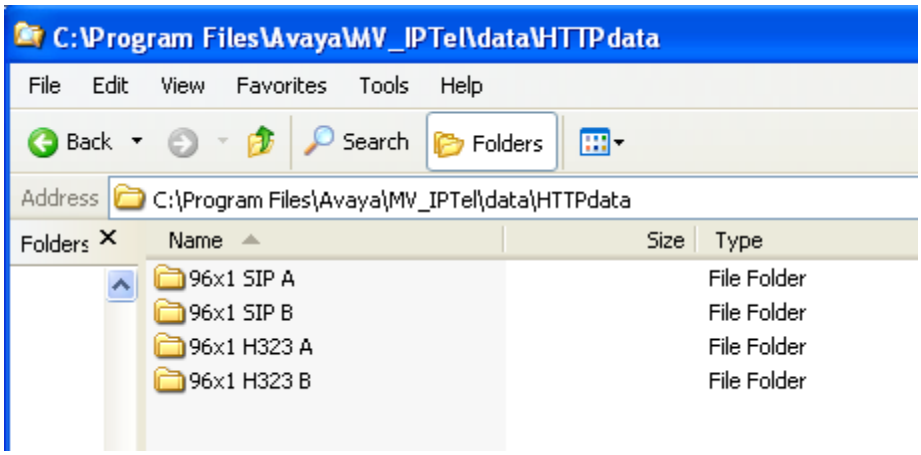
This section will cover the steps to stage the deskphone settings files and firmware for the sample environment. These Application Notes demonstrate the steps for allowing the environment to host multiple releases of the firmware and multiple settings files.

3.3.1 Configuration and Firmware files

Obtain the desired configuration and firmware files from http://support.avaya.com.

From the Avaya File Server Application MV_IPTel workstation create the following folders under the directory **C:\Program Files\Avaya\MV_IPTel\data\HTTPdata**. Each folder will be used to stage a different version of the configuration files and firmware.

- **96x1 SIP A**
- **96x1 SIP B**
- **96x1 H323 A**
- **96x1 H323 B**

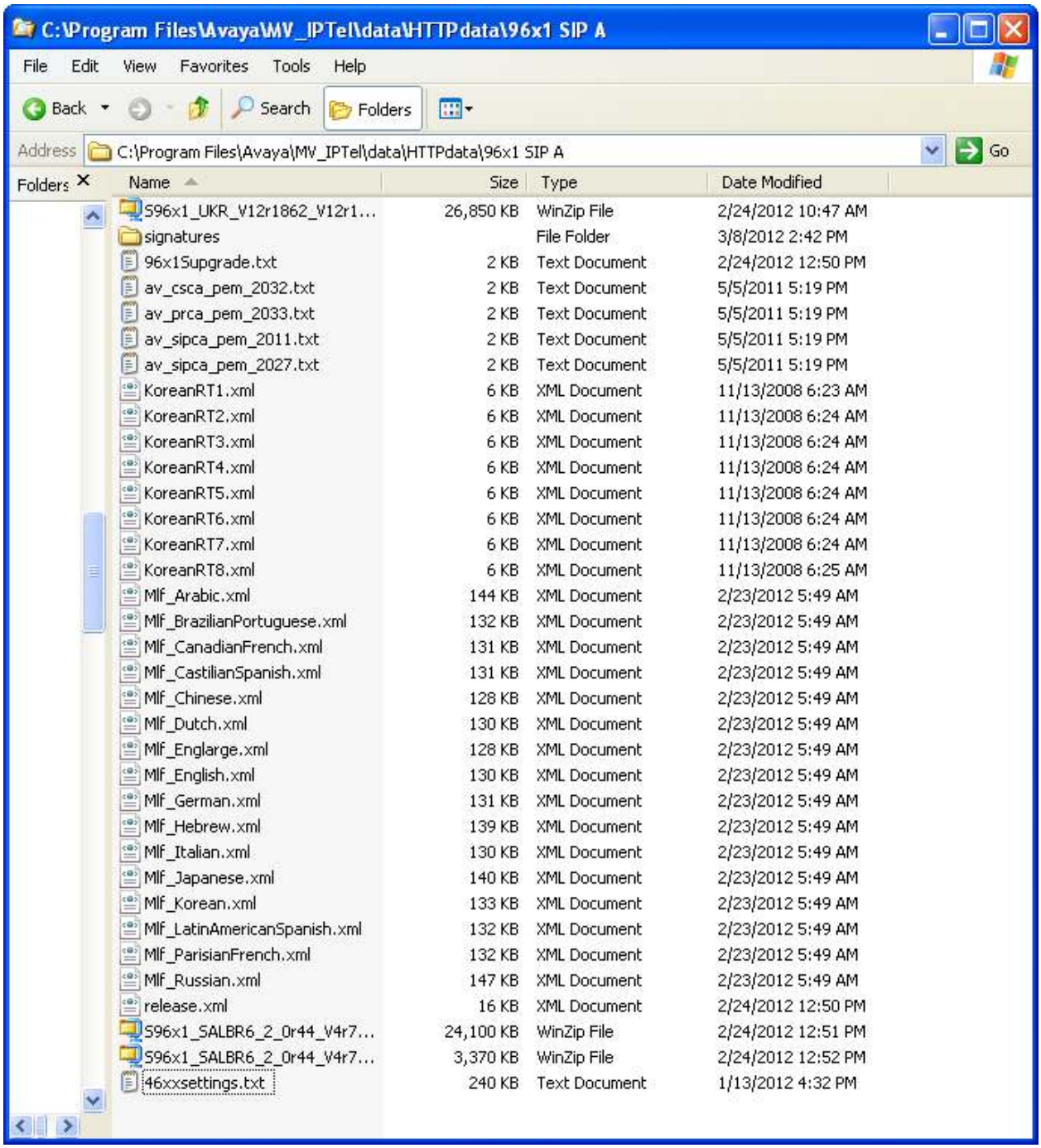


Unzip and extract the applicable firmware files to the appropriate folders. In addition, copy the **46xxsettings.txt** file to each of the directories.
For the sample configuration:

SIP 96x1 Build 6.2.0.44 files are staged in the folder **96x1 SIP A**
SIP 96x1 Build 6.2.0.38 files are staged in the folder **96x1 SIP B**
H323 96x1 Build R6_2_0_09 files are staged in the folder **96x1 SIP A**
H323 96x1 Build R6_2r922C files are staged in the folder **96x1 SIP B**

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The example below shows the contents of the **96x1 SIP A** folder with the addition of the 46xxsettings file:



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4. DHCP Server Configuration

This section will cover the steps for adding an option of the DHCP Server that will provide HTTP server and directory details for the applicable firmware and settings files. The sample configuration runs DHCP Server services on a Microsoft Windows 2008 Enterprise Server R2. These Application Notes assume the DHCP server has already been deployed with identified subnets.

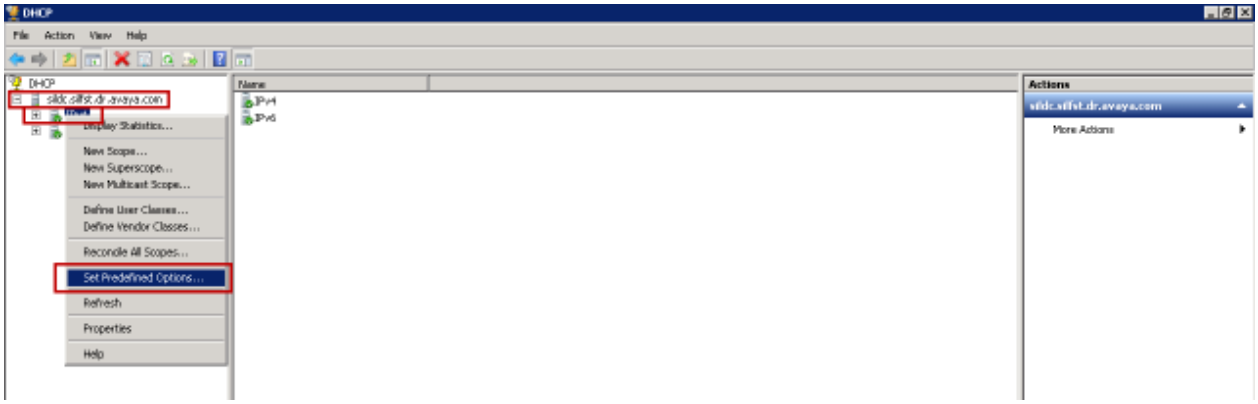
From the DHCP Server the following administration steps will be described:

- Add/Set Predefined Options for each of the four firmware packages.
- Configure Scope.

4.1 Set Predefined Options

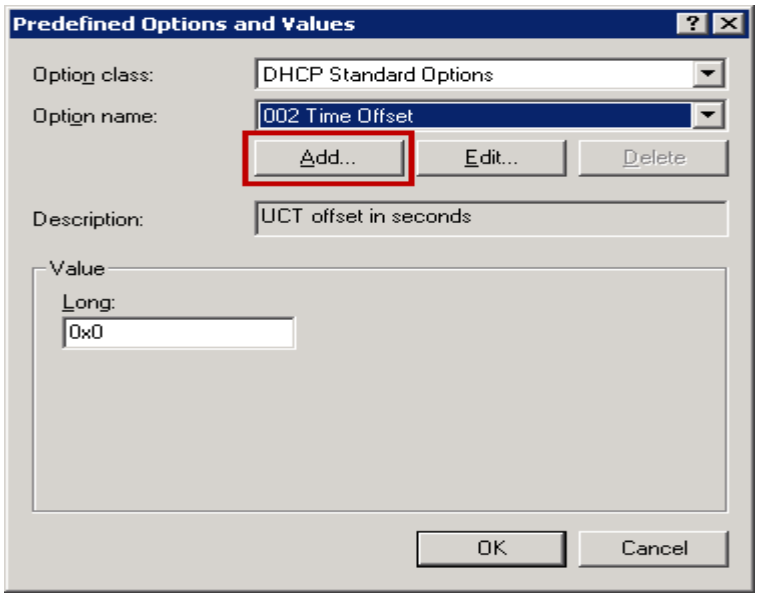
Launch the DHCP Administration tool. By default the DHCP Administration tool is launched from **Start → All Programs → Administrative Tools → DHCP**.

The DHCP Administration tool is presented. Expand the domain name. Select and Right Click **IPV4**. Select **Set Predefined Options**.



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After selecting **Set Predefined Options,** the **Predefined Options and Values** window is displayed. Press **Add**.



The **Option Type** window is displayed.

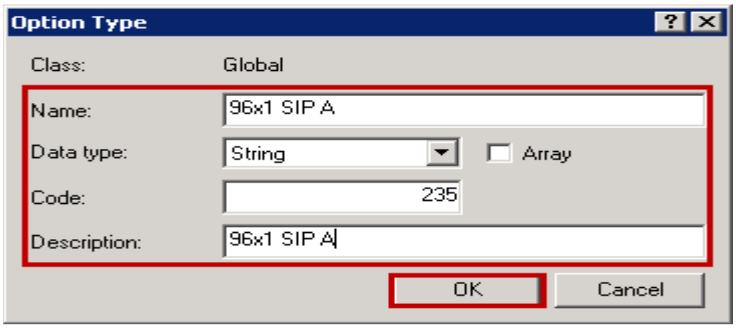
The sample configuration uses the following SSON values:

- For **96x1 SIP A** use **SSON 235**
- For **96x1 SIP B** use **SSON 236**
- For **96x1 H323 A** use **SSON 237**
- For **96x1 H323 B** use **SSON 238**

Populate and select the following values:

- For **Name** populate with the desired name. Example uses **96x1 SIP A**
- For **Data type** select **String** from the drop down menu
- For **Code** populate with the desired SSON value. Example uses **235**

Press **OK**.



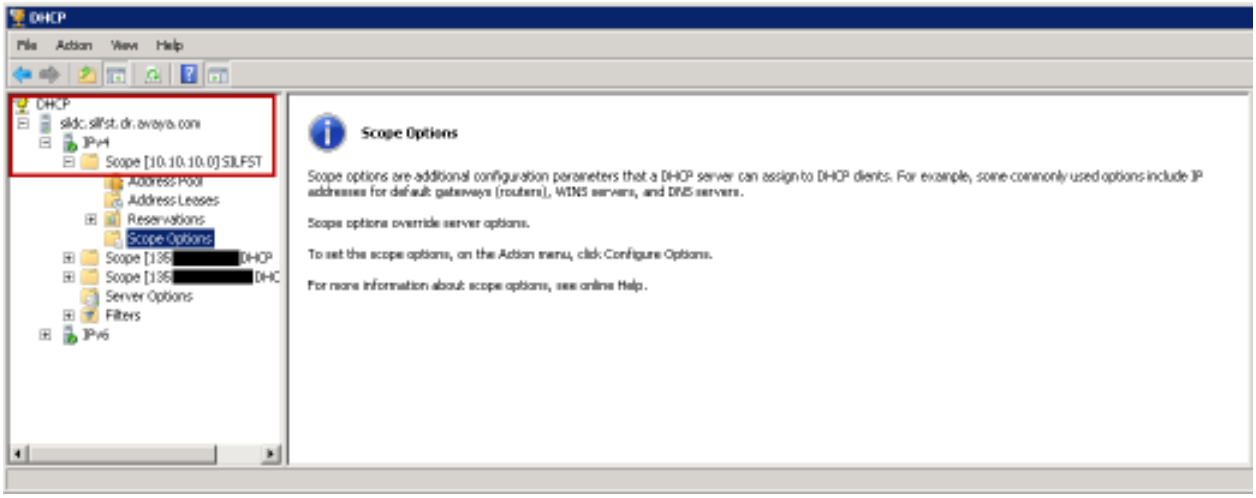
Repeat the previous steps to create the additional three options. Once all options are created, press **OK** to close the **Predefined Options and Values** window.

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4.2 Configure Scope

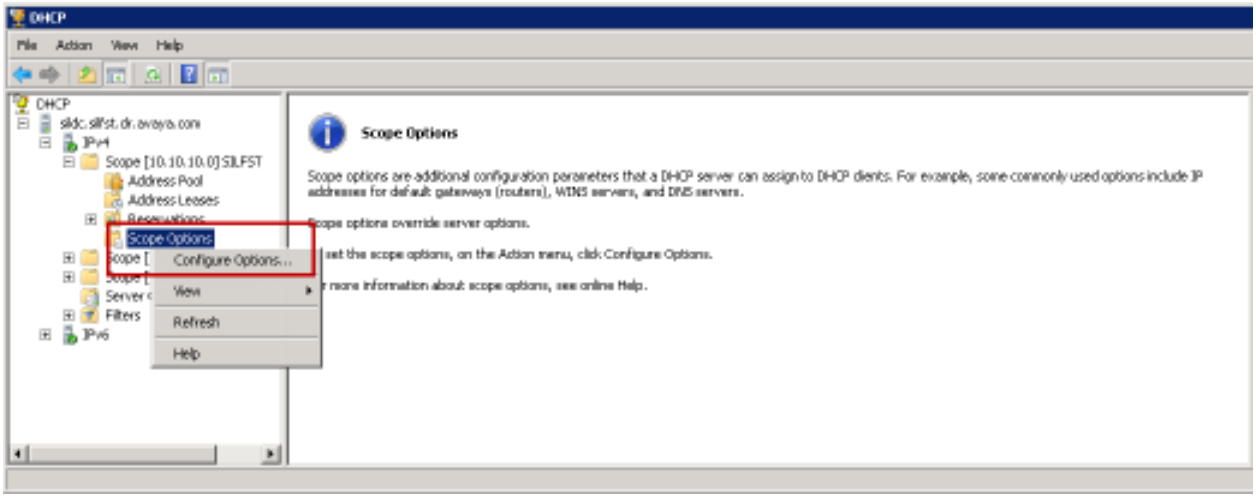
Launch the DHCP Administration tool. By default the DHCP Administration tool is launched from **Start → All Programs → Administrative Tools → DHCP**.

The DHCP Administration tool is presented. Expand the domain name. Expand **IPV4**. Select and expand the desired DHCP scope. The example uses **Scope [10.10.10.0] SILFST**.



NOTE: IP addresses have been partially hidden for security

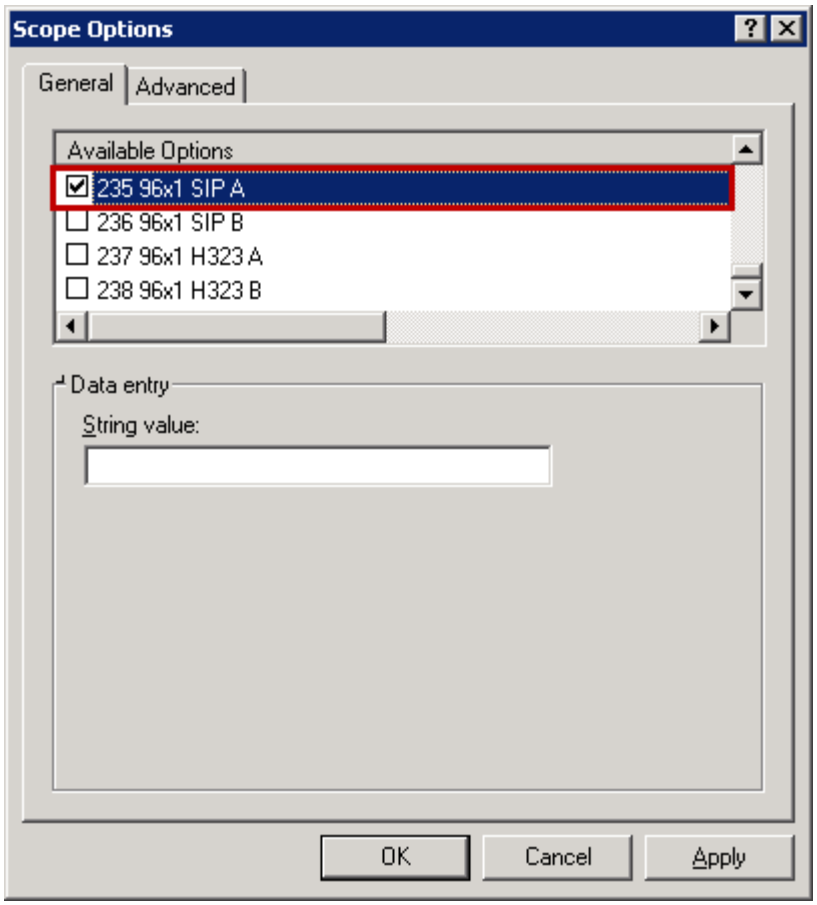
Select and Right Click **Scope Options**. Select **Configure Options**.



NOTE: IP addresses have been partially hidden for security

The **Scope Options** window is displayed. Scroll down to the first Option created in **Section 4.1**. Select the option.

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For the **String Value** field enter the following string:

HTTPSRVR=10.10.10.20,HTTPDIR=/96x1 SIP A

where

- **HTTPSRVR=10.10.10.20** is the IP address or FQDN of the server running the Avaya File Server Application MV_IPTel.
- **HTTPDIR=/96x1 SIP A** is the directory created in **Section 3.1.1** within the Avaya File Server MV_IPTel HTTP folder **C:\Program Files\Avaya\MV_IPTel\data\HTTPdata**.

Note: verify **HTTPDIR** string starts with "/" after "=" sign.

For additional SSON values, see **Reference [1], Reference [3],** and **Reference [5]** in **Section 8.**

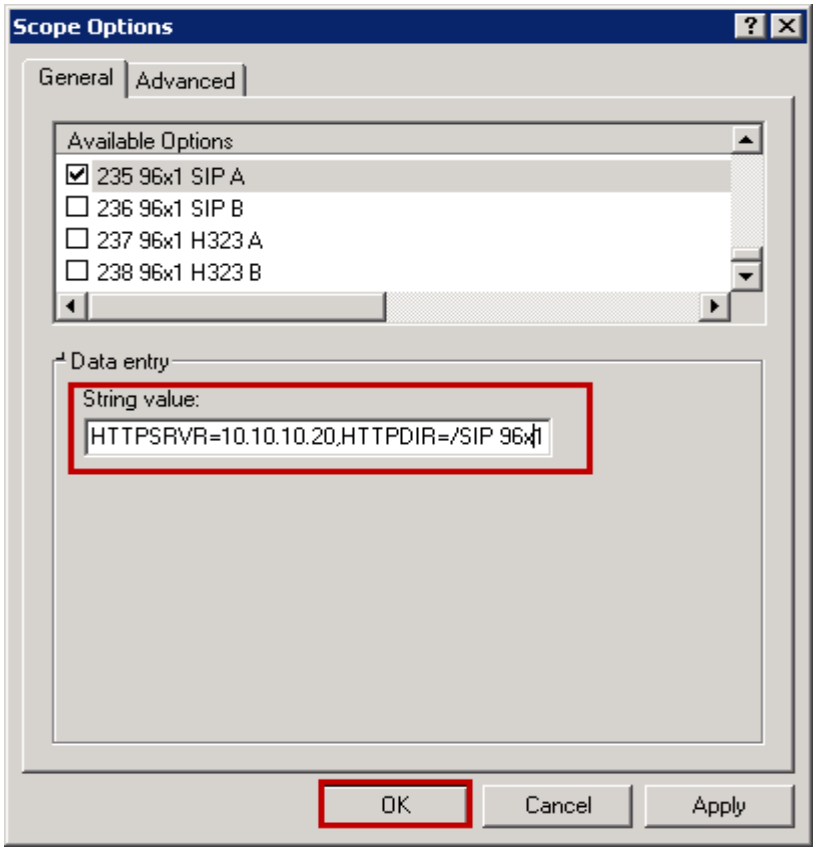
Press **OK**.

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Repeat the previous steps to set the string value for the additional three options. For each option be sure to specify the desired directory for the applicable firmware and settings file.

For example, as shown below, SSON 235 the string value will use:

HTTPSRVR=10.10.10.20,HTTPDIR=/96x1 SIP A



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5. Avaya one-X® IP Deskphone Configuration

This section will cover the steps for changing the SSON parameter on the Avaya one-X® IP Deskphone. There are several ways to change configuration parameters, for example, using DHCP options, the **46xxsettings.txt** file, or using local administrative (manual) procedures.

Note: the deskphone uses an internal procedure to determine which value the deskphone should use. For more information on the procedure, see **Reference [1], Reference [3],** and **Reference [5]** in **Section 8.**

These Application Notes assume the Avaya one-X® IP Deskphone is already connected to the network and configured for DHCP.

The following administration steps will be described:

- Access Local (Craft) Procedures
- Set SSON
- Restart the Avaya one-X® IP Deskphone

Note: Since the DHCP site-specific option is processed after the DHCP fields and standard options, any values set in the site-specific option will supersede any values set via DHCP fields or standard options, as well as any other previously set values.

5.1 Access Local (Craft) Procedures

Access local craft procedures in order to alter the SSON parameter.

5.1.1 During Avaya one-X® IP Deskphone Startup:

During startup, invoke local procedures by pressing **Program** to display the Craft Access Command Entry screen.

Press **Mute** and enter the local dialpad procedure password.
Press **Enter (#)** when password entry is complete.

For all non-touchscreen phones, use the navigation arrows to scroll to and highlight the local procedure desired, then press **Select** or **OK**. Or scroll to the procedure desired and press the corresponding line button. For touchscreen phones, scroll to the local procedure desired if it not already displayed then touch the line for the particular local procedure desired.

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5.1.2 During Normal Avaya one-X® IP Deskphone Operation:

Invoke all local procedures by pressing the **Mute** button, entering the local (dialpad) procedure password.. If using a
touchscreen phone and need to backspace during password entry, use the Contacts button; for non-touchscreen phones, use the left arrow button or the designated softkey.

For non-touchscreen phones, use the navigation arrows to scroll to and highlight the local procedure you want, then press **Select** or **OK**. Or scroll to the procedure you want and press the corresponding line button.

For touchscreen phones, scroll to the local procedure desired if it not already displayed then touch the line on which the local procedure appears.

5.2 Set Site Specific Option Value

Select SSON from the Avaya one-X® IP Deskphone Adminstration Procedures screen of the phone.



Alter the setting to equal the desired DHCP SSON from **Section 4.1** and **Section 4.2** by pressing the appropriate softkey(s) and/or dialpad. The SSON value can be between 128 and 255.

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Press **Save** to store the new setting and redisplay the Administration Procedures screen.

Note: if this is the first time the SSON parameter has been altered, the Avaya one-X® IP Deskphone will restart after logging out of the Administration Procedures screen.



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Restart Avaya one-X® IP Deskphone in order to obtain the updated firmware and settings file by pressing **Restart** from the Administration Procedures screen.



When prompted with the **Restart Phone Procedure** display, press **Yes** to restart (Not Shown).

Repeat this procedure for any Avaya one-X® IP Deskphone with the applicable DHCP SSON for obtaining desired firmware files.

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6 Verification Steps

To verify the firmware of the Avaya one-X® IP Deskphone access local craft procedures as noted in **Section 5.1**. To verify the firmware installed select **View** from the Administration Procedures screen.



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Verify the Application file matches the version staged in the applicable Avaya File Server MV_IPTel HTTP directory. The example shows the application file for the 96x1 SIP 6.2 Build 6.2.0.44 **S96x1_SALBR6_2_0r44_V_V4r70.tar**.



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7 Conclusion

These Application Notes describe a sample DHCP server configuration utilizing Avaya File Server Application MV_IPTel for controlling firmware and configuration updates for multiple groupings of Avaya one-X® IP Deskphone endpoints via DHCP Site Specific Option Number (SSON). The SIL test environments utilize this configuration as there are separate communities of phones requiring different types of firmware and settings for testing.

The configuration utilizes the Site Specific Option Number (SSON) of a DHCP server to provide basic variables of the environment for the one-X® IP Deskphone. These Application Notes are specific for running Avaya File Server Application MV_IPTel on a Microsoft Windows platform. Avaya File Server Application MV_IPTel is also available for Linux platforms.

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8 Additional References

This section provides references to the product documentation relevant to these Application Notes which can be found at http://support.avaya.com

[1] Avaya one-X Deskphone H323 Administrator Guide Release 6.0, Doc-ID 16-300698

[2] Avaya one-X Deskphone H323 Installation and Maintenance Guide Release 6.0 for 9608, 9611G, 9621G, and 9641G Deskphones, Doc-ID 16-603603

[3] Avaya one-X Deskphone SIP Administrator Guide Release 6.1, Doc-ID 16-603838

[4] Avaya one-X Deskphone SIP Installation and Maintenance Release 6.1 for 9601 Deskphone, Doc-ID 16-603843

[5] Avaya one-X® Deskphone SIP 9608, 9611G, 9621G, 9641G Administrator Guide Release 6.0.2, SP2, Doc-ID 16-603813

[6] Avaya IP Telephone File Server Application Reference Guide, Doc-ID 16-601433

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