Avaya Solution & Interoperability Test Lab

Application Notes for Configuring the Avaya 3631 Wireless Telephone with Avaya Distributed Office using the Meru Networks Wireless Network - Issue 1.0

Abstract

These Application Notes detail the steps for configuring interoperability between Avaya 3631 Wireless Telephones and Avaya Distributed Office. Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

As new products are delivered to industry, proving interoperability between both existing and new platforms is important to customers who plan on deploying new platforms. Avaya Distributed Office extends telephony features to the Avaya 3631 Wireless Telephone.

These Application Notes demonstrate the configuration process that enables interoperability between the Avaya 3631 Wireless Telephone with Avaya Distributed Office. The Avaya 3631 Wireless Telephone is an 802.11b/g wireless H.323 telephone capable of registering with Avaya Distributed Office.

1.1. Network Diagram

The network diagram shown in **Figure 1** illustrates the testing environment used for compliance testing. The network is comprised of an Avaya Distributed Office, a Meru Networks MC500 Controller, a Meru Networks AP-208 wireless access point and two Avaya 3631 Wireless Telephones. In the sample network the Avaya Distributed Office was providing DHCP services. When configured in this fashion, the Avaya Distributed Office will auto-populate the necessary DHCP options to provision the Avaya 3631 Wireless Telephone. The Avaya 3631 Wireless Telephones and the Meru Networks AP-208 obtain IP address information from the Avaya Distributed Office.

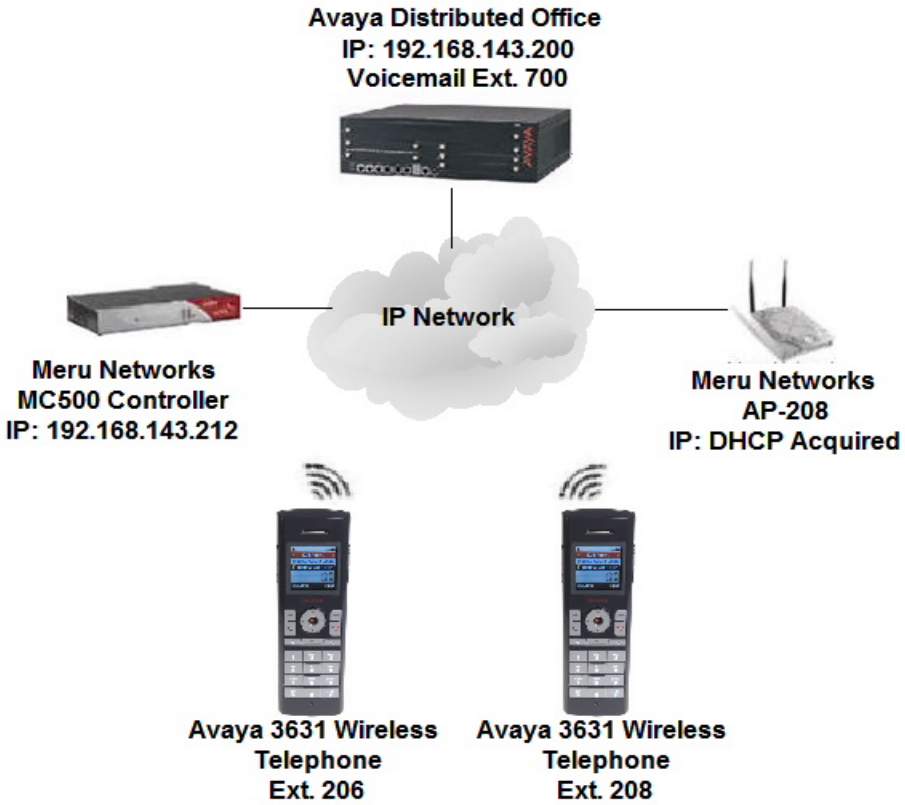


Figure 1: Sample Network Diagram

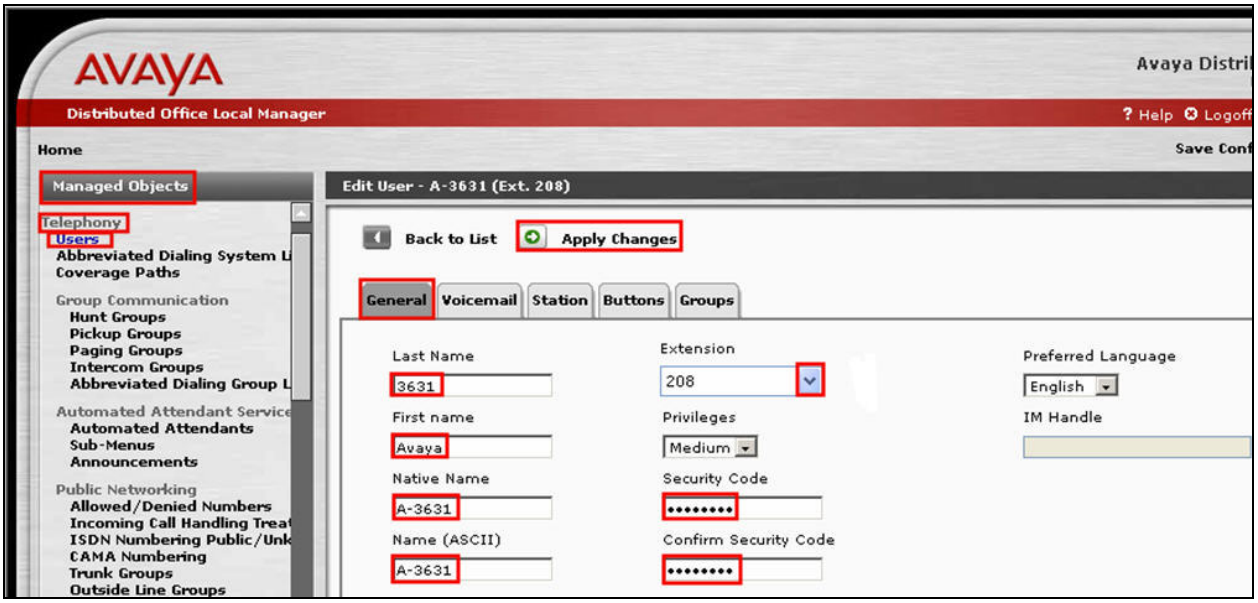
2. Equipment and Software Validated

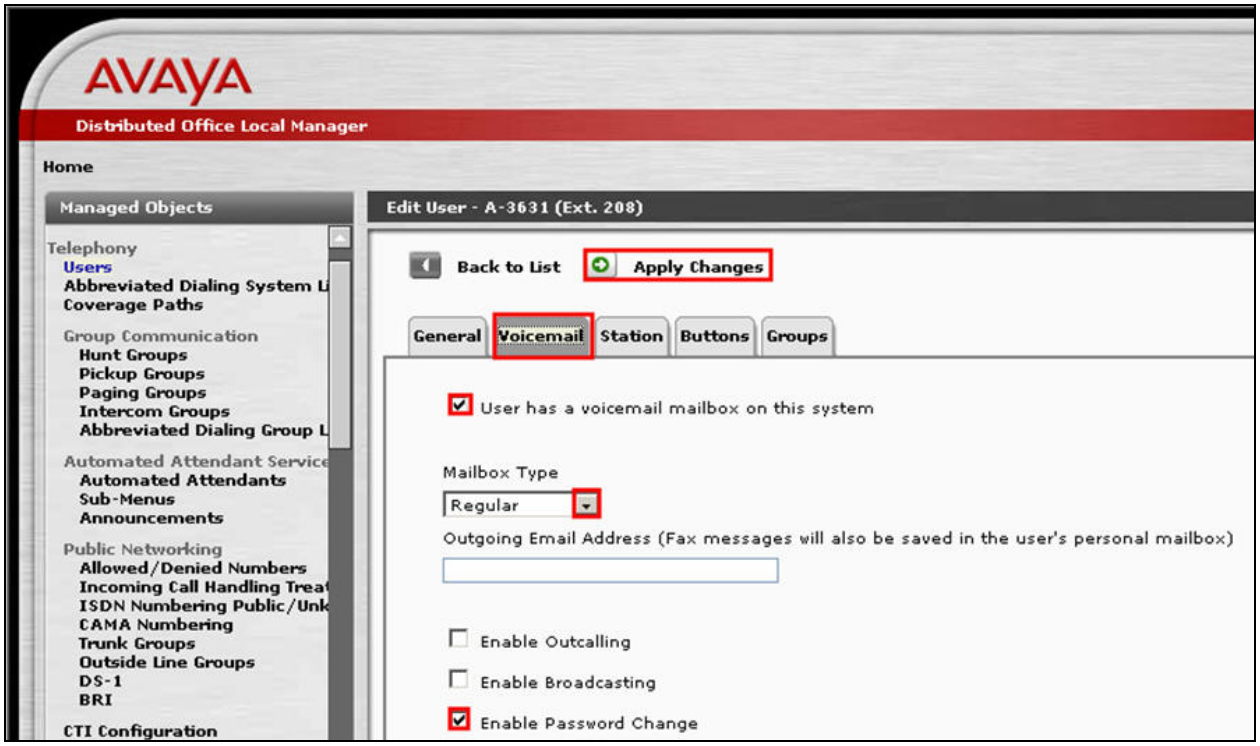
The following equipment and software were used for the sample configuration provided:

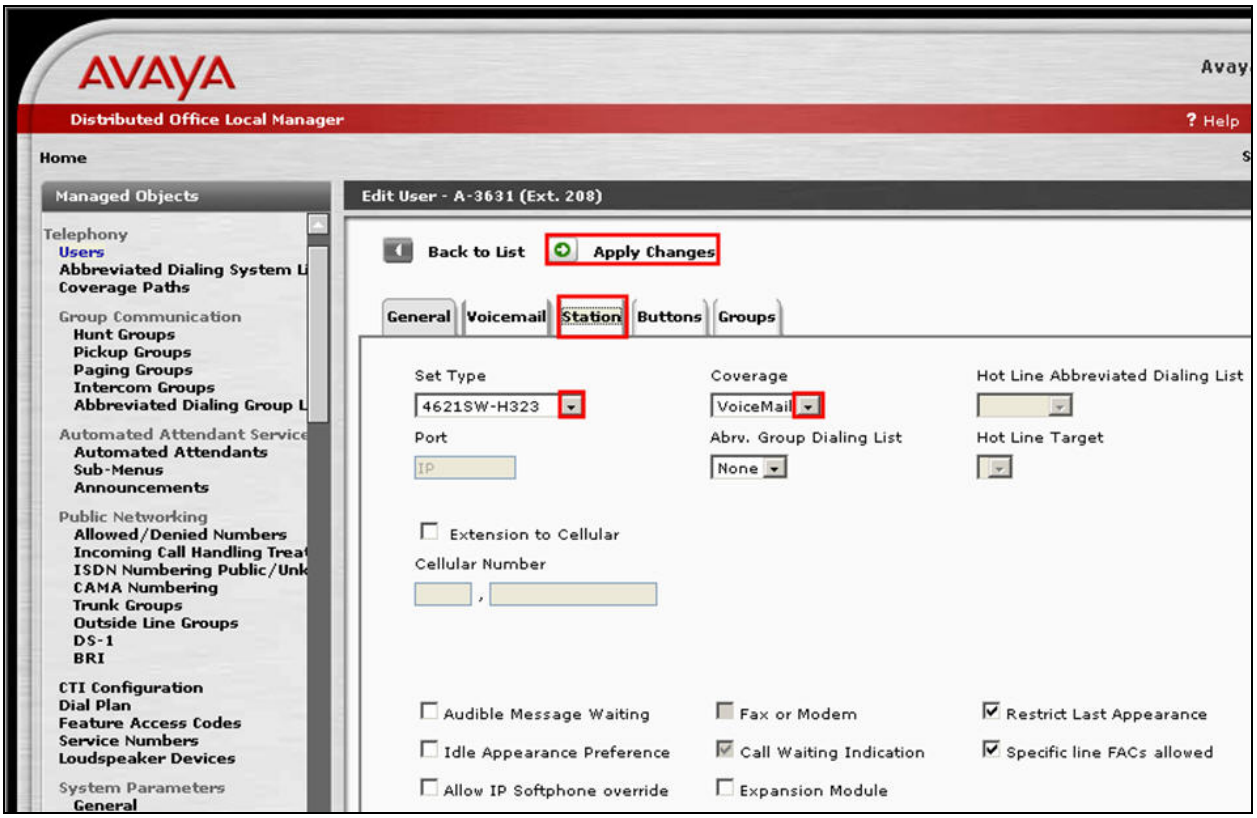
Equipment	Software
Avaya Distributed Office i120	1.1.0 (33.02) Service Pack 3.0.0
Avaya 3631 Wireless Telephones	1.3.1
Meru Networks MC500	3.4-83
Meru Networks AP-208	3.4-83

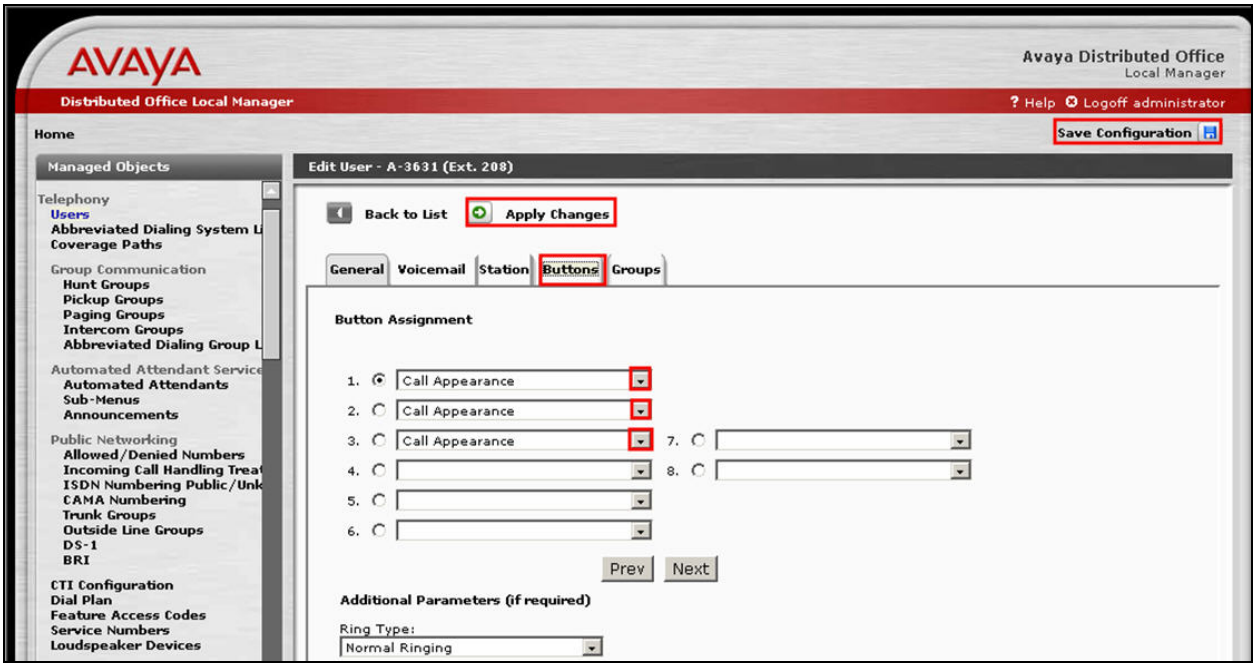
3. Avaya Distributed Office Configuration

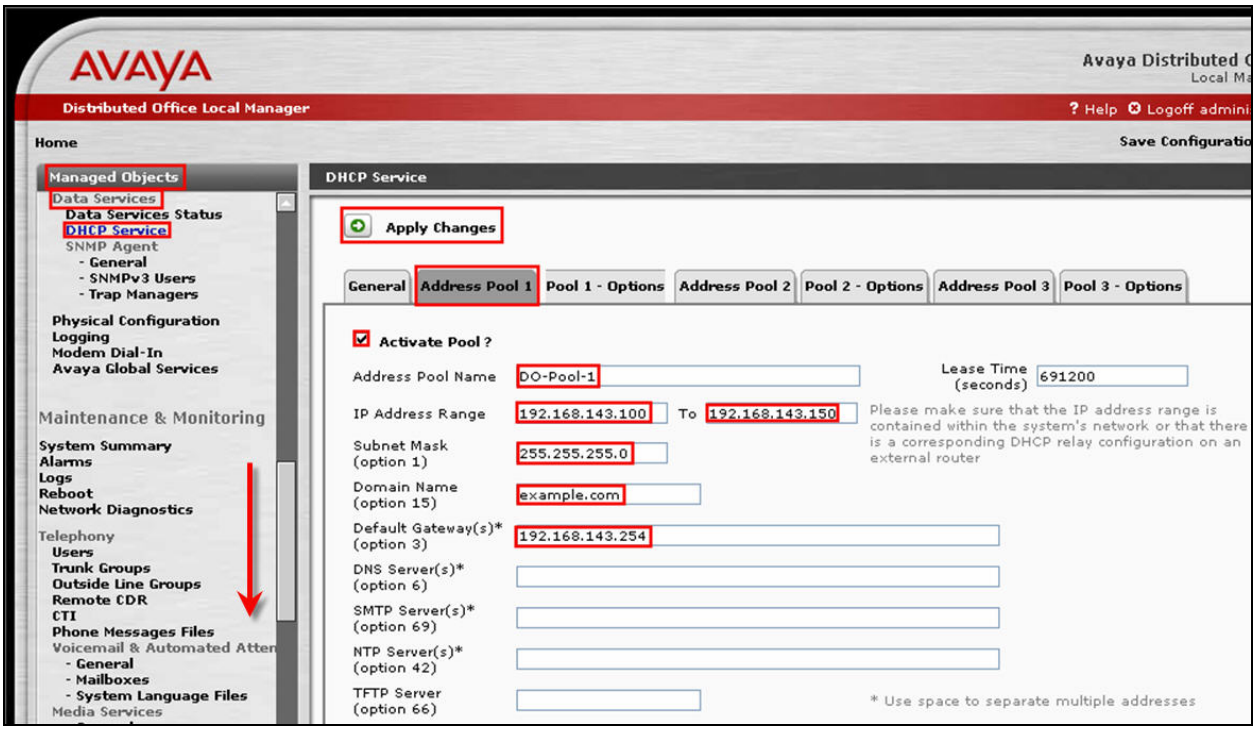
Avaya Distributed Office is administered via a web interface. In the sample network, the Avaya Distributed Office was assigned the IP address 192.168.143.200 and the URL http://192.168.143.200 was used to access the administration interface. For information on how to access and setup a factory default system, refer to **Reference** [**1**].

Step	Description
1.	Navigate to the **Edit User** frame by clicking **Managed Object→Telephony→Users**. Enter the values displayed below and then click **Apply Changes**. **Last Name**, **First name** and **Native Name** can be any descriptive text that identifies this user. **Name (ASCII)** may be populated with the same information that is entered in **Native Name**. **Security Code** and **Confirm Security Code** are numeric codes that must match. Use the drop-down list for **Extension** and select any available extension. The remaining parameters were left to default values. 

Step	Description
2.	Navigate to the **Voicemail** tab by clicking **Voicemail**. Check the **User has a voice mailbox on this system** and **Enable Password Change** check boxes. Use the drop-down list for **Mailbox Type** to select "Regular". Click **Apply Changes**. 

Step	Description
3.	Navigate to the **Station** tab by clicking **Station**. Use the drop-down list for **Set Type** to select "4621SW-H323". This release of Avaya Distributed Office has no specific **Set Type** for the Avaya 3631 Wireless Telephone. Therefore, the "4621SW-H323" **Set Type** was used. Use the drop-down list for **Coverage** to select "VoiceMail". The remaining parameters were left to default values. Click **Apply Changes**. 

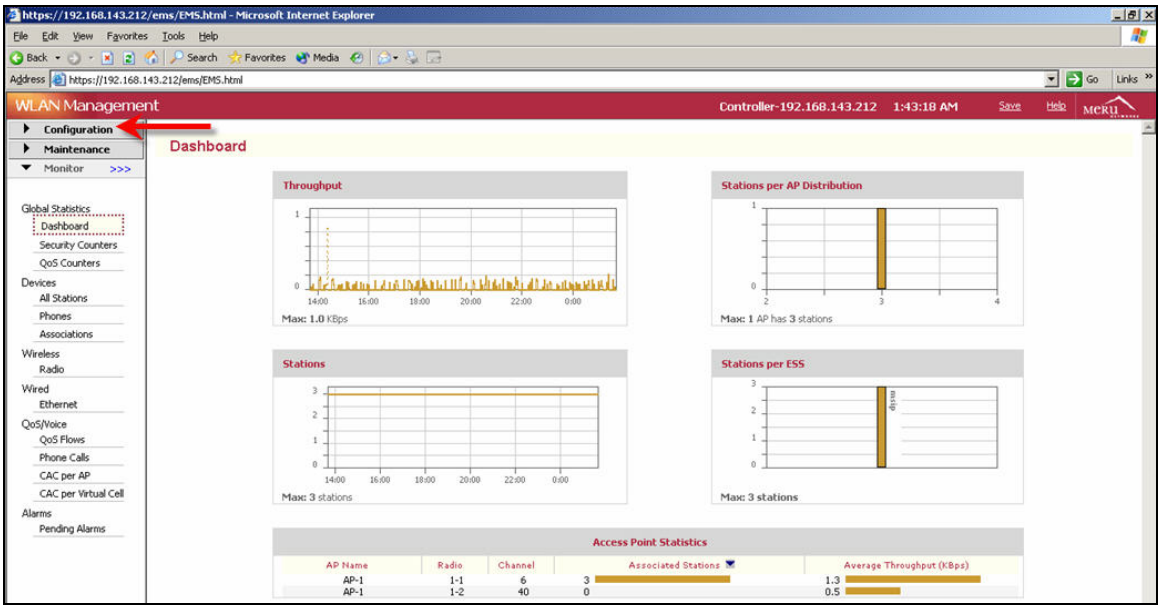
Step	Description
4.	Navigate to the **Buttons** tab by clicking **Buttons**. Use the drop list for **Button Assignment 1 – 3** and select "Call Appearance". The remaining parameters were left to default values. Click **Apply Changes** and then click **Save Configuration**. Note the user may receive a message indicating the system is busy if **Save Configuration** is clicked immediately after **Apply Changes**. If that occurs, simply click **Save Configuration** after one or two minutes. Repeat **Steps 1 - 4** for each Avaya 3631 Wireless Telephone. 

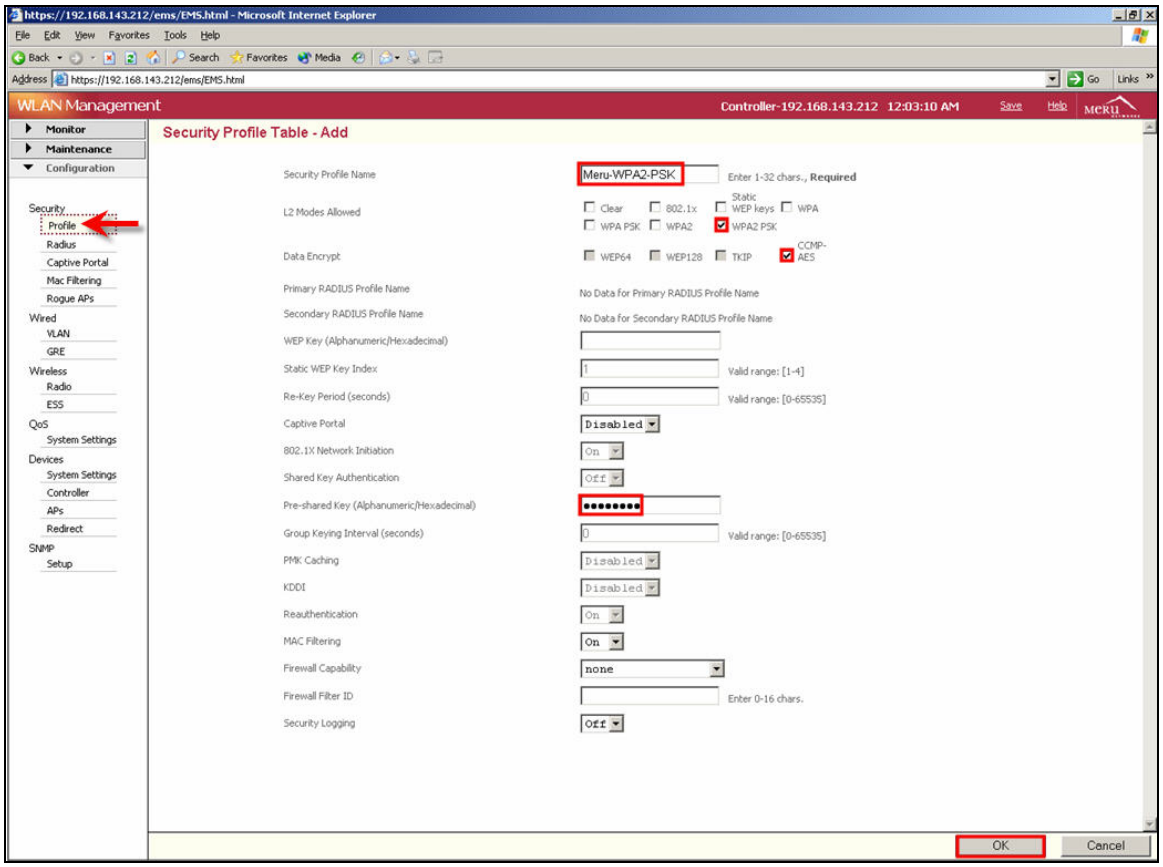
Step	Description
5.	Navigate to the **DHCP Service** frame by clicking **Managed Objects→Data Services→ DHCP Service.** The user will need to use the scroll bar to navigate to this option. Then click the **Address Pool 1 tab.** Enter the information displayed below and then click **Apply Changes**. Check the **Activate Pool?** check box. **Address Pool Name** can be any descriptive text. **IP Address Range** and **To** were configured to support a DHCP range from "192.168.143.100" through "192.168.143.150". **Domain Name** was configured to "example.com". **Default Gateways(s)*** was set to "192.168.143.254". Note the values used here are only applicable to the sample configuration. 

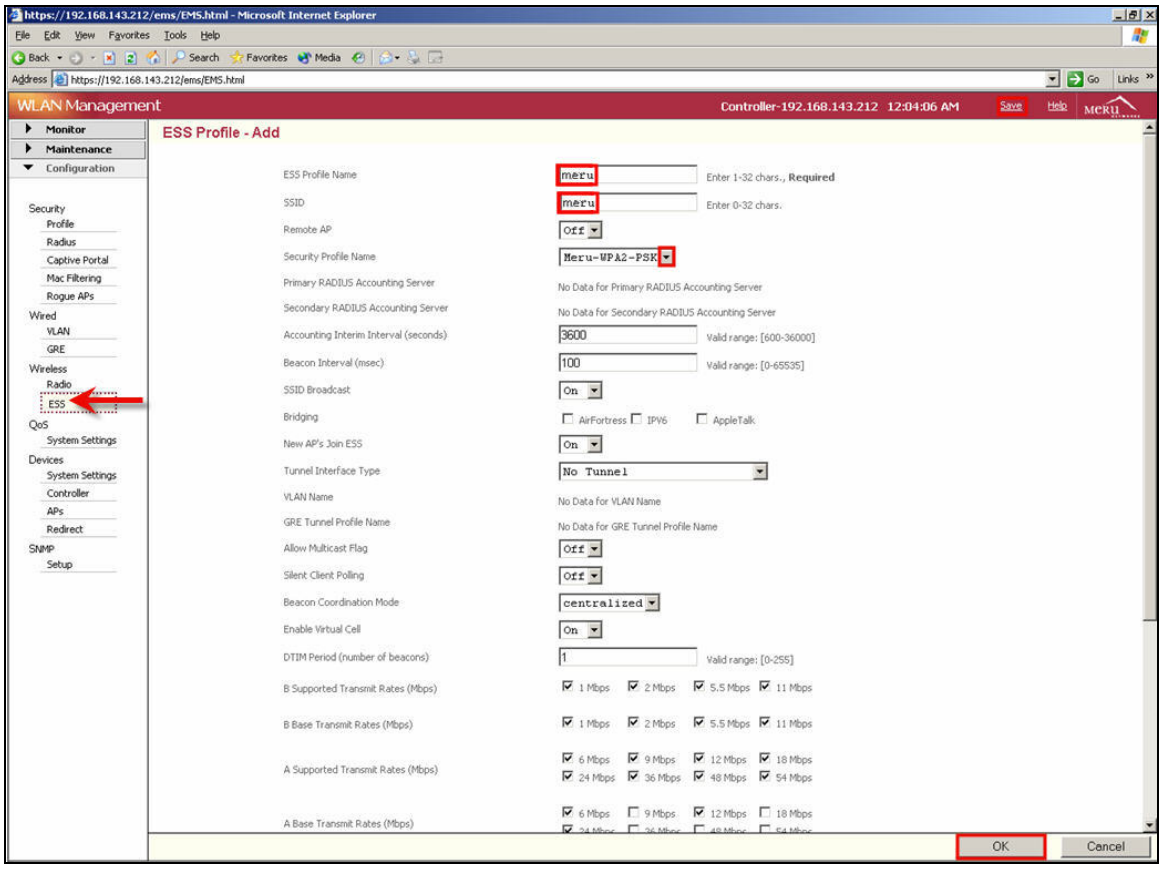
4. Meru Networks MC500 Controller Configuration

Step	Description

1.	To perform the initial configuration on the Meru Networks MC500 Controller, setup a serial connection from a PC or laptop with the following parameters:
	
	Bits Per Second **"**115200"
	Data bits "8 bits"
	Parity "None"
	Stop bits "1"
	Flow control "Xon/Xoff"
	
	Log into the Meru Networks MC500 Controller using default credentials which can be found in **Reference** [**3**]. At the default system prompt, enter the initial setup configuration dialogue by issuing the "**setup**" command. Enter the information displayed below, commit the changes and reboot the system. The remaining configuration will be performed using the web interface.
	
	`default# setup`
	`Begin system configuration ...`
	`The country code is currently set to: US`
	`Would you like to change it [yes/no/quit]?: no`
	`The system is configured for the following ISO country code: US`
	
	`Host Name configuration for this machine`
	`Please enter host name, or q to quit: MC500`
	`Is MC500 correct [yes/no/quit]?: yes`
	
	`IP configuration for this machine.`
	
	`Would you like to configure networking [yes/no/quit]?: yes`
	
	`Would you like to use Dynamic IP configuration (DHCP) [yes/no/quit]?: no`
	
	`Please enter the IP configuration for this machine.`
	`Enter IP address, or q to quit: 192.168.143.212`
	`Is 192.168.143.212 correct [yes/no/quit]?: yes`
	
	`Enter netmask, or q to quit: 255.255.255.0`
	`Is 255.255.255.0 correct [yes/no/quit]?: yes`
	
	`Enter default gateway (IP), or q to quit: 192.168.143.254`
	`Is 192.168.143.254 correct [yes/no/quit]?: yes`
	
	`System configuration completed.`
	`Do you want to commit your changes and reboot [yes/no/quit]?: yes`

Step	Description
2.	Once logged on, the user is presented with the **Dashboard** web page. This page provides some basic information to the user such as the number of stations and throughput. Navigate to the **Configuration** web page by clicking **Configuration**. In the sample configuration, the Meru Networks AP-208 Access Point was connected to the same network as the Meru Networks MC500 Controller, therefore, no specific access point configuration is needed. 

Step	Description
3.	Navigate to the **Security Profile Table – Add** web page by clicking **Profile→Add**. Enter the information displayed below and then click **OK**. **Security Profile Name** can be any descriptive text that identifies this particular profile. In this sample configuration, the name "Meru-WPA2-PSK" was chosen. Check the **WPA2-PSK** and **CCMP-AES** check boxes. **Pre-shared Key (Alphanumeric/Hexadecimal)** can be any alphanumeric or hexadecimal value. For complete information on all of the encryption/authentication schemas supported by the Meru Networks MC500 Controller see **Reference** [**4**]. 

Step	Description
4.	Navigate to the **ESS Profile – Add** web page by clicking **ESS→Add**. Enter the information displayed below, click **OK** and then click **Save**. **ESS Profile Name** and **SSID** can be any alphanumeric string and these values do not need to match. Use the drop-down list for **Security Profile Name** to select "Meru-WPA2-PSK", which is the name of the profile created in **Step 3**. The remaining parameters were left to default values. 

5. Avaya 3631 Wireless Telephone Configuration

The Avaya 3631 Wireless Telephone was configured using the keypad present on the telephone. For complete information on how to administer the Avaya 3631 Wireless Telephone, refer to **Reference** [**2**].

There are some configuration parameters that the Avaya 3631 Wireless Telephone will need to be configured to match. The matching sections and parameters are listed below:

- **Section 3 Step 1** – **Extension** and **Security Code**.
- **Section 4 Step 3 – Encryption Type** and **Pre-shared Key**
- **Section 4 Step 4 - SSID**

6. Interoperability Compliance Testing

The interoperability compliance testing focused on verifying the capability of the Avaya 3631 Wireless Telephone to interoperate with Avaya Distributed Office when configured as a "4621SW-H323" set type.

Avaya's formal testing and Declaration of Conformity is provided only on the headsets/handsets that carry the Avaya brand or logo. Avaya may conduct testing of non-Avaya headset/handset to determine interoperability with Avaya phones. However, Avaya does not conduct the testing of non-Avaya headsets/handsets for: Acoustic Pressure, Safety, Hearing Aid Compliance, EMC regulations, or any other tests to ensure conformity with safety, audio quality, long-term reliability or any regulation requirements. As a result, Avaya makes no representations whether a particular non-Avaya headset will work with Avaya's telephones or with a different generation of the same Avaya telephone.

Since there is no industry standard for handset interfaces, different manufacturers utilize different handset/headset interfaces with their telephones. Therefore, any claim made by a headset vendor that its product is compatible with Avaya telephones does not equate to a guarantee that the headset will provide adequate safety protection or audio quality.

6.1. General Test Approach

The general test approach was to register the Avaya 3631 Wireless Telephone with Avaya Distributed Office. Calls were made between telephones and basic calling features were tested and verified to operate properly.

6.2. Test Results

The Avaya 3631 Wireless Telephone passed all test cases. The Avaya 3631 Wireless Telephone was verified to successfully register with Avaya Distributed Office as a "4621SW-H323" set type. The Avaya 3631 Wireless Telephone was verified to be capable of placing/receiving calls with proper caller ID information. Basic calling features such as hold/return from hold, transfer (attended/unattended), conference, call forwarding (on busy/unconditional/clear), multiple call appearances, voicemail and MWI were verified to operate correctly. Calls were maintained for durations lasting longer than one minute.

7. Verification Steps

The following steps can be used to ascertain the functional state of the Avaya 3631 Wireless Telephone.

- Place calls to other telephones within the network and verify two-way audio between endpoints.
- Dial into the Avaya Distributed Office Auto Attendant or voicemail and verify audio is heard, digits are properly interpreted and the Avaya 3631 Wireless Telephone can navigate the menus using the keypad present on the telephone.
- Exercise and verify proper operation of calling features such as hold/return from hold, transfer and call forwarding.

8. Support

Technical support for the Avaya 3631 Wireless Telephone and Avaya Distributed Office can be obtained from the following:

- **Phone:** 1-866-GO-AVAYA
- **Email:** support@avaya.com

9. Conclusion

These Application Notes detail the configuration process that enables interoperability between the Avaya 3631 Wireless Telephone and Avaya Distributed Office. These Application Notes also demonstrate the configuration that enables multiple call appearances and a voicemail box for the extension associated with the Avaya 3631 Wireless Telephone.

10. Additional References

[1] *Avaya Distributed Office i20 Installation Quick Start*, May 2007 Issue 1, Document Number 03-602289
[2] *Avaya 3631 Wireless Telephone Administrator Guide*, March 2007 Issue 2, Document Number 16-602203
[3] *Meru Networks Command Reference Release*, Document Number: 882-10034 Rev 1
[4] *Meru Networks Configuration Guide*, Document Number: 882-20034 Rev 2

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.