ADTRAN®

NetVanta Unified Communications Technical Note

Installing and Configuring Mitel IP Phones

Introduction

The Desktop IP Line from Mitel provides a wide range of Session Initiation Protocol (SIP) telephones for IP communication. The phones and devices feature a context-sensitive softkey display combination – technology that was pioneered by Mitel more than two decades ago. This combination reduces user uncertainty while supporting efficient call processing, application access, and preferences programming because it displays only those prompts appropriate to the function in progress. Mitel phones are fully interoperable and configurable with the NetVanta Enterprise Communications Server. The purpose of this technical note is to provide instructions for installing and configuring Mitel phones with the UC server.

Known Integration Issues

Known integration issues include:

- Redirection to voicemail may fail on the Mitel 5235 series if do-not-disturb (DND) is enabled.

Enabling Mitel SIP Phone Provisioning

This section describes how to install the Mitel configuration files so that Mitel phones can be automatically detected and provisioned by the UC server.

Obtaining Firmware Upgrades

The UC server supports Mitel firmware version R7.1.0.7.01.00.09. ADTRAN does not distribute Mitel firmware. If you need to obtain this firmware version, please contact your Mitel reseller.

Installing the Configuration Files

Included with this technical note is a folder containing configuration files and templates used by the UC server to automatically detect and provision Mitel SIP phones. You must copy this folder to the UC server folder tree (along with the Mitel firmware files as shown above in *Obtaining Firmware Upgrades*).

To install the configuration files:

1. Extract the **Mitel (Generic)** folder from the .zip file (located in the same directory as this document) and copy it to the **PhoneTypes** folder located here:

   X:\Program Files\ADTRAN\NetVanta UC Server\Data\System\PhoneTypes, where **X** is the drive where the UC server program files are installed.

   For example, the path after the folder is copied might appear as follows:

   C:\Program Files\ADTRAN\NetVanta UC Server\Data\System\PhoneTypes\Mitel (Generic)

2. Copy the Mitel firmware files (as shown above in *Obtaining Firmware Upgrades*) to the **TFTP folder** located here:

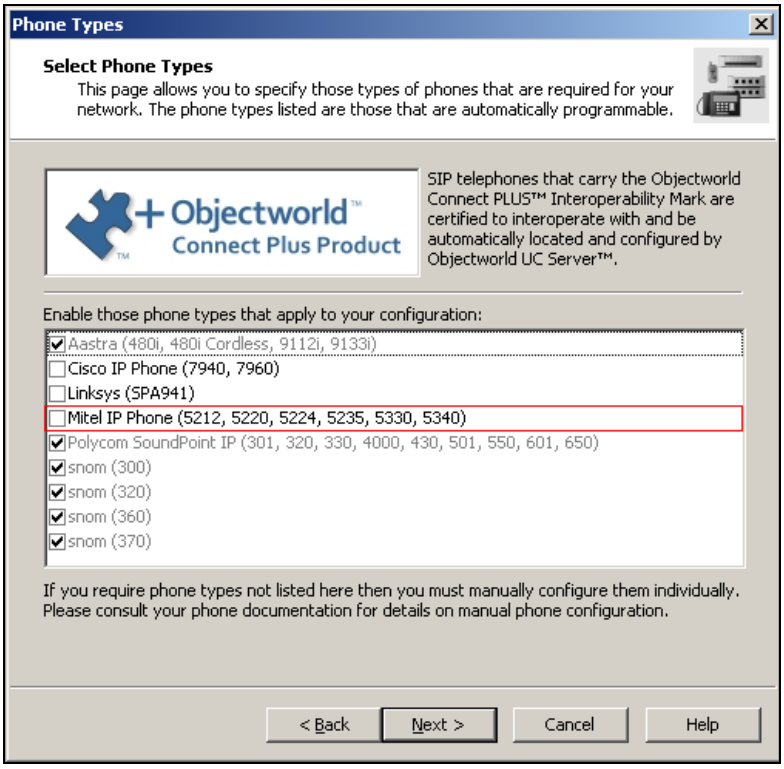
   X:\Program Files\ ADTRAN\NetVanta UC Server\Data\TFTP, where **X** is the drive where the UC server program files are installed.

3. Restart the NetVanta UC Server Application Service.

   - Select **Start > Control Panel > Administrative Tools > Services.**
   - Scroll down and select **NetVanta UC Server Application Services**.
   - Right-click the entry and select **Restart**.

Enabling Support for Mitel SIP Phones

1. Run the **Server Configuration Wizard** by selecting **Start > All Programs > UC Server > Server Configuration Wizard**.
2. Select **Phone Types**.
3. Select **Next**.
4. Select the check box next to **Mitel** (see the figure below).



5. Continue through the wizard by selecting **Next** at each page until the wizard is finished.

DHCP Server Configuration

When a Mitel phone is plugged into the network, it retrieves its IP address from the Dynamic Host Configuration Protocol (DHCP) server. It also checks one of the options for the IP address of the Trivial File Transfer Protocol (TFTP) provisioning server. If this option is not present, Mitel phones do not automatically upgrade their firmware, nor are they automatically provisioned.

To configure the DHCP server for Windows® Server 2003/2008 and Windows Small Business Server (SBS):

1. Select **Start > Control Panel > Administrative Tools > DHCP**.
2. Right-click the domain where you want the Mitel phones to be provisioned and select **Set Predefined Options**.

3. Look for **Option 66**.
    - If Option 66 *is not* already defined, select **Add**.

      Name **UC Server Provisioning Server**

      Data Type **String**

      Code **66**

      Description **UC Server Provisioning Server IP Address**
    - If Option 66 *is* already defined:
        - If it is defined as a String type and the value is the IP address for the UC server, no action is required.
        - If it is not defined as a String type and/or the value is not the IP address for the UC server, automatic detection of the Mitel phones is not possible unless this option can be changed as per the instructions above.
4. Select **OK**.
5. Right-click the **Scope Options** for the domain and select **Configure Options**.
6. Select the check box next to **Option 66**.
7. For the **String** field, enter the IP address of the UC server (for example, 123.45.67.89).
8. Select **OK.**

NOTE*: For DHCP servers other than Windows Server 2003/2008 and Windows SBS, consult the appropriate documentation and fill in the options as indicated in Step 3.*

Preparation

This section provides instructions on how to apply firmware upgrades (if necessary) and how to set up the phone for automatic detection and provisioning.

Setting the Protocol

Mitel supports two protocols: MiNET and SIP. MiNET is a proprietary communication protocol developed by Mitel exclusively for their private branch exchange (PBX) systems. Mitel phones by default ship with the MiNET protocol enabled. Because the UC server uses SIP for communication, you must change the phone to SIP mode.

To set the phone to SIP mode:

- Hold down the ***** and **7** keys while the phone is booting. After about 5 seconds, a message will appear on the screen that says **CHANGE CONFIRMED**. This means that the phone is now in SIP mode.

Upgrading the Firmware

Refer to the Technical Note *NetVanta UC Server Interoperable SIP Device Features and Comparisons* technical note available online at *http://kb.adtran.com* to determine the most recently supported version of firmware for the Mitel telephones.

To determine what version of firmware the Mitel phone is using:

1. Power on the phone.
2. Find the IP address of the phone:
    - Press the **SUPERKEY** function key.
    - Press the **Line 1** softkey.
    - The IP address is listed beside **IP =**.
3. Enter the IP address found in Step 2 in your Web browser.
4. When you see the password prompt, enter **admin** as the user name and the phone model as the password. For example, if you have a 5224 series phone, enter **5224** as the password.
5. The firmware version is displayed under the Mitel logo.

If the firmware version on the phone is earlier than the version noted in *NetVanta UC Server Interoperable SIP Device Features and Comparisons* technical note available online at *http://kb.adtran.com*, you must upgrade the firmware. The firmware can be upgraded either automatically or manually, as described in the sections below. If the firmware version is later than the version noted, a downgrade might be necessary. Check the manufacturer's Web site for any special instructions for downgrading the firmware.

Automatic TFTP Firmware Upgrades

1. Power on the phone.
2. While the phone is booting, an option to upgrade using TFTP appears. Select **yes**. You might have to press ***** for yes, depending on the phone.

You can now see the firmware upgrading. After it is complete, the date and time will appear on the phone.

Manual TFTP Firmware Upgrades

1. Power on the phone.
2. Find the IP address of the phone:
    - Press the **SUPERKEY** function key.
    - Press the **Line 1** softkey.
    - The IP address is listed beside **IP =**.
3. Enter the IP address found in Step 2 in your Web browser.

4. When you see the password prompt, enter **admin** as the user name and the phone model as the password. For example, if you have a 5224 series phone, enter **5224** as the password.
5. Select the **Firmware Update** link under **Admin Tools**.
6. Under **Manual Firmware Update** enter the following:

Choice of Manual download enter	**TFTP**
TFTP server	IP address of the UC server (for example, 123.45.67.89)

7. Select **Update**.
8. While the phone is booting, an option to upgrade using TFTP appears. Select **yes**. You might have to press ***** for yes, depending on the phone.

You can now see the firmware upgrading. After it is complete, the date and time will appear on the phone.

Verification

After the phone firmware finishes upgrading and booting and the phone is in an idle state, check to see if the phone is automatically detected by the UC server.

To check that the phone is automatically detected:

1. Launch the UC client by selecting **Start > All Programs > UC Client**.
2. Log in as the admin user or a user with administrator access.
3. Select the **Admin** tab, select the **Administration** menu, and then select **Phones**.
4. Sort by the medium access control (MAC) address column and search for the instance of the Mitel phone that you connected to the network. The phone's MAC address is printed on the bottom of the phone.

If the phone does not appear in the list, refer to the troubleshooting section at the end of this document.

Adding an Identity

You must either have an available identity you can add to the phone, or you must create a new identity/user for the phone. For more information about how to create users and identities in the UC server, refer to *NetVanta UC Server Administrator Guide–Enterprise Communications Edition* available online at *http://kb.adtran.com*.

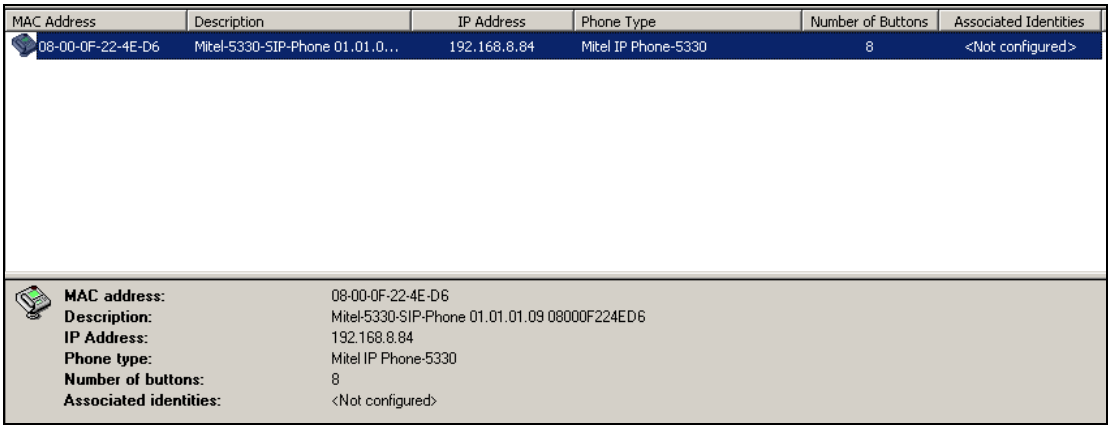
Associating an Identity with the Phone

After you install the phone and create a user/identity, you must associate that identity with the phone.

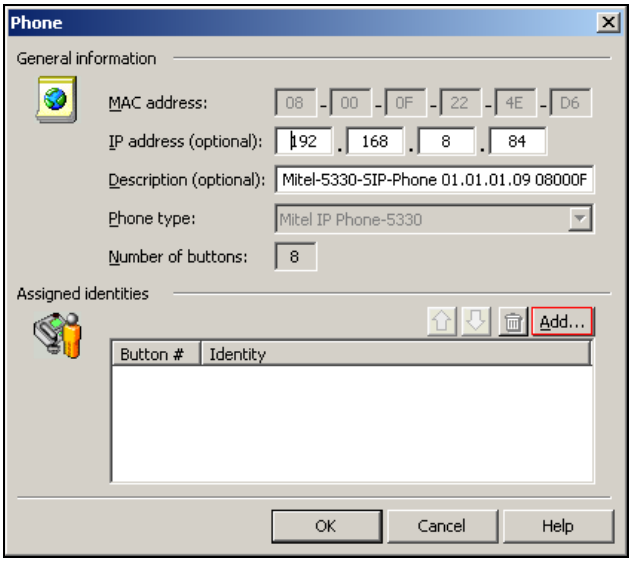
To associate the identity with the phone:

1. Launch the UC client by selecting **Start > All Programs > UC Client**.
2. Log in as the admin user or a user with administrator access.

3. Select the **Admin** tab, select the **Administration** menu, and then select **Phones**.
4. Double-click the Mitel phone with which you want to associate the identity.



5. Select **Add**.



6. Select the identity you want to use and select **Select**.
7. Select **OK**.
8. Reboot the phone.
    - If the phone is being powered by Power over Ethernet (PoE), disconnect and reconnect the local area network (LAN) cable.
    - If the phone is being powered by a power cable, disconnect and reconnect the power cable.
9. After the bootup process finishes, the new identity displays on the phone.

Troubleshooting

1. **Mitel phone does not appear in the Phones list in the UC client.**

   Verify the following:

   - DHCP server option 66 is present, enabled, and contains the IP address of the UC server machine.
   - NetVanta TFTP service is running.
     - Select **Start > Control Panel > Administrative Tools > Services**.
     - Scroll down to **NetVanta TFTP Server**.
     - Ensure service is set to **Automatic** and is running.
   - Ensure Windows Firewall is not blocking the TFTP port.
     - Disable Windows Firewall.

       Or

     - Create an exception for the **NetVanta TFTP Service** program:

       For example, *C:\Program Files\ADTRAN\NetVanta UC Server\Bin\TFTPService.exe*.
   - Ensure the Mitel phone family is enabled.
     - Run the **Server Configuration Wizard** and ensure that the Mitel phone family check box is selected.
     - If it is not selected, follow the procedure outlined in *Enabling Support for Mitel SIP Phones on page 3*.
   - Ensure Mitel firmware and configuration files are present in the TFTP Server.
     - Navigate to *.\Program Files\ADTRAN\NetVanta UC Server\Data\TFTP*.
     - Ensure (at a minimum) that the following files are present:
       - mitel_generic.cfg
       - mitel.cfg
     - If they are not present, follow the procedure outlined in *Enabling Mitel SIP Phone Provisioning on page 2*.

2. **Mitel phone does not download its configuration from the TFTP server after you assign an identity with the UC client.**

   Verify the following:

   - NetVanta TFTP service is running.
     - Select **Start > Control Panel > Administrative Tools > Services**.
     - Scroll down to **NetVanta TFTP Server**.
     - Ensure service is set to **Automatic** and is running.
   - Ensure Windows Firewall is not blocking the TFTP port.
     - Disable Windows Firewall.

       Or

     - Create an exception for the **NetVanta TFTP Service** program:

       For example, *C:\Program Files\ADTRAN\NetVanta UC Server\Bin\TFTPService.exe*.
   - Ensure that configuration files exist for the phone being provisioned.
     - Navigate to *.\Program Files\ADTRAN\NetVanta UC Server\Data\TFTP*.
     - Ensure (at a minimum) that the following files are present:
       - mitel_generic.cfg
       - mitel.cfg
       - MN_<MAC>.cfg (where <MAC> is the MAC address of the phone being provisioned)
     - If they are not present, redo the procedure outlined in *Enabling Mitel SIP Phone Provisioning on page 2*.
   - Ensure that the NetVanta UC Server Application Services service has full permissions for the TFTP folder *.\Program Files\ADTRAN\NetVanta UC Server\Data\TFTP*.