



**Avaya Solution & Interoperability Test Lab**

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## **Application Notes for 4What Interactive VoIPTrainer with Avaya Aura™ Communication Manager and Avaya IP Telephones – Issue 1.0**

### **Abstract**

These Application Notes describe the procedures for configuring 4What Interactive VoIPTrainer which was compliance tested with Avaya Aura™ Communication Manager and Avaya IP Telephones.

The overall objective of the interoperability compliance testing is to verify 4What Interactive VoIPTrainer functionalities in an Avaya H.323 IP telephones (9620, 9630 and 9650 types)

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

These Application Notes describe the procedures for configuring 4What Interactive VoIPTrainer which was compliance tested with Avaya Aura™ Communication Manager and Avaya IP Telephones.

The VoIPTrainer is an end-user training and support tool for Avaya IP phones. It covers the basic and advanced features of the phones and can be customized to match the end-users' exact phone environment. The newest release of the VoIPTrainer gives end-users access to training and support directly from the phone. Training is easily accessed with the push of a button, displaying the specific steps right on the phone LCD screen. Users also have the option to launch a flash based audio/video simulation directly on their desktop computer screens, if they require a more in-depth demonstration.

These Application Notes assume that Avaya Communication Manager is already installed and basic configuration steps have been performed. Only steps relevant to this compliance test will be described in this document. For further details on configuration steps not covered in this document, consult [1].

## 1.1. Interoperability Compliance Testing

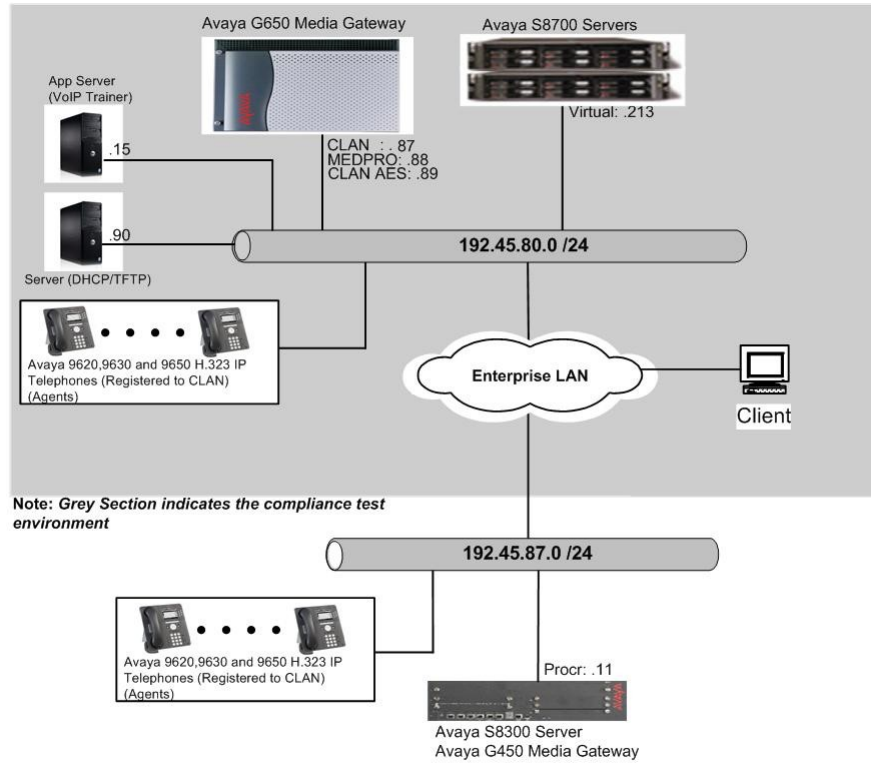
The interoperability compliance test included feature. The focus of the interoperability compliance testing was primarily on verifying the menu on the Avaya IP phones (9620, 9630 and 9650), verifying the button functionalities, and also verifying PUSH feature to the client PC.

## 1.2. Support

Technical support for 4What Interactive VoIPTrainer can be obtained by contacting 4What Interactive via the support link by logging into <http://access.voiptrainer.com> or by calling (888) 464-9428 (888) GO-4WHAT.

# 2. Introduction

**Figure 1** illustrates a sample configuration consisting of an Avaya S8720 Servers, an Avaya G650 Media Gateway, 4What Interactive VoIPTrainer, and VoIPTrainer client. The solution described herein is also extensible to other Avaya Media Servers and Media Gateways. For completeness, Avaya 9600 Series H.323 IP Telephones (9620, 9630 and 9650) are included in Figure 1 to demonstrate different type of telephones can be programmed for the VoIPTrainer.



**Figure 1: Test Configuration of 4What Interactive VoIPTrainer**

### 3. Equipment and Software Validated

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

Equipment		Software
Avaya S8720 Servers		Avaya Aura™ Communication Manager 5.2 (R015x.02.0.947.3)
Avaya G650 Media Gateway		
	TN2312BP IPSI TN799DP CLAN TN2302AP MEDPRO	HW11 FW030 HW20 FW017 HW01 FW108
Avaya S8300 Server		Avaya Aura™ Communication Manager 5.2 (R015x.02.0.947.3)
Avaya G450 Media Gateway		28.17
Avaya 9600 Series IP Telephone		
	9620	3.002
	9630	3.002
	9650	3.002
Avaya C363T Converged Stackable Switch (Layer 3)		4.5.14
Extreme Summit 48 Switch (Layer 3)		4.1.21
4What Interactive VoIPTrainer		1.0

### 4. Configure the Avaya Communication Manager

This section describes the procedure for setting up the Avaya side configuration for 4What Interactive VoIPTrainer. During the compliance test, two servers and a PC were utilized.

- App Server – 192.45.80.15 (installed VoIPTrainer into the server by 4What Interactive)
- Server 2 – 192.45.80.90 (TFTP/DHCP server)
- PC1 – 4What Interactive VoIPTrainer Client

The Avaya side configuration involves the following files:

- 46xxsettings.txt
- AvayaMenuAdmin.txt
- VoIPTrainer Client

#### 4.1. Configure 46xxsettings.txt

In the 46xxsettings.txt file set the following parameters:

- SET TPSLIST 192.45.80.15
- SET SUBSCRIBELIST <http://192.45.80.15/VoIPTrainer/subscribe.php>
- SET AMADMIN <http://192.45.80.90>

```

.
.
.
##### PUSH INTERFACE SETTINGS #####
##
## These settings are used to administer the Push interface.

```

```

## These parameters are not supported on 16cc SIP phones.
##
## The list of all the Trusted Push Servers.
## If set to "/", all servers are allowed.
## If set to null or blank, Push is disabled.
## Note: This parameter is supported on H.323 and R2.2 release
## of SIP 96xx telephones.
## SET TPSSLIST 135.20.21.20
##SET WMLHOME http://192.45.80.15/menu.wml
SET TPSSLIST 192.45.80.15
SET SUBSCRIBELIST http://192.45.80.15/VoIPTrainer/subscribe.php
SET AMADMIN http://192.45.80.90

##
## The list of all the Subscription Servers.
## Note: This parameter is supported on H.323 and R2.2 release
## of SIP 96xx telephones.
## SET SUBSCRIBELIST http://135.20.21.21/subscribe
.
.
.

```

## 4.2. Configure AvayaMenuAdmin.txt

The A (Avaya) Menu is a list of sub-applications the user can select from to invoke the corresponding functionality. The AvayaMenuAdmin file provides the display menu information on Avaya IP telephone. This file must be pointed to by the AMADMIN parameter in the 46xxsettings.txt file.

- **AMTYPExx** – One of six choices. 01=URI, 02=the local “Phone Settings” sub-application, 03=local Log Off sub-application, 04= the About Avaya one-X screen, 05=Guest Login application, 06=My Pictures application. If the AMTYPE for an associated administered object is “01”, an additional two parameters must have valid, non-null data for the object to be properly administered:
- **AMLBLxx** – The label displayed to the user for this object, up to 16 UTF-16 characters, shown left-justified unless spaces precede the label value to center the label.
- **AMDATAxx** – A URI of up to 255 ASCII characters, without spaces.

```

#####
##                                     ##
## AVAYA MENU CONFIGURATION FILE TEMPLATE                                     ##
#####
.
.
.
## AMLBLxx=Lable    up to 16 unicode character
##
## AMTYPExx=Type    1=WML-Application;
##                  2=local Phone Settings
##                  3=Guest Login Application
##                  4=local LogOff Application
##                  5=local About Avaya Screen##
##
## AMDATAxx         URI of up to 255 ASCII-characters
##                  e.g. http://yy.yy.yy.yy/*.wml
##
## The tags AMLBLxx and AMDATAxx are only used if
## AMTYPExx = 1

```

```
##
## Multiple definitions of local applications (Type 2..4)
## will be suppressed. The last tag is valid.
##
## xx describes the sequence in A-Menu and is valid
## from 01 to 12
##
##
AMTYPE01=1
AMLBL01=VoIPTrainer-9630
AMDATA01=http://192.45.80.15/voiptrainer/service.php?Type=9630AV6English

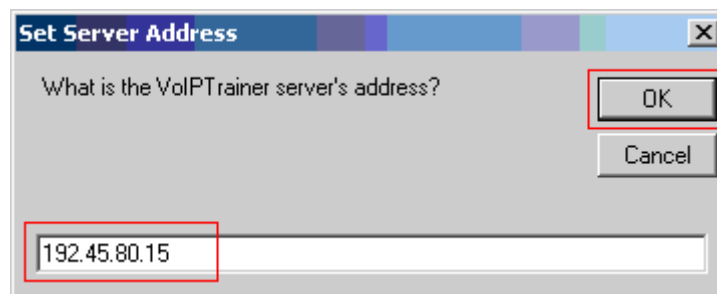
AMTYPE02=1
AMLBL02=VoIPTrainer-9650
AMDATA02=http://192.45.80.15/voiptrainer/service.php?Type=9650AV6English

##AMTYPE03=
##AMLBL03=
##AMDATA03=
.
.
.
```

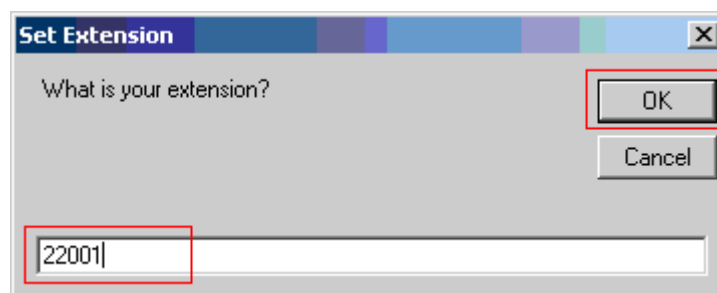
### 4.3. Configure VoIPTrainer Client

Installation and configuration of the VoIPTrainer can be accomplished simply by executing the **VoIPTrainer.msi** file in the VoIPTrainer client PC. After the installation is completed, run the **Start → Programs → VoIPTrainer Client → VoIPTrainer.exe**. There are two prompts during the configuration steps of the VoIPTrainer.

Provide the VoIPTrainer Server IP address, and click **OK**



Provide the phone extension, and click **OK**.



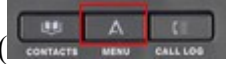
## 5. Configure 4What Interactive VoIPTrainer

4What Interactive personnel can prepare the configuration of the VoIPTrainer product on behalf of their customers for a fee. Refer to [2] for installation and configuration of the VoIPTrainer.

**VoIPTrainer Installation and Configuration Guide** is included in the Appendix.

## 6. General Test Approach and Test Results

The general test approach was to verify the multiple WML applications in the first level of the

“A” Menu ( , shown on Avaya H.323 IP telephones. The main objectives were to verify that:

- The **AMLBLxx** was successfully displayed on Avaya H.323 IP telephones
- Submenus were able to function correctly.
- The VoIPTrainer application was able to push to the VoIPTrainer client PC.

## 7. Verification Steps

The following steps may be used to verify the configuration:

- Verify that 4What Interactive VoIPTrainer label is displayed on Avaya H.323 IP telephones.
- Verify the submenu buttons worked properly.
- Verify that the VoIPTrainer application can be pushed to a VoIPTrainer client.

## 8. Conclusion

4What Interactive VoIPTrainer were compliance tested with the Avaya H.323 IP telephones (9620, 9630 and 9650). 4What Interactive VoIPTrainer functioned properly for the first label menu and subsequent submenu.

## 9. Additional References

The following Avaya product documentation can be found at <http://support.avaya.com>  
[1] *Avaya one-X™ Deskphone Edition for 9600 Series IP Telephones Administrator Guide Release 3.0*, 16-300698, Issue 7, May 2009

The following document was provided by 4What Interactive.

[2] *4What Interactive VoIPTrainer Installation and Configuration Guide*, July 2009.

## Appendix

### VoIPTrainer Installation and Configuration Guide

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# VoIPTrainer Installation and Configuration Guide

The following document outlines the installation instruction for installing the VoIPTrainer on your phone system. This installation document is divided into 2 sections, Prerequisites and Installation.

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## STEP 1 - Prerequisites

### Installing Prerequisites for VoIPTrainer on Windows Server 2003 and IIS 6

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**Description:** This step includes preparing the prerequisites before installing the VoIPTrainer. It includes configuring a Microsoft Windows Web Server, acquiring and installing PHP server side scripting software and installing the Zend Optimizer which allows prepared PHP scripts to run more efficiently.

**Version:** 06/30/2009

**System Requirements:** Internet Connection and a Windows 2003 server with 1 GB of RAM and 2 GB of free space.

**Average Installation Time:** Approximately 1 to 2 hours depending on level of experience and internet connection speed. Internet access is required to download open source php language.

1. Prerequisites
  - a. A Windows 2003 Web server with two way communication between the telephones, Communications Manager, and Client PCs.
  - b. Install, Configure, and test PHP scripting software.
  - c. The Group Policy Management Console for Windows Server 2003, a free download from Microsoft. <http://www.microsoft.com/downloads/details.aspx?FamilyId=0A6D4C24-8CBD-4B35-9272-DD3CBFC81887&displaylang=en>
2. Install PHP
  - a. Download and unzip PHP version 5.2.10 from [www.php.net](http://www.php.net) to the folder c:\PHP. Get the zip file version, not the installer.
3. Configure PHP
  - a. Create c:\PHP\Session.
  - b. Either copy the php.ini from the installation package to c:\PHP\php.ini or follow these steps:
    - i. Copy c:\PHP\php.ini-recommended to c:\PHP\php.ini
    - ii. Edit php.ini. You can use notepad or any other editor you prefer, such as WordPad.
    - iii. Uncomment (by removing the ; at the beginning of the line) cgi.force\_redirect, and set it to 0 instead of 1.
    - iv. Find the session.save\_path line, uncomment it, and set the value to c:\PHP\sessions
    - v. Find the extension\_dir line and set the value to c:\PHP\ext
    - vi. For the following steps, if the line does not exist in your PHP.INI file, add the line near the bottom of your php.ini file.
      1. Find extension=php\_pdo.dll and remove the ";" at the beginning of the line, if there is one.
      2. Find the extension=php\_sqlite.dll and remove the ";" at the beginning of the line, if there is one.
      3. Find the extension=php\_mbstring.dll and remove the ";" at the beginning of the line, if there is one.

4. Find the extension=php\_sockets.dll and remove the “;” at the beginning of the line, if there is one.
  5. Find the extension=php\_openssl.dll and remove the “;” at the beginning of the line, if there is one.
  - vii. Save and close the PHP.ini file.
  - c. Add c:\PHP to the server’s PATH environment variable.
    - i. Right click on “My Computer” and choose properties
    - ii. Click on the “Advanced” tab
    - iii. Click on the “Environment Variables” button
    - iv. Double click the Path variable in the System variables box.
    - v. Add “c:\PHP;” to the beginning of the path line
  - d. Add the registry key HKEY\_LOCAL\_MACHINE\SOFTWARE\PHP and create a new string value IniFilePath. Assign the value to “c:\PHP”. The double backslash is not a typo.
    - i. Click Start then Run and type Regedit and press Enter to access the registry editor.
  - e. Copy c:\PHP\libeay32.dll and c:\PHP\ssleay32.dll to your c:\windows\system32 folder.
4. Configure IIS
- a. Open the IIS Manager by clicking on start->Administrative Tools->Internet Information Services (IIS) Manager
  - b. Expand to Web Servers Extensions in the left pane and click on it.
  - c. In the right plane, click on the “Add a new Web Service extension” link.
  - d. Type “PHP ISAPI Extension” as the extension name.
  - e. Click the “Add...” button and select “c:\php\php5isapi.dll”.
  - f. Make sure the “Set extension status to Allowed” checkbox is set and click OK
  - g. Set up the PHP extension to work on all websites on this server
    - i. Right click on “Web Sites” in the left pane
    - ii. Click on the “Home Directory” tab
    - iii. Click “Configuration”
    - iv. Click the “Mappings” tab
    - v. Click “Add...”
    - vi. Enter “C:\php\php5isapi.dll” in the “Executable” textbox.
    - vii. Enter “.php” in the “Extension” textbox
    - viii. Click “Limit to” and enter “GET,POST,HEAD”
    - ix. Click OK twice.
    - x. Click “Documents”
    - xi. Click “Add...”
    - xii. Type “index.php” as a new default content page, and press OK
  - h. Turn on scripting permissions for your sites
    - i. Right click on “Web Sites”
    - ii. Click on “Properties”
    - iii. Click “Home Directory”
    - iv. Set the “Execute Permissions” to “Scripts Only”
  - i. Right click the local computer in the left pain of IIS Manager
  - j. Click on All Tasks
  - k. Click Restart IIS
  - l. Click OK
5. Test
- a. Create a new file named test.php in one of your websites. Usually c:\inetpub\wwwroot.
  - b. Open the test.php in your text editor, and enter this line:
    - i. <?php phpinfo(); ?>
  - c. Point your browser to that file. It should list information about your PHP installation.

6. Install the Zend Optimizer
  - The Zend Optimizer is included in this installation package. Double click on the executable and follow the onscreen prompts.
    - a. If you are running a 64 bit server, you will also need to run this command at a command prompt. It allows 32 bit applications to run in your 64bit environment: `cscript %SYSTEMDRIVE%\inetpub\adminscripts\adsutil.vbs SET W3SVC/AppPools/Enable32bitAppOnWin64 1`
    - b. When it asks for the root web folder for your server, it should be `c:\inetpub\wwwroot`, unless you have made it something else.
7. Install the Group Policy Management Console on your Domain server
  - It can be found at <http://www.microsoft.com/windowsserver2003/gpmc/gpmcintro.mspx>.

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## STEP 2 – VoIPTrainer Installation

### Instructions for installation of VoIPTrainer

---

**Description:** These steps describe installing and configuring the VoIPTrainer on your Windows 2003 server, and how to install the service on your Communications Manager. Finally it discusses how to install the VoIPTrainer Client on PC's so users can use the Show Me button through their phones.

**Version:** 06/30/2009

**System Requirements:** Internet Connection, Windows 2003 server with 1 GB of RAM and 2 GB of free space that has been through the prerequisites setup. The requirements for the VoIPTrainer Client are Windows XP or Windows Vista with communications ability to both the Communications Manager and the Intranet server.

**Average Installation Time:** Approximately 1 to 3 hours depending on level of experience and internet connection speed. Internet access is required to download open source php language.

1. Installing the VoIPTrainer applications
  - a. Install the VoIPTrainer server application to your web server from the installation package.
    - i. Copy the VoIPTrainer folder from the installation package to your web server's documents folder. On IIS the default is `c:\inputpub\wwwroot\VoIPTrainer`. Set the permissions so that the IUSR\_ user has write permissions to the `inc\config.php` file, as well as all files in the directory structure with the extension `.sqlite`.
    - ii. You will also need to create a virtual directory to the application.
      1. Start IIS by clicking Start->Programs->Administrative Tools->Internet Information Services (IIS) Manager.
      2. Expand folders until you see "Default Web Site". Right click on it and choose "New->Virtual Directory".
      3. Assign "VoIPTrainer" as the alias.
      4. Click Browse, and choose the new VoIPTrainer folder you copied. Click Next and ensure that Execute Permissions: "Run Scripts" is checked. Then press Next and Finish.
    - iii. Configure the applications for your environment.
      1. Go to [http://\(YourIntranetServer\)/VoIPTrainer/index.php](http://(YourIntranetServer)/VoIPTrainer/index.php) in your web browser. Follow the onscreen prompts to setup your installation and acquire your license.ini file. It will ask you for your username; this is the username that you use to log into the `access.voiptrainer.com` web portal.

2. Install the service on the Communications Manager
  - a. Edit the 46xxsettings.txt file of your Avaya configuration and make the following changes (replace 192.168.1.2 with the address of your VoIPTrainer server):
    - i. Find the "SET TPS LIST" and add the VoIPTrainer server's IP address to the list of "Trusted Push Servers". **SET TPSLIST 192.168.1.2**
    - ii. Find the "SET SUBSCRIBELIST" line, and add the following service to the subscribe list: **SET SUBSCRIBELIST <http://192.168.1.2/VoIPTrainer/subscribe.php>**
    - iii. In the section for each phone, assign the AMADMIN to appropriate AvayaMenuAdmin.txt text, by using a line similar to **SET AMADMIN <http://192.168.1.2>**
  - b. To make the VoIPTrainer appear in the "A" menu, edit the AvayaMenuAdmin.txt referenced from the 46xxsettings.txt file to make one of the line items similar to the following:
    - i. AMTYPE05=1
    - ii. AMLBL05=VoIPTrainer
    - iii. AMDATA05=http://192.168.1.2/voiptrainer/service.php?Type=9650AV6English
  
3. Install the VoIPTrainer Client to the computers in your domain
  - a. Copy the VoIPTrainer.msi file from your installation package to a shared folder on the network, to which "Domain Computers" have read access.
  - b. Copy the VoIPTrainer Client.adm from the installation package to the "Windows\inf" folder on your Windows server.
  - c. Go to Start->Programs->Administrative Tools->Active Directory Users and Computers.
  - d. Right click your domain, and click "Properties", Group Policy, then "Open".
  - e. Create a Group Policy Object (GPO) by right-clicking on your domain, and then clicking "Create and Link a GPO here".
  - f. Name the policy "VoIPTrainer Client Installation", and press Enter.
  - g. Right click the new VoIPTrainer Client Installation GPO and click "Edit".
  - h. Under "Computer Configuration", expand "Software Settings".
  - i. Right click "Software Installation", point to "New" and click "Package".
  - j. In the Open dialog box, put in the full UNC path to the VoIPTrainer.msi file. For example: "\\PUBLICSHARE\installs\VoIPTrainer.msi". Do **NOT** browse to the location, type in the path directly. The PUBLICSHARE must be a server name, IP addresses cannot be used in this context.
  - k. Click "Open".
  - l. Click "Assigned", and then click "OK".
  - m. Expand "User Configuration".
  - n. Click on "Administrative Templates".
  - o. Click on "View->Filtering" and ensure that the checkbox for "Only show policy settings that can be fully managed" is cleared.
  - p. Right click on "Administrative Templates" and choose "Add/Remove Templates".
  - q. Click "Add".
  - r. Find the "VoIPTrainer Client.adm" file and click "Open".
  - s. Click "Close" to return to the Group Policy Object Editor screen.
  - t. Expand "Administrative Templates".
  - u. Click on "VoIPTrainer Settings".
  - v. In the right pane, double click on "VoIPTrainer Server Location".
  - w. Click "Enabled" and enter your VoIPTrainer server's IP address in the "VoIPTrainer Server Address" text box.
  - x. Click on OK to close the VoIPTrainer Server Location Properties window.
  - y. Click on the X to close the Group Policy Object Editor window.
  
4. Add a firewall Exception

- a. If you already have a policy for the windows firewall, add this exception to that policy. If you do not, you can follow the instructions here to add a Program Exception policy for the VoIPTrainer Client for your network users.
- b. Go to Start->Programs->Administrative Tools->Active Directory Users and Computers.
- c. Right click your domain, and click "Properties", then "Open".
- d. Right click the Policy to add the firewall settings to. If you don't already have one, create one using the following steps:
  - i. Create a Group Policy Object (GPO) by right-clicking on your domain, and then clicking "Create and Link a GPO here".
  - ii. Name the policy "Windows Firewall Settings", and press Enter.
- e. Right click on the Firewall Policy and choose "Edit".
- f. Expand "Computer Configuration"->"Administrative Templates"->"Network"->"Network Connections"->"Windows Firewall".
- g. Click on "Domain Profile".
- h. (Optional) Double click on "Windows Firewall: Allow local program exceptions". Make the setting "Enabled". Click "OK". This will allow local administrators to continue to add programs to their local firewall exception list. If it was not configured the next step would stop this behavior.
- i. Double click on "Windows Firewall: Define program exceptions". Click "Enabled". Click on "Show". Click on "Add". Enter
  - i. %programfiles%\VoIPTrainer\VoIPTrainer Client\VoIPTrainer.exe:INTRANETSERVERADDRESS:enabled:VoIPTrainer
  - ii. Replace "INTRANETSERVERADDRESS" with the internal address of the Intranet server that is hosting VoIPTrainer.
- j. Press OK to all the dialog boxes.
- k. Close the Group Policy Object Editor.

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