Implementing, administering, and troubleshooting Avaya VDI Communicator

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Contents

Chapter 1: Introduction

Purpose of this document

This implementing, administering, and troubleshooting guide for Avaya Virtual Desktop Infrastructure (VDI) Communicator describes how to download, install, configure, and troubleshoot Avaya VDI Communicator.

Related documents

Additional documentation includes:

Avaya VDI Communicator documents:

- *Avaya VDI Communicator Overview and Planning*
- *Using Avaya VDI Communicator*
- *Avaya VDI Communicator Online Help* (Integrated with the application)

Avaya one-X® Communicator documents:

- *Avaya one-X® Communicator Overview and Planning*
- *Implementing one-X® Communicator*
- *Using Avaya one-X® Communicator*
- *Avaya one-X® Communicator Quick Start Guide*
- *Avaya one-X® Communicator Centralized Administration Tool Guide*
- Avaya one-X® Communicator Online Help (Integrated with the application)

To obtain these documents and documents about other Avaya products mentioned in this guide, see the Avaya Web site at http://www.avaya.com/support.

Product overview

Avaya VDI Communicator installed on thin clients or Personal Computers (PC) enhances the audio and video quality of calls by processing voice and video on the end-user device. The controlling

clients such as Avaya one-X® Communicator is deployed on virtual desktops running in the data center and provides the user interface for unified communications. Users are required to use the controlling clients through virtual desktops. In normal operation, the user does not need to use the Avaya VDI Communicator user interface. However, if users are not connected to the virtual desktops, they can use Avaya VDI Communicator to make and handle voice and video calls. Avaya VDI Communicator supports simultaneous registration and use with other Avaya SIP clients and dual-registration with an H.323 endpoint.

Chapter 2: System requirements

Hardware requirements

To set up and run Avaya VDI Communicator, you need a thin client or a Windows Personal Computer (PC). Using the thin client or the PC, you can access virtual desktops located on a remote central server at the data center using a Citrix Independent Computing Architecture (ICA) client, VMWare client, or other such clients.

Client hardware

You can install Avaya VDI Communicator on the following thin clients and PCs:

Linux OS-based thin clients

To install Avaya VDI Communicator on Linux OS-based thin clients, you need any one of the following thin clients:

- Dell Wyse Z50D
- HP t510
- HP t520
- HP t610
- HP t620
- HP t820

Windows OS-based thin clients

To install Avaya VDI Communicator on Windows OS-based thin clients, you need any one of the following thin clients:

- HP t510
- HP t520
- HP t610
- HP t620
- HP t820
- Dell Wyse D90D7
- Dell Wyse D90Q7
- Dell Wyse D90D8

- Dell Wyse D90Q8
- Dell Wyse Z50D
- Dell Wyse Z90D7
- Dell Wyse Z90D8
- Dell Wyse Z90Q8

Windows PCs

You can also use Windows PCs as clients to install Avaya VDI Communicator. PCs with the following Windows operating systems can be used as clients:

- Windows 7 (32-bit and 64-bit)
- Windows 8 (64-bit)
- Windows 10 (64-bit)

Other client hardware

You need the following hardware to use Avaya VDI Communicator:

- Monitor
- Keyboard
- Mouse
- A camera (Refer to the list of supported cameras provided in the Release Notes)
- USB Headset or handset with manual control (Refer to the list of supported headsets or handsets provided in the Release Notes)

Software requirements

The software required for setting up and running a virtual desktop infrastructure can be broadly classified into server software and client software. The server software refers to the software required at the data center while the client software is required on the thin clients.

Server software requirements

Operating system	Windows Server 2008 R2
	Windows Server 2012 R2
	Windows Server 2012 R2 HyperV
	Windows 7 (32-bit and 64-bit)
	Windows 8 (64-bit)

	Windows 10 (64-bit)
Virtualization software	Citrix XenDesktop Release 5, 7, 7.5, and 7.6 HP Remote Graphics Software (RGS) 6.0 for HP ThinPro clients VMWare Horizon View 6.x VMWare ESXi Hypervisor 5.1 and later Citrix XenApp 6.x, 7, 7.5 and 7.6 Microsoft Terminal Server 2008 R2 Microsoft RDS for Windows Server 2012 R2

Client software requirements

The requirements are as follows:

- Avaya VDI Communicator Release 2.1
- Avaya one-X® Communicator Release 6.2 FP 10

Operating system	Windows 7 Windows 8 and 8.1 Windows 10 Windows Embedded Standard 7 (WES 7) Windows Embedded Standard 8 (WES 8) HP ThinPro 4.1, 4.2, 4.3, and 5.x Wyse enhanced Suse Linux Enterprise for Thin Clients (SLETC) 11 SP1 and SP2

Licensing requirements

Avaya controls the use of Avaya one-X® Communicator and Avaya VDI Communicator through licenses. You must purchase licenses for these products to use the products. Each Avaya VDI Communicator must have a separate license.

Avaya one-X® Communicator in SIP mode

This deployment option requires a station form on Avaya Aura® Communication Manager and a user ID and media extension on Avaya Aura® Session Manager for each user. It does not require the use of the Avaya one-X® Communicator registration limit in Communication Manager nor softclient licenses on either Avaya Aura® Session Manager or Communication Manager.

Other Products

For licensing requirements of the products that you integrate with Avaya one-X® Communicator or Avaya VDI Communicator, refer to the product documentation for the specific product.

Chapter 3: Deploying Avaya VDI Communicator

Installation worksheet

Ensure that your computer meets all the hardware, software, and connectivity requirements to install and run Avaya VDI Communicator.

Gather the following information from the system administrator:

Information type	Information to be gathered	Notes
Deployment environment	Operating system of your thin client computer.	
	The extension and password on the server where you are running Avaya Aura® Communication Manager as feature server. Also the Transport Type, and the IP address assigned to the asset card of Avaya Aura® Session Manager or Avaya Aura® System Manager and the domain name.	

Downloading Avaya VDI Communicator

Procedure

1. Using your Web browser, go to http://www.avaya.com/support.
2. In the navigation pane on the left side of the screen, click **Downloads**.
3. Enter the product name in the dialog box.

   The Web page displays all the released versions of the selected product.
4. From the displayed list of Avaya VDI Communicator applications, select the version that is applicable to your operating system.
5. Click **Downloads**.
6. If you have not registered as a PLDS user, complete a one-time registration. If you are already a registered user, log in using your user credentials.
7. Download the installer.

Installing Avaya VDI Communicator through an FTP server

Installing Avaya VDI Communicator on WES 7 OS-based HP thin clients

Use the installation procedure provided here when you install Avaya VDI Communicator on the following Windows Embedded Standard (WES 7) OS-based HP thin clients using an FTP server:

- HP t510
- HP t520
- HP t610
- HP t620
- HP t820

Before you begin

Ensure that you have copied the correct version of Avaya VDI Communicator installable file on an FTP server.

Procedure

1. Start your HP thin client and log on as **Administrator**.
2. Disable the Write Filter:
   a. Select **Start** > **HP Write Filter Configuration**.
   b. On the General tab of the HP Write Filter Configuration, select the **Disable Write Filter** check box.
   c. Click **Apply**.
   d. Restart the thin client.
3. Open Internet Explorer, and type the IP address of the FTP server in the address bar. Press **Enter**.
4. Double-click the Avaya VDI Communicator installable file.
5. Click **Run** in the Open File dialog box.

   The system displays the Avaya VDI Communicator Setup Wizard.
6. Click **Next**.
7. Click **I Agree** on the License Agreement page.
8. Choose an installation location using the **Browse** button. The default installation location is `C:\Program Files\Avaya\Avaya VDI Communicator`.
9. Click **Next**, and choose a start menu folder for Avaya VDI Communicator.

10. Click **Install**. When the system displays the installation completion status on the Avaya VDI Communicator Setup Wizard, click **Finish**.

Next steps

After the installation is complete, right-click on the padlock on the bottom right of the screen and select **Enable FBWF(E)**.

Installing Avaya VDI Communicator on ThinPro OS-based HP thin clients

Use this procedure to install Avaya VDI Communicator on the following HP ThinPro OS-based HP thin clients using an FTP server:

- HP t510
- HP t520
- HP t610
- HP t620
- HP t820

The thin clients must have any one of the following Operating Systems:

- ThinPro 4.1
- ThinPro 4.2
- ThinPro 4.3
- ThinPro 5.x

Before you begin

- Ensure that you have set up a File Transport Protocol (FTP) server from where you can install Avaya VDI Communicator on your thin client. To set up an FTP server, follow the instructions given in the HP ThinPro documents.
- Copy the Avaya VDI Communicator installer file appropriate for your thin client to the FTP server.
- Ensure that no virtual desktop connection is running on your thin client at the time of installation. Avaya VDI Communicator installation stops even if one virtual session is found to be running during installation.

Procedure

1. Start your HP thin client.
2. By default, HP ThinPro thin client starts in the User Mode. To change the mode to Administrative Mode, click the HP logo at the bottom left of the screen and select **Administrator/User Mode Switch**.
3. Enter the Administrator Password and click **OK**.

   The default password for Administrative Mode is `root`.

The system displays the HP ThinPro desktop. To open applications, use the task bar on the desktop.

4. On the right of the Easy Tools Wizard, click **Options**.

   The Easy Tools Wizard opens automatically when you log in for the first time as Administrator. You can also click the HP logo at the bottom left of the screen and select the Easy Tools Wizard.

5. Click **Repository Locations**.
6. In the Individual Package Repository, enter the URL of the FTP server.
7. On the Easy Tools Wizard, click **Updates** > **Package Updates** > **All**.
8. Click **Install** and follow the instructions.

Installing Avaya VDI Communicator on WES 7 OS-based VXL thin clients

Use the installation procedure provided here when you install Avaya VDI Communicator on the following Windows Embedded Standard (WES 7) OS-based VXL Itona F24 thin clients using an FTP server:

Before you begin

Ensure that you have copied the correct version of Avaya VDI Communicator installer file on an FTP server.

Procedure

1. Start your VXL thin client and log on as **Administrator**.
2. Open Internet Explorer, and type the IP address of the FTP server in the address bar. Press **Enter**.
3. Double-click the Avaya VDI Communicator installable file.
4. Click **Run** in the Open File dialog box.

   The system displays the Avaya VDI Communicator Setup Wizard.

5. Click **Next**.
6. Click **I Agree** on the License Agreement page.
7. Choose an installation location using the **Browse** button. The default installation location is `C:\Program Files\Avaya\Avaya VDI Communicator`.
8. Click **Next**, and choose a start menu folder for Avaya VDI Communicator.
9. Click **Install**. When the system displays the installation completion status on the Avaya VDI Communicator Setup Wizard, click **Finish**.

Installing Avaya VDI Communicator on Windows PCs

Use the installation procedure provided here when you install Avaya VDI Communicator on a Personal Computer (PC) with the following Windows OS using an FTP server:

- Windows 7
- Windows 8
- Windows 8.1
- Windows 10

Before you begin

Ensure that you have copied the correct version of Avaya VDI Communicator installable file on an FTP server.

Procedure

1. Start your computer.
2. Open Internet Explorer, and type the IP address of the FTP server in the address bar. Press **Enter**.
3. Double-click the Avaya VDI Communicator installable file.
4. Click **Run** in the Open File dialog box.

   The system displays the Avaya VDI Communicator Setup Wizard.
5. Click **Next**.
6. Click **I Agree** on the License Agreement page.
7. Choose an installation location using the **Browse** button. The default installation location is `C:\Program Files\Avaya\Avaya VDI Communicator`.
8. Click **Next**, and choose a start menu folder for Avaya VDI Communicator.
9. Click **Install**. When the system displays the installation completion status on the Avaya VDI Communicator Setup Wizard, click **Finish**.

Installing Avaya VDI Communicator remotely

Installing Avaya VDI Communicator on WES 7 OS-based HP thin clients using HPDM

Use the installation procedure provided here when you install Avaya VDI Communicator on the following WES 7 OS-based HP thin clients using HPDM:

- HP t510
- HP t520
- HP t610
- HP t620
- HP t820

Before you begin

Ensure that you have installed HPDM on the server from where you want to install Avaya VDI Communicator on the thin clients.

Procedure

1. Download the Avaya VDI Communicator installable file to the server where you have installed HPDM.
2. Copy the installable file to `C:\inetpub\ftproot\HPDM\Repository\Files\Push to Agent`.
3. Double-click the HP Device Manager Console icon on your desktop to start the HPDM console.
4. Enter your user credentials.
5. Select **HP WES/XPe** > **File and Registry**
6. Right-click **_File and Registry** and select **Send Task**.
7. In the Task Editor window, perform the following:
    a. On the Content tab, click **Add** and select **Copy Files** in the Sub-Task Chooser dialog box.
    b. In the Copy Files Sub-Task dialog box, select **Use Default FTP** from the FTP Repository drop-down menu.
    c. Select **Download (Download files to device from the FTP Repository)**.
    d. Click **File and Folder Name** > **Select**.
    e. Select the Avaya VDI Communicator installable file you had copied to the Push to Agent folder and click **OK**.

f. Click **Path On Device** and enter a path where you want to copy the Avaya VDI Communicator installable file.
g. Click **OK**.
h. Click **Add** and select **Command** in the Sub-Task Chooser dialog box.
i. Click **OK**.
j. In the Executive Command Sub-Task dialog box, double-click **Command**.
k. Enter the command **<Path On Device>\<package-name> /S** and select **Yes** from the Wait drop-down menu.
l. Click **OK**.
m. Click **Add** and select **Delete Files** in the Sub-Task Chooser dialog box.
n. Click **OK**.
o. In the Sub-Task to delete files on a device dialog box, enter the Avaya VDI Communicator file name in the File and Folder Name text box and enter the **Path On Device**.
p. Click **OK**.

8. Select the **Target Device List** tab, click **Add**, and select the devices where you need to install Avaya VDI Communicator.
9. Click **OK**.

   For detailed instructions on how to install add-ons on HP thin clients using HPDM, see *HP Device Manager User Guide* available on HP Web site.

   .

Installing Avaya VDI Communicator on HP ThinPro OS-based thin clients using HPDM

Use the installation procedure provided here when you install Avaya VDI Communicator on the following ThinPro-based HP thin clients using HP Device Manager (HPDM):

- HP t510
- HP t520
- HP t610
- HP t620
- HP t820

The thin clients must have any one of the following Operating Systems:

- ThinPro 4.1
- ThinPro 4.2

- ThinPro 4.3
- ThinPro 5.x

Before you begin

Ensure that you have installed HPDM on the server from where you want to install Avaya VDI Communicator on the thin clients.

Procedure

1. Download the Avaya VDI Communicator installable file to the server where you installed HPDM.
2. Copy the installable file to `C:/inetpub/ftproot/HPDM/Repository/Files/Push to Agent`.
3. Double-click the HP Device Manager Console icon on your desktop to start the HPDM console.
4. Select **HP ThinPro** > **File and Registry**.
5. Right-click **_File and Registry** and select **Send Task**.
6. In the Task Editor window, perform the following:
    a. On the Content tab, click **Add** and select **Copy Files** in the Sub-Task Chooser dialog box.
    b. In the Copy Files Sub-Task dialog box, select **Use Default FTP** from the FTP Repository drop-down menu.
    c. Select **Download (Download files to device from the FTP Repository)**.
    d. Click **File and Folder Name** > **Select**.
    e. Select the Avaya VDI Communicator installable file you had copied to the Push to Agent folder and click **OK**.
    f. Click **Path On Device** and enter a path where you want to copy the Avaya VDI Communicator installable file.
    g. Click **OK**.
    h. Click **Add** and select **Command** in the Sub-Task Chooser dialog box.
    i. Click **OK**.
    j. In the Executive Command Sub-Task dialog box, double-click **Command**.
    k. Enter the command **`<Path On Device>/<package-name>/S`** and select **Yes** from the Wait drop-down menu.
    l. Click **OK**.
    m. Click **Add** and select **Delete Files** in the Sub-Task Chooser dialog box.
    n. Click **OK**.

o. In the Sub-Task to delete files on a device dialog box, enter the Avaya VDI Communicator file name in the File and Folder Name text box and enter the **Path On Device**.

p. Click **OK**.

7. Click **OK**.

   For detailed instructions to install add-ons on a thin client using HPDM, see the *Installing Add-ons Via ALTRIS, HPDM, HPCAS* guide available at http://www.hp.com.

   The system installs Avaya VDI Communicator on the specified HP thin clients. If the thin clients already have a previous version of Avaya VDI Communicator, the system upgrades the version to the current version.

Chapter 4: Upgrading Avaya VDI Communicator on thin clients

Upgrading on Windows OS-based HP thin clients

Use this procedure provided here to upgrade Avaya VDI Communicator on the following Windows OS-based HP thin clients:

- HP t510
- HP t520
- HP t610
- HP t620
- HP t810

Procedure

1. Start your HP thin client.
2. Click **Start** > **Shut down** > **Log off**.
3. Select **Administrator**.
4. In the password field, enter the default password Administrator.
5. In the bottom right of the screen, right-click the green padlock icon and select Disable EWF(D).
6. In the EWF dialog box, select Yes.
7. In the Microsoft Windows dialog box, select **Restart Now**.
8. After the computer restarts, log on as Administrator. Follow the instructions given in steps two through four to log on as Administrator.
9. Open Internet Explorer and type the IP address of the FTP server in the address bar.
10. Press Enter.
11. Double-click the Avaya VDI Communicator installable file.
12. Select the option to run the application.
13. Select Upgrade.
14. After the upgrade is complete, right-click on the padlock on the bottom right of the screen and select Enable FBWF(E).

15. Select **Restart Now**.
16. After the computer restarts, log on as Administrator. Follow the instructions given in steps two through four to log on as Administrator.

Example

Upgrading on Linux OS-based HP thin clients

Use this procedure provided here to to upgrade Avaya VDI Communicator on the following ThinPro OS-based HP thin clients:

- HP t510
- HP 520
- HP t610
- HP t5620
- HP 8510

The thin clients must have any of the following Operating Systems:

- ThinPro 4.1
- ThinPro 4.2
- ThinPro 4.3
- ThinPro 5.x

Before you begin

The latest Avaya VDI Communicator installable file appropriate for your thin client is available on the FTP server.

Procedure

1. Start your HP thin client.
2. HP ThinPro thin client by default starts in the **User Mode**. To change the mode to Administrative Mode, click the HP logo at the bottom left of the screen and select **Administrator/User Mode Switch**.
3. Enter the Administrator Password and click **OK**.

   System displays the HP ThinPro desktop. A task bar on the desktop provides access to open applications.
4. In the left of the ThinPro Control Center, select **Control Panel**.
5. Select the **Advanced** tab.
6. Double-click **X Terminal**.

7. In the xterm window, type the following commands:
   - **`a. fsunlock`**
   - **`dpkg –r vdi-communicator`**
   - **`fslock`**
8. On the ThinPro Control Center, select the **Management** tab.
9. Double-click **HP Easy Update**.
10. On the Easy Tools panel, click **Options**.
11. Ensure that the Repository Locations has the URL of the FTP server where the latest Avaya VDI Communicator installable file is located.
12. In the Easy Tools window, select **Updates**.
13. Select **Package Updates**.
14. Click **Install**.

Chapter 5: Avaya VDI Communicator Certificate Configuration

Configuring security certificate on Windows thin clients

The security certificate must be distributed to the users and must be installed on Windows OS-based thin clients and personal computers.

About this task

To install the certificate on the thin client of personal computer of a user, perform the following steps:

Procedure

1. Obtain the certificate file to be used to sign Avaya Aura server certificate.
2. Double click on the certificate file.
3. Select **Install Certificate**.
4. Select the store in which you want to install the certificate: **trusted root certification authorities**
5. Press **OK** to install the certificate.

Configuring security certificate on Linux thin clients

The security certificate must be distributed to the users and must be installed on Linux OS-based thin clients and personal computers.

About this task

To install the certificate on your system, perform the following steps:

Procedure

1. Obtain the certificate file to be used to sign Avaya Aura server certificate.
2. Log on to the system as `root`.
3. Create a directory for extra CA certificates in `/usr/share/ca-certificates`.

4. Copy the `.crt` file to the directory.
5. Let Ubuntu add the `.crt` file's path relative to `/usr/share/ca-certificates` to `/etc/ca-certificates.conf` (using command: dpkg-reconfigure ca-certificates).
6. Run the command: **`update-ca-certificates`**.

   These instructions are applicable only to Ubuntu systems. Certificate validation is currently not working on Dell Wyse Linux machines because the older OpenSSL version that ships with the Dell Wyse is incompatible with OpenSSL version used by Avaya VDI Communicator.

Next steps

As the Avaya VDI Communicator client accepts `.p12` or `.pfx` files having friendlyName as a Bag Attribute, Avaya VDI Communicator rejects a few `.p12` and `.pfx` files. In such cases when Avaya VDI Communicator rejects the `.p12` or `.pfx` files containing an identity certificate, run the command:

`openssl pkcs12 -in pkcs12_file.p12(pfx) -out unpack.pem` and verify if the `unpack.pem` to see if the identity certificate has set the friendlyName attribute.

For example:

Bag Attributes

friendlyName: *test_linux's AVAYA ID*

localKeyID: *A8 24 67 B9 E4 9D 18 F2 55 B7 03 49 82 4F C3 2E 70 CB 72 2F*

subject=*/CN=test_linux/OU=SDP/O=AVAYA/C=US*

issuer=*/CN=default/OU=MGMT/O=AVAYA*

If you do not find the find the friendlyName attribute, repack the `pkcs12` file to set this field using the command:

```
openssl pkcs12 export -in unpack.pem -name "friendly_name" -out
packed.p12
```

Configuring client identity certificate on System Manager

If you configure a client identity certificate on Avaya VDI Communicator, the corresponding CA certificate must be trusted by Avaya Aura® System Manager.

About this task

To ensure that the client identity certificate is trusted on System Manager, perform the following steps:

Procedure

1. Log on to System Manager.
2. In the Services list, select **Inventory** > **Manage Elements**.

3. Perform any one of the following:
   - If the System Manager instance is not present in the Elements list, refer to the System Manager online help for the steps to add a new element.
   - If the System Manager instance is present, select the check box for the System Manager instance, click **More Actions**, and select **Configure Trusted Certificates** from the drop-down menu.
4. On the Trusted Certificates page, click **Add** and import the required certificate to the System Manager trust store.

Chapter 6: Administering Avaya VDI Communicator

Enabling auto configure settings

Auto-configuration is enabled by default. Avaya VDI Communicator uses auto-configuration information available during the first startup of the application to complete auto-configuration. Users are not required to perform any action for auto-configuration.

Avaya VDI Communicator supports auto configuration through configuration setting files located on an HTTP server. The two setting files 96x1Supgrade.txt and 46xxsettings.txt are placed on an HTTP server. Avaya VDI Communicator retrieves the IP address of the HTTP server from the Dynamic Host Configuration Protocol (DHCP) server.

Procedure

1. On the Avaya VDI Communicator user interface, click **Settings**.
2. Select the **Auto-Configure** check box.

   The Server Address field is enabled.
3. In the **Server IP Address** field, enter the IP address of the HTTP server.
4. Click **OK**.

   The changed settings take effect after you restart the application.

Configuring server settings

Use the Server Settings screen to configure the Avaya Aura® Session Manager server settings.

Procedure

1. In the left pane of the General Settings window, click **Server**.
2. Double-click the **Address** field and enter the IP address or the name of the Avaya Aura® Session Manager server.
3. Double-click the **Port** field and enter the port number.

   Avaya VDI Communicator uses 5061 as the default port number.

4. To add details of another Avaya Aura® Session Manager server, click **Add**.

   The system displays a new row under Server Settings and populates the Transport field with tls. Follow the instructions on steps 3 and 4 to add the details of another Avaya Aura® Session Manager server.

5. In the **Domain** field, enter the domain name of the Avaya Aura® Session Manager server.

   For more information about the fields, see Server settings screen field descriptions on page 28.

6. Click **OK**.

Server settings screen field descriptions

Field name	Description
Transport	The transport protocol.
Address	The IP address or name of the Avaya Aura® Session Manager server.
Port	The port number of the server. Avaya VDI Communicator uses 5061 as the default port number.
Domain	The domain name of your Avaya Aura® Session Manager server.

Configuring audio general settings

Procedure

1. Click **Audio General** in the left pane of the General Settings window.
2. Select a **Microphone** from the drop-down menu and set the microphone volume. Avaya VDI Communicator automatically selects the last inserted microphone. If a webcam is inserted, Avaya VDI Communicator uses the webcam microphone instead of the headset microphone.
3. Select a **Speaker** from the drop-down menu and set the speaker volume.
4. Select a **Ringer** from the drop-down menu and set the ringer volume.
5. Select the **Ring on incoming calls** check box, if required.

   For some of the USB headsets, the 'Ring on incoming calls' check box must be cleared to avoid double ringing tone while for some of the headsets the check box must be selected. Ensure you verify the headset requirement before selecting the check box.

6. Set the **Volume** for ringing.

For more information about the fields, see Audio General Settings screen field descriptions on page 29.

7. Click **OK**.

Audio General Settings screen field descriptions

Field Name	Description
Microphone	The microphone to be used with Avaya VDI Communicator.
Test	The field to start testing the microphone level. Select the check box to start the test.
Speaker	The speaker for Avaya VDI Communicator.
Play	The field to test your speaker. Click the button to test your speaker. Use the slider to adjust the volume.
Ringer	The field to select a device for incoming call ringing using a drop-down menu.
Play	The field to test the selected ringer for incoming calls. Click the button to test your ringer. Use the slider to adjust the volume. Select the Ring on incoming calls check box before you start testing the ringer.
Ring on incoming calls	The field to enable ringing for incoming calls using a check box.

Configuring audio advanced settings

Procedure

1. Click **Audio Advanced** in the left pane of the General Settings window.
2. Select an option from the **Automatic Gain Control** drop-down menu.
3. Select an option from the **Echo Cancellation** drop-down menu.
4. Select an option from the **Noise Suppression** drop-down menu.
5. Select the **Enable DSCP** check box and enter the Differentiated Services Code Point (DSCP) value, as required.
6. Select the **Enable 802.1p** check box and specify the 802.1p prioritization for audio.

   For more information about the fields, see Audio Advanced Settings screen field descriptions on page 30.
7. Click **OK**.

Audio Advanced Settings screen field descriptions

Field Name	Description
Automatic Gain Control	The field to enable or disable automatic gain control using a drop-down menu. If you enable the Automatic Gain Control, the microphone adjustment is handled automatically. The available options are: • Disabled • Enabled
Echo Cancellation	The field to select an echo control mode using a drop-down menu. With the echo control mode, you can improve the audio quality through echo cancellation over the telephony network. The available options are: • Disabled • Enabled
Noise Suppression	The field to select a noise suppression mode using a drop-down menu. The available options are: • Disabled • Conference • Low • Moderate • High • Very High
Enable DSCP	A check box to indicate Avaya VDI Communicator is to use Differentiated Services Code Point (DSCP). If you select the check box, enter the applicable DSCP value.
Enable 802.1p	A check box to indicate if Avaya VDI Communicator is to use 802.1p prioritization for audio. If you select the check box, enter the applicable 802.1p value.

Viewing audio and video statistics

Use the statistics pages to analyze Voice Over Internet Protocol (VoIP) call quality.

Before you begin

Ensure that you are on a call.

Procedure

1. Click the gear icon on the user interface and select **Statistics** from the menu.

   Avaya VDI Communicator displays the audio and video statistics for the current call in the Media statistics window. To view the statistics, click **Audio** or **Video**.

2. To close the window, click **X** that appears at the top right corner of the Media statistics window.

   - For more information about the audio statistics fields, see Audio Statistics screen field descriptions on page 31.
   - For more information about the video statistics fields, see Video Statistics screen field descriptions on page 32.

Audio statistics screen field descriptions

Field Name	Description
Destination IP	The IP address of the destination computer.
Port	The Port number of the destination computer.
Encrypted	The field to show if the active call is encrypted or not.
Rx codec	The type of codec for received data.
Tx codec	The type of codec for transferred data.
Fraction lost	The fraction of packets lost in Q8 (a fixed-point arithmetic domain).
RTT Last (Ms)	The last Round-Trip Time in milliseconds.
RTT Max (Ms)	The maximum Round-Trip Time in milliseconds.
RTT Min (Ms)	The minimum Round-Trip Time in milliseconds.
RTT Avg (Ms)	The average Round-Trip Time in milliseconds.
Cumulative Lost (packets)	The total number of lost packets.
Jitter (samples)	Jitter in samples.
Jitter Avg (Ms)	Short-time average jitter in milliseconds.
Jitter Max (Ms)	The maximum short-time jitter in milliseconds.
Number of dead detections	The total number of “dead connection” detections.
Number of alive detections	The total number of “alive connection” detections.
Discarded packets	The total number of discarded packets.
Tx (bytes)	The amount of data transferred in bytes.
Tx (packets)	The number of sent packets.
Rx (bytes)	The amount of data received in bytes.
Rx (packets)	The number of received packets.

Video statistics screen field descriptions

Field Name	Description
Destination IP	The IP address of the destination computer.
Port	The Port number of the destination computer.
Encrypted	The field to show if the active call is encrypted or not.
Rx codec	The type of codec for received data.
Tx codec	The type of codec for transferred data.
RX resolution	The resolution of received frames.
RX frame per second	The rate of received frames per second.
TX resolution	The resolution of transmitted frames.
TX frames per second	The rate of transmitted frames per second.
Average CPU usage	The average CPU usage during a video call.
Fraction lost	The fraction of packets lost in Q8 (a fixed-point arithmetic domain).
RTT Last (Ms)	The last Round-Trip Time in milliseconds.
RTT Max (Ms)	The maximum Round-Trip Time in milliseconds.
RTT Min (Ms)	The minimum Round-Trip Time in milliseconds.
RTT Avg (Ms)	The average Round-Trip Time in milliseconds.
Cumulative Lost (packets)	The total number of lost packets.
Jitter (samples)	Jitter in samples.
Jitter Avg (Ms)	Short-time average jitter in milliseconds.
Jitter Max (Ms)	The maximum short-time jitter in milliseconds.
Discarded packets	The total number of discarded packets.
Tx (bytes)	The amount of data transferred in bytes.
Tx (packets)	The number of sent packets.
Rx (bytes)	The amount of data received in bytes.
Rx (packets)	The number of received packets.

Configuring preferences settings

Procedure

1. Click **Preferences** in the left pane of the General Settings window.
2. Select a **Language** for the user interface.
3. From the **Log level** drop-down menu, select a log level.

4. To enable logging to the Syslog server:
   a. Select the **Enable sys log** check box.
   b. In the **Server Address** field, enter the IP address or the name of the server.
   c. Select a **Syslog log level** from the drop-down menu.
5. To enable auto start of the application, select the **Enable auto-start of the application** check box.
6. To enable auto-login at start up, select the **auto-login on startup** check box.

   For more information about the fields, see Preferences screen field descriptions on page 33
7. Click **OK**.

Preferences screen field descriptions

Field name	Description
Language	The field to select a language for the user interface using a drop-down menu.
Log level	The field to select the level of logs at the application level using a drop-down menu. The available options are: • Emergency • Alert • Critical • Error • Warning • Notice • Info • Debug
Enable Syslog	The field to enable system logging using a check box.
Server Address	The IP address or the name of the syslog server.
Syslog level	The field to select the level of logs using a drop-down menu. The available options are: • Emergency • Alert • Critical • Error

Table continues…

Field name	Description
	• Warning • Notice • Info • Debug
Enable auto-start of the application	A check box to enable start of Avaya VDI Communicator at startup automatically.
Enable auto-login on startup	A check box to enable auto-login to Avaya VDI Communicator at startup.

Configuring log management settings

Procedure

1. Click **Log Management** in the left pane of the General Settings window.
2. To archive logs to your desktop, click **Archive**.
3. To upload logs to an FTP server:
   a. In the **Address** field, enter the IP address or the name of the FTP server.
   b. In the **Port** field, enter the port number of the FTP server.
   c. In the **Path** field, enter the path of the FTP server where the logs must be uploaded to.
   d. In the **Login** field, enter your login id.
   e. In the **Password** field, enter your password.
   f. Click **Upload**.

   For information about the fields, see Log Management screen field descriptions on page 34.
4. Click **OK**.

Related links

Log Management screen field descriptions on page 34

Log Management screen field descriptions

Field name	Description
Archive	The field to archive Avaya VDI Communicator logs on your desktop using a button.

Table continues…

Field name	Description
Upload	The field to start uploading logs to the FTP server using a button.
Address	The IP address of the FTP server.
Port	The port number of the FTP server.
Path	The path on the FTP server where Avaya VDI Communicator uploads the logs.
Login	The login ID of the FTP server.
Password	The password for the login ID.

Related links

Configuring log management settings on page 34

Configuring security settings

Use the Security settings page to select any one of the following:

- Avaya Product Root Certificate Authority (CA): Embedded in Avaya VDI Communicator client.
- Identity certificates issued by your system administrator stored in the system certificate store: X.509 certificates other than the Avaya Root certificate that is loaded to your computer.

Before you begin

Ensure that your client identity certificate is installed on your computer and is valid.

About this task

To configure the client identity certificate, preform the following steps:

Procedure

1. Click **Security** in the left pane of the General Settings window.
2. Perform any of the following actions:
   - Select **Don’t send client certificate**
   - Select **Use default certificate**
   - Select **Use selected certificate** and click **Browse** to select a certificate from the Certificate store in your computer.
3. Select renewal announce interval from the **Renewal announce interval** drop-down menu.
4. Click **OK**.

   For more information about the fields, see Security screen field descriptions on page 36.

Related links

Security screen field descriptions on page 36

Security screen field descriptions

Name	Description
Don’t send client certificates	The check box to select if you do not want to send Avaya VDI Communicator client certificate.
Use default certificate	The check box to select if you want to use a the default security certificate.
Use selected certificate	The check box to select if you want to specify a certificate from the certificate store in your computer.
Renewal announce interval	The drop-down menu to select renewal announce interval. Avaya VDI Communicator notifies for a renewal of the certificates these many days before the expiry of the current certificate. The available options are: • 30 days • 60 days

Related links

Configuring security settings on page 35

Enabling SRTP settings

If SRTP settings are enabled, Avaya VDI Communicator supports media encryption using Secured Real-time Transport Protocol (SRTP) with Advanced Encryption Standard (AES) 128. For authentication and integrity for each packet, Avaya VDI Communicator uses Hash-based Message Authentication Code (HMAC)-SHA1 80 or HMAC-SHA1 32 depending on configuration. SRTP for SIP uses RFC 4568 Session Description Protocol (SDP) Security Descriptions for Media Streams to distribute the encryption keys. The following authentication and encryption options are available:

ID	Name as per Communication Manager configuration	Description
1	1-srtp-aescm128-hmac80	Encrypted/Authenticated RTP with 80-bit authentication tag
2	2-srtp-aescm128-hmac32	Encrypted/Authenticated RTP with 32-bit authentication tag
3	3-srtp-aescm128-hmac80- unauth	Encrypted RTP but not authenticated
4	4-srtp-aescm128-hmac32- unauth	Encrypted RTP but not authenticated

Table continues…

5	5-srtp-aescm128-hmac80- unenc	Authenticated RTP with 80-bit authentication tag but not encrypted
6	6-srtp-aescm128-hmac32- unenc	Authenticated RTP with 32-bit authentication tag but not encrypted
7	7-srtp-aescm128-hmac80- unenc-unauth	Unencrypted/ Unauthenticated RTP
8	8-srtp-aescm128-hmac32- unenc-unauth	Unencrypted/ Unauthenticated RTP
9	9-none	RTP

To use SRTP for media traffic, you must enable SRTP in Avaya Aura® Communication Manager.

Procedure

Use Auto-Configure option for Avaya VDI Communicator for fine-tuning of SRTP usage. For more information on auto-configuration, see Enabling auto configure settings on page 27. You can configure the SRTP options by setting a value for Media Encryption Parameters in the *config.xml* file as shown in the following example:

```
<parameter>
<name>MediaEncryptionParameters</name>
<value>1</value>
</parameter>
```

Example

When establishing a call, Avaya VDI Communicator negotiates codec with the other endpoint and selects the matching option. If the other endpoint supports 2 and 9, then Avaya VDI Communicator chooses 2 as the codec. If the other endpoint does not support SRTP, 9 (none) is chosen.

Chapter 7: Troubleshooting Avaya VDI Communicator

Avaya one-X® Communicator login fails when used in shared control mode with Avaya VDI Communicator

Proposed solution

About this task

Add Avaya one-X® Communicator to the Windows firewall exception list. If you are using Avaya one-X® Communicator for the first time after installation, you must accept the default Windows firewall exception request. You can also add Avaya one-X® Communicator to the Windows firewall exception list later by following these instructions:

Note:

The instructions provided here are applicable to Windows 7 Operating System only.

Procedure

1. Select **Start** > **Control Panel** > **Windows Firewall**
2. Click **Allow a program or feature through Windows Firewall**.
3. In the Allow Programs to communicate through Windows Firewall dialog box, select all the check boxes corresponding Avaya one-X® Communicator.
4. Click **OK**.

User not able to make calls when Avaya one-X® Communicator and Avaya VDI Communicator are registered with multiple Session Manager servers

Proposed solution

Procedure

When you configure Avaya one-X® Communicator and Avaya VDI Communicator, perform the following:

- On the Avaya one-X® Communicator user interface, select **Desk Phone** mode for Outgoing Calls.
- Ensure that the IP addresses of Avaya Aura® Session Manager servers appear in the same order in Avaya one-X® Communicator and Avaya VDI Communicator. If the IP addresses are not in the same order, remove all the existing Session Manager IP addresses from both Avaya one-X® Communicator and Avaya VDI Communicator, and add the IP addresses again keeping the order of the IP addresses same in both the applications. You can add up to three Session Manager servers with Avaya one-X® Communicator and Avaya VDI Communicator.

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