



InfoWorkSpace™



InfoWorkSpace Client Integration with Citrix Presentation Server Guide

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Presentation Server Guide

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Introduction

This document describes the configuration necessary for InfoWorkSpace clients to function within the Citrix Presentation Server™ environment. Installation of Citrix Presentation Server is not included in this document. Information about installing the product can be found at <http://www.citrix.com>. The specific tested configuration deals with Citrix Presentation Server 4.0 and Citrix Presentation Server 4.5. Anything prior to version 4.0 is not supported.

Requirements and Tested Configurations

Please follow the prerequisites before continuing with this guide. Both Citrix Presentation Server 4.0 and Citrix Presentation Server 4.5 configurations have been tested with the InfoWorkSpace (IWS) clients.

Prerequisites

Server

- Citrix Presentation Server 4.0 or later
- Microsoft® Windows Server® 2003 with Service Pack 1
- Sound device compatible with Windows Server 2003

Client

- Windows® XP with Service Pack 2, Solaris 8 or later
- Citrix® ICA® client

Tested Configurations

Configuration 1

- Citrix Presentation Server 4.0 with Hotfix Roll-up Pack 2
- Windows Server 2003 with Service Pack 1 and latest updates
- Physical Server (no VM)
- Sound Blaster Live! 24-bit sound card
- Microsoft® SQL Server™ 2000 with SP4 (datastore)
- Citrix ICA client for Windows version 9.1
 - All options installed (Citrix Web Agent, Program Neighborhood®Agent, Program Neighborhood)
 - Pass-through authentication activated

Configuration 2

- Citrix Presentation Server 4.5
- Windows Server 2003 with Service Pack 2 and latest updates
- VMware Server (VMHost running Ubuntu Linux 6.10)
- Turtle Beach Amigo USB Sound Device for VMHost (Sound Blaster device for VM)
- Microsoft® Access™ Database (datastore)
- ICA client for Windows version 10.0
 - All options installed (Web Agent, Program Neighborhood Agent, Program Neighborhood)
 - Pass-through authentication activated

InfoWorkSpace Client Installation

This section deals with integrating the IWS client within the Citrix Presentation Server environment. These are post-installation steps to the regular IWS install. Refer to the *IWS Client Installation Guide*.

InfoWorkSpace Version 2.5.1.2

Administrative privileges are required to complete the following installation.

Installation:

1. Run the IWS_Client_2512.exe installation using the defaults. Refer to *IWS 2.5.1.2 Client Installation Guide* for more details.
2. Optional: Run the IWS_BrowserPlugin_2512.exe installation using the defaults. This is necessary to run PlaceWare Conference Center.

Post-Installation:

There are no post-installation steps for version 2.5.1.2. The next configuration step is to publish the applications. This is covered in detail later on.

InfoWorkSpace Version 2.5.1.3

Administrative privileges are required to complete the following installation.

Installation:

1. Run the IWS_Client_2513.exe installation using the defaults. Refer to “IWS 2.5.1.3 Client Installation Guide” for more details.
2. After the administration part of the setup is complete, additional user installs are required. Run the “User Setup InfoWorkSpace 2.5.1.3” and “User Setup LaunchPad 2.5.1.3” installations with the defaults.
3. Optional: Run the IWS_BrowserPlugin_2513.exe installation using the defaults. This is necessary to run PlaceWare Conference Center.

Post-Installation:

IWS 2.5.1.3 installs client components to the user’s home directory. Therefore, it is important not to publish applications before following steps are resolved.

1. Copy the InfoWorkSpace folder from the administrator’s home directory to the “All Users” home directory (C:\Documents and Settings\All Users\).
2. Add the following lines to: C:\Program Files\InfoWorkSpace\jre\1.3.1_15\lib\iws.properties
iws.working_directory=C:/Documents and Settings/All Users/InfoWorkSpace/IWS
iws.home_directory=C:/Documents and Settings/All Users/InfoWorkSpace

3. Optional: Step 2 may apply if the IWS_BrowserPlugin_2513.exe installer was run. The next configuration step is to publish the applications. This is covered in detail later on.

InfoWorkspace Version 3.0

Administrative privileges are required to complete the following installation.

Installation:

Run the IWS_Client_30.exe installation using the defaults. Refer to *IWS 3.0 Client Installation Guide* for more details.

Post-Installation:

IWS 3.0 installs client components to the user's home directory. Therefore, it is important not to publish applications before the following steps are resolved. The steps are based on the "InfoWorkspace Version 3.0 Client Installation when using Roaming Profiles" tech bulletin, TB07-001.

1. Grant full control to Everyone for the C:\Documents and Settings\All Users directory.
2. Using Add/Remove Programs, uninstall "Per User Installer Infoworkspace 3.0."
3. Edit the file: C:\Program Files\InfoWorkSpace\LaunchInstall.bat

Change: SET IWSUSRDIR=%USERPROFILE%\InfoWorkSpace

To: SET IWSUSRDIR=%ALLUSERSPROFILE%\InfoWorkSpace

Change: "%IWSJRELOC%\java" -cp "%IWSMACDIR%/PerUser.jar" run -silent -P
installLocation="%USERPROFILE%/InfoWorkSpace" -V JavaHome="%IWSJRELOC%

To: "%IWSJRELOC%\java" -cp "%IWSMACDIR%/PerUser.jar" run -silent -P
installLocation="%ALLUSERSPROFILE%/InfoWorkSpace" -V
JavaHome="%IWSJRELOC%

4. Edit the file: C:\Program Files\InfoWorkSpace\Launch.bat

Change: cd %USERPROFILE%\InfoWorkSpace\IWS

To: cd /D %ALLUSERSPROFILE%\InfoWorkSpace\IWS

5. Edit the file: C:\Program Files\InfoWorkSpace\Client.bat

Change: cd %USERPROFILE%\InfoWorkSpace\IWS

To: cd /D %ALLUSERSPROFILE%\InfoWorkSpace\IWS

6. Add the following lines to: C:\Program Files\Java\j2re1.4.2_10\lib\iws.properties

iws.working_directory=C:/Documents and Settings/All Users/InfoWorkSpace/IWS

iws.home_directory=C:/Documents and Settings/All Users/InfoWorkSpace

7. Execute the script: C:\Program Files\InfoWorkSpace\LaunchInstall.bat

The next configuration step is to publish the applications. This is covered in detail later on.

InfoWorkSpace Version 3.0.6

Administrative privileges are required to complete the following installation.

Installation:

Run the IWS_Client_306.exe installation using the defaults. Refer to “IWS 3.0.6 Client Installation Guide” for more details.

Post-Installation:

IWS 3.0.6 installs client components to the user’s home directory. Therefore, it is important not to publish applications before the following steps are resolved. These steps are based on the “InfoWorkSpace Version 3.0 Client Installation when using Roaming Profiles” tech bulletin, TB07-001.

1. Grant full control to Everyone for the C:\Documents and Settings\All Users directory.
2. Using Add/Remove Programs, uninstall “Per User Installer Infoworkspace 3.0.6.”
3. Edit the file: C:\Program Files\InfoWorkSpace\LaunchInstall.bat

Change: SET IWSUSRDIR=%USERPROFILE%\InfoWorkSpace

To: SET IWSUSRDIR=%ALLUSERSPROFILE%\InfoWorkSpace

Change: “%IWSJRELOC%\java” -cp “%IWSMACDIR%/PerUser.jar” run -silent -P
installLocation=%USERPROFILE%/InfoWorkSpace” -V JavaHome=%IWSJRELOC%

To: “%IWSJRELOC%\java” -cp “%IWSMACDIR%/PerUser.jar” run -silent -P
installLocation=%ALLUSERSPROFILE%/InfoWorkSpace” -V
JavaHome=%IWSJRELOC%

4. Edit the file: C:\Program Files\InfoWorkSpace\Launch.bat

Change: cd %USERPROFILE%\InfoWorkSpace\IWS

To: cd /D %ALLUSERSPROFILE%\InfoWorkSpace\IWS

5. Edit the file: C:\Program Files\InfoWorkSpace\Client.bat

Change: cd %USERPROFILE%\InfoWorkSpace\IWS

To: cd /D %ALLUSERSPROFILE%\InfoWorkSpace\IWS

6. Add the following lines to: C:\Program Files\Java\jre1.5.0_11\lib\iws.properties

iws.working_directory=C:/Documents and Settings/All Users/InfoWorkSpace/IWS

iws.home_directory=C:/Documents and Settings/All Users/InfoWorkSpace

7. Execute the script: C:\Program Files\InfoWorkSpace\LaunchInstall.bat

The next configuration step is to publish the applications. This is covered in detail later on.

InfoWorkSpace Java Web Start Client

Administrative privileges are required to complete the following installation.

Installation:

The IWS Java Web Start client can be setup using the IWS_Client_306.exe installer or by installing a JRE. The JRE requirement is 1.4.2 or higher. The recommended version is JRE 1.5.0_11. Refer to “IWS 3.0.6 Client Installation Guide” for more details.

Post-Installation:

Java Web Start cannot be accessed directly until applications have been added. Therefore, there is a need to publish a web browser such as Microsoft® Internet Explorer® or Mozilla Firefox. Information pertaining to publishing application is covered later on. Additionally, Java Web Start utilizes the process, “javaw.exe.” More information about setting up virtual processes will be covered later in this document.

Enabling Virtual IP and Loopback

The following section explains how to enable virtual IP addresses to specific processes. Citrix Presentation Server 4 and Citrix Presentation Server 4.5 allow for a range of virtual IP addresses to be assigned to a farm. The farm is created during the installation of Presentation Server. Virtual IP and loopback addresses can resolve issues with applications running in multiple, concurrent user sessions. Typically, these issues occur in customized applications that have trouble running within the Windows Terminal Services environment.

Applications use **Virtual IP** if they:

- Use Windows sockets
- Require a unique IP address or a hard-coded TCP port number

Applications use **Virtual Loopback** if they:

- Use Windows socket loopback (localhost or 127.0.0.1)
- Use a hard-coded TCP port number

Virtual IP Address Configuration

Setting up a virtual IP address range is essential for processes requiring unique IP addresses. The following steps explain how to configure the address range.

1. Open the *Citrix Access Management Console* (Presentation Server 4.5) or *MetaFrame® Presentation Server Console* (Presentation Server 4.0).
2. Select the farm from the left pane of the console.
3. Right-click on the farm and select **Properties**.
4. Select **Virtual IP Address Configuration**.
5. Click **Add IP Range** to configure a new range.

NOTE: Make sure all IP addresses within the range are valid and unused. These IP addresses must be on the same subnet as the CPS. Avoid using broadcast addresses. You will want to ensure there are enough available IP addresses for each session on the server as one IP address will be allocated for each session.

6. Indicate a “Starting IP Address,” “Ending IP Address,” and “Subnet Mask.” Click **OK**.
7. Click **Yes** to configure servers for the IP address range.
8. Click **Add** to select a server for the range.
9. Select the server from the top pane and click **Add**. Click **OK** when complete.
10. Click **OK** to finish.
11. Select **Enable logging of IP address assignment and release** to log information within the system event log.
12. Click **OK**.

13. Restart Citrix server for changes to take effect.

After configuring virtual IP address ranges, continue by specifying the processes that are to be monitored for virtual IP. The *Virtual IP Process Configuration* section explains how to configure processes for monitoring.

Virtual IP Loopback Configuration

Configuring the virtual loopback for the farm is necessary if specific processes utilize Windows socket loopback. The following steps explain how to configure virtual loopback.

1. Open the *Citrix Access Management Console* (Presentation Server 4.5) or *MetaFrame Presentation Server Console* (Presentation Server 4.0).
2. Select the farm from the left pane of the console.
3. Right-click on the farm and select **Properties**.
4. Select **Virtual IP Loopback Configuration**.
5. Configure the server, as required:
 - To enable virtual loopback, select a server in the “Servers/Available Servers” list and click **Add**, or click **Add All** to configure all servers in the farm.
 - To disable virtual loopback, select a server in the “Selected items/Configured Servers” list and click **Remove**, or click **Remove All** to disable virtual loopback for all the servers in the farm.

Add the Citrix server hostname to the “Selected items/Configured” list.

6. Click **OK**.

After configuring virtual loopback for one or more servers, continue by specifying the processes that are to be monitored for virtual loopback. The *Virtual IP Process Configuration* section explains how to configure processes for monitoring.

Virtual IP Process Configuration

Specific processes must be monitored within the process configuration section. IWS requires that each client has a unique IP address when connecting to an IWS server. Specifically, the PlaceWare audio component requires that each client has a separate IP address. The following steps indicate how to setup specific processes to be monitored via Virtual IP and/or Virtual Loopback.

1. Open the *Citrix Access Management Console* (Presentation Server 4.5) or *MetaFrame Presentation Server Console* (Presentation Server 4.0).
2. Select the farm from the left pane of the console.
3. Right-click on the farm and select **Properties**.
4. Select **Virtual IP Process Configuration**.

5. There are two lists on the page for “Virtual IP Processes” and “Virtual Loopback Processes.” Configure the processes, as required:
 - **Add Process:** Prompts for a process/executable name and adds the name to the list.
 - **Edit Process:** Allows modification to the process/executable name.
 - **Delete Process:** Removes the process/executable from the list.

Add the **pwmediac.exe** process to the “Virtual IP Processes” list. Add **pwmediac.exe**, **java.exe**, and **javaw.exe** to the “Virtual Loopback Processes” list. Figure 1 displays a screenshot of the desired configuration.

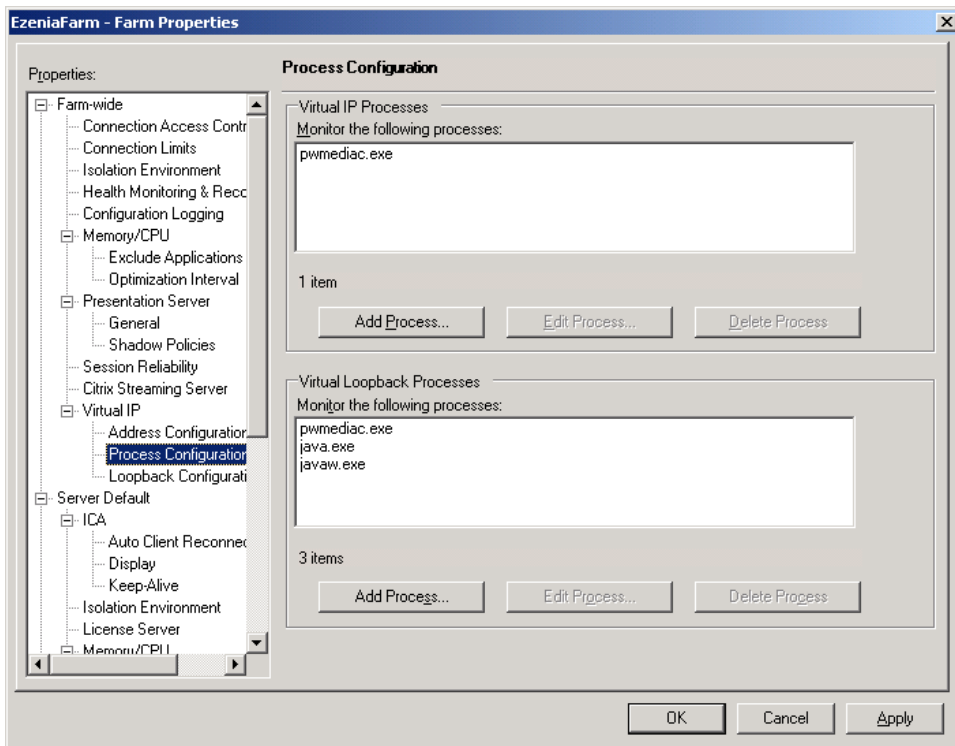


Figure 1 Process Configuration Properties

6. Click **OK**.

Publish Applications/Desktop

The final step to setting up IWS using Citrix Presentation Server is publishing the application. Publishing the application incorporates the remote application within the local environment. In other words, the remote application will open just like a local application. This configuration is an alternative to publishing the desktop, which resembles a typical terminal services session. These next sections provide information on how to publish applications as well as the desktop.

Publish Application

The following steps walk through how to publish applications within the CPS environment.

1. Open the *Citrix Access Management Console* (Presentation Server 4.5) or *MetaFrame Presentation Server Console* (Presentation Server 4.0).
2. Select **Applications** from the left pane of the console. This item can be found under the farm name.
3. Right-click **Applications** and select **New** → **Publish Application**.
4. An initial screen may appear. There will be a checkbox asking to skip this screen in the future. Click **Next**.
5. Enter a display name and application description. Click **Next** to continue.
6. Choose **Application** from the type of application to publish. For CPS4.5, select **Accessed from a server** under application type. Click **Next**.
7. Browse for the application executable by clicking **Browse**. Leave “Isolated application” unchecked unless running within an isolated environment. The following paths should be used for InfoWorkspace applications. These locations are listed by version. After the location has been entered, click **Next**.

IWS Version 2.5.1.2:

Client: c:\program files\infoworkspace\IWS25\Client.exe

LaunchPad: c:\program files\infoworkspace\IWS25\Launchpad.exe

IWS Version 2.5.1.3:

Client: c:\documents and settings\all users\infoworkspace\IWS25\Client.exe

LaunchPad: c:\documents and settings\all users\infoworkspace\IWS25\Launchpad.exe

IWS Version 3.0:

Client: c:\program files\Infoworkspace\Client.exe

LaunchPad: c:\program files\Infoworkspace\Launchpad.exe

IWS Version 3.0.6:

Client: c:\program files\Infoworkspace\Client.exe

LaunchPad: c:\program files\Infoworkspace\Launchpad.exe

Internet Explorer (for IWS Java Web Start Client):

Internet Explorer: c:\program files\Internet Explorer\iexplore.exe

8. Before the published application is delivered via ICA, servers must be configured to publish the application. Click **Add**.
9. Select a server in the “Servers/Available Servers” list and click **Add**, or click **Add All** to configure all servers in the farm. Click **OK** when done.
10. The server(s) should show up in the list. Click **Next** to continue.
11. Select users that should be permitted to use the application. These users can be local or from a domain. Select the appropriate users and click **Next**.
12. Select **Change icon** to change the appearance of the application. Otherwise, stick to the default. Also, there are options to place shortcuts in the start menu and desktop. These are not required. Click **Next**.
13. Click **Finish** to complete wizard. There are additional options available, but are not required.

The ICA client should be able to see the new published application within the “Citrix Program Neighborhood.”

Publish Desktop

The following steps walk through how to publish the desktop within the CPS environment. Publishing the desktop is optional.

1. Open the *Citrix Access Management Console* (Presentation Server 4.5) or *MetaFrame Presentation Server Console* (Presentation Server 4.0).
2. Select **Applications** from the left pane of the console. This item can be found under the farm name.
3. Right-click **Applications** and select New→**Publish Application**.
4. An initial screen may appear. There will be a checkbox asking to skip this screen in the future. Click **Next**.
5. Enter a display name and application description. Click **Next** to continue.
6. Select **Server desktop** and click **Next**.
7. Before the published desktop is delivered via ICA, servers must be configured to publish the desktop. Click **Add**.
8. Select a server in the “Servers/Available Servers” list and click **Add**, or click **Add All** to configure all servers in the farm. Click **OK** when done.
9. The server(s) should show up in the list. Click **Next** to continue.
10. Select users that should be permitted to use the desktop. These users can be local or from a domain. Select the appropriate users and click **Next**.
11. Select **Change icon** to change the appearance of the desktop. Otherwise, stick to the default. Also, there are options to place shortcuts in the start menu and desktop. These are not required. Click **Next**.
12. Click **Finish** to complete wizard. There are additional options available, but are not required.

The ICA client should be able to see the new published desktop within the “Citrix Program Neighborhood.”

Client Configuration

This section explains how to configure the ICA client to function correctly with the IWS client. However, this section does not cover how to install the Citrix ICA client. Documentation on how to install and configure the ICA client can be found at <http://www.citrix.com>. Moreover, additional settings must be configured for each user to use the audio functionality correctly.

Citrix ICA Client Settings

By default, the Citrix ICA client has default audio settings configured. This will not work with the IWS client. Therefore, the following steps have been documented to address the issue. This is one of the most critical steps and is frequently missed.

1. Open the *Citrix Program Neighborhood* application.
2. A list of applications will be listed if the farm is configured correctly. Select **File**→**Application Set Settings** from the drop-down menu.
3. Select the **Default Options** tab from the farm settings dialog.
4. The required changes are in the sound settings only. Make sure **Sound Server Default** is de-selected.
5. Select **Enable Sound** and choose **High sound quality** from the drop-down menu. Refer to Figure 2 for a screenshot of the audio settings.

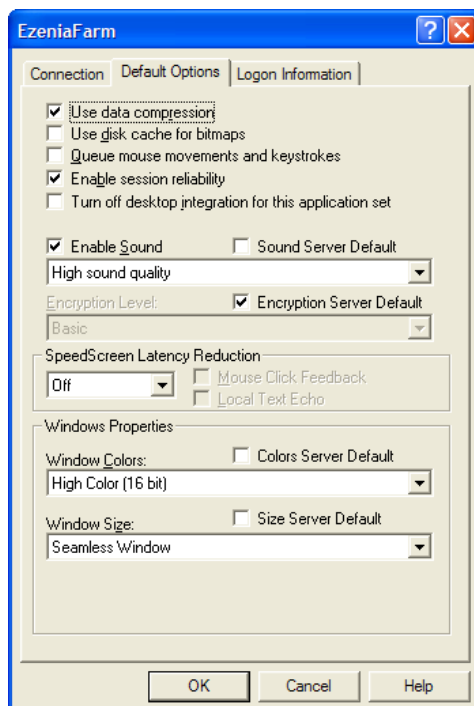


Figure 2 Farm Settings Default Options

6. Click **OK** to accept the changes.

The ICA client has been configured for “High quality audio.”

InfoWorkSpace Audio Configuration

For audio to function correctly in the Citrix Presentation Server environment, each user must configure the audio using the following steps:

1. From the “Citrix Program Neighborhood,” launch the InfoWorkSpace client from the farm’s published applications.
2. Login to the server with the necessary credentials.
3. After the main screen has loaded in IWS, select Tools→**Audio Setup**.

NOTE: If nothing appears on the screen, IP virtualization may not be configured correctly. Refer to the *Enable Virtual IP and Loopback* section.

4. The following screen will display the PlaceWare Media Controls. See Figure 3.

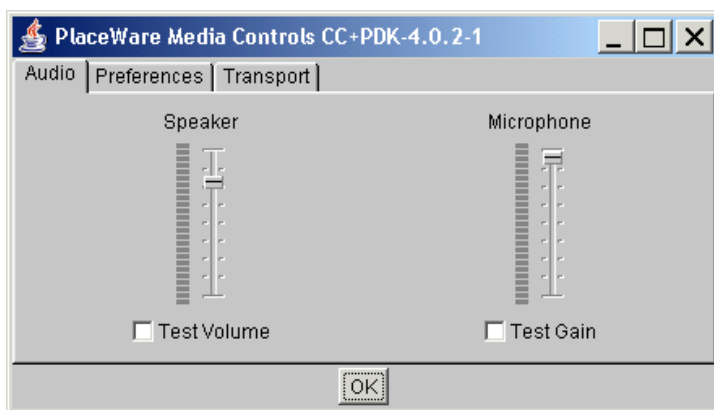


Figure 3 PlaceWare Media Controls – Audio Tab

5. Select the **Preferences** tab.
6. Select **unicast UDP** from the dropdown menu. See Figure 4 for a screenshot.

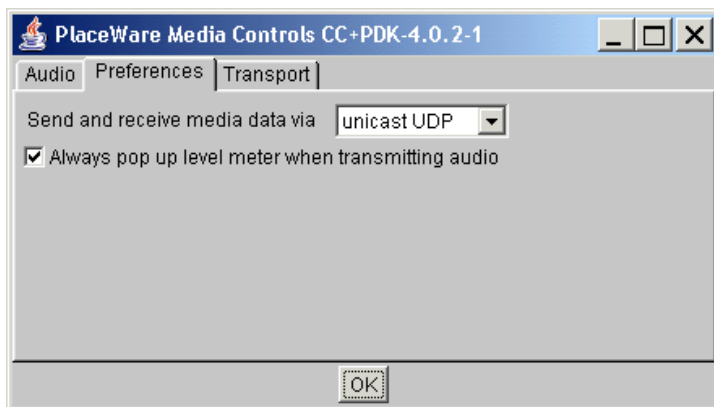


Figure 4 PlaceWare Media Controls – Preferences Tab

7. Select the **Transport** tab.
8. Specify **T-1 or faster** for network connection type.

9. Check the box for “Always use specific local UDP port.” Enter **8084** for the port number. See Figure 5 for more details.

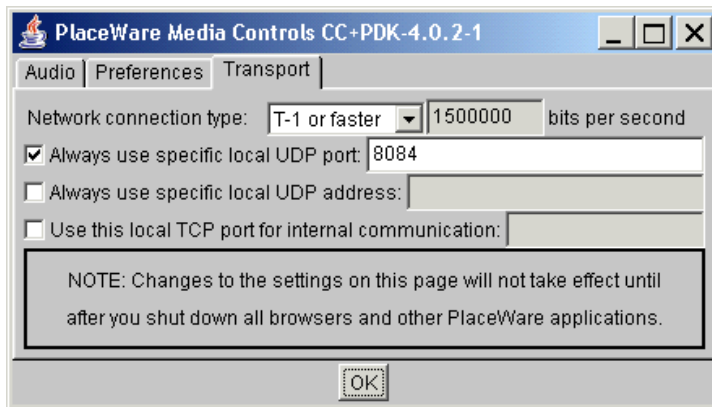


Figure 5 PlaceWare Media Controls – Transport Tab

10. Click **OK** to accept changes.
11. Restart the InfoWorkSpace client.

Troubleshooting

- *The IWS client freezes when “Loading the Global Audio” component.*

Make sure to check both the Virtual IP and Virtual Loopback configurations. Refer to the Enabling Virtual IP and Loopback section of this document for more information.

- *Conference Center and Web Help fail to launch from the IWS client application (launches a command window, instead of a browser).*

Refer to Technical Bulletin TB06-009

(https://www.ezenia.com/downloads/tech_bulletins/TB06-009.pdf) for more information.

- *The following exception exists in the IWS_Client.log/IWS_LP.log file. The client functions but has no audio capability.*

*** PlaceWare: Media plug-in writer thread exiting:

java.net.SocketException: Software caused connection abort: socket write error

at java.net.SocketOutputStream.socketWrite0(Native Method)

at java.net.SocketOutputStream.socketWrite(Unknown Source)

at java.net.SocketOutputStream.write(Unknown Source)

at placeware.client.media.CByteArrayOutputStream.unsyncWriteTo(pw.java:22)

at placeware.client.media.MEDIA13.run(pw.java:1681)

at placeware.client.media.PWThread.run(pw.java:191)

This only occurs when launching the IWS 3.0 client or later. This is due to the newer JRE (1.4.2 or later) process being monitored for the Virtual IP. Refer to the *Enabling Virtual IP and Loopback* section of this document for more information on how to configure monitored processes.

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bringing life to the network



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