

Using PCoIP Host Cards Brokered by VMware View 4

TER0911004

Issue 1

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Revision History

Version	Date	Description
1	April 08, 2010	Initial releases

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Definitions

Host PC	The computer or workstation hosting the PCoIP Host Card
OSD	The On Screen Display of the PCoIP Zero Client
PCoIP Host Card	The PCIe card housing Tera Host
PCoIP Zero Client	The portal or integrated display housing Tera Client
Tera Host	Teradici Corporation's Tera1200 silicon
Tera Client	Teradici Corporation's Tera1100 silicon
Web UI	Administrative Web User Interface

Introduction

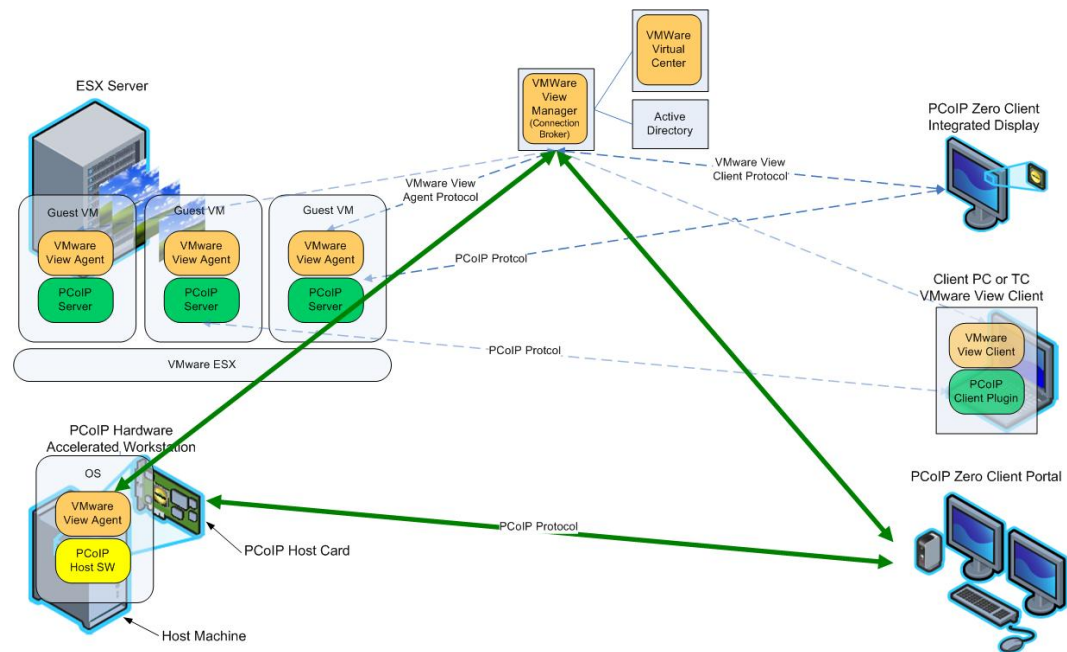
This document describes the use of PCoIP host cards to remote demanding applications that require dedicated graphics cards within an environment brokered by VMware View™. It covers the setup and configuration of PCoIP host cards (or “host cards”) in host PCs or workstations connecting to PCoIP zero clients (or “clients”) such as PCoIP Portals or PCoIP integrated displays.

1 Overview

VMware View Manager 4.0 allows for brokering PCoIP sessions between PCoIP clients and PCoIP host cards.

This document provides instructions for setting up a PCoIP session between a PCoIP zero client and a PCoIP host card brokered by VMware View Manager 4.0. Using a PCoIP host card installed in a physical PC or workstation allows higher end use of 3D applications with dedicated GPUs that is not available when using virtualized desktops.

Figure 1 – VMware View and PCoIP Technology Architecture



For information about brokering PCoIP sessions by View 4 between PCoIP zero clients and Software PCoIP host in an ESX server, see *Using PCoIP Zero Clients with VMware View 4* (TER0904005).

2 Prerequisites

This section describes the prerequisites to use a PCoIP zero client and PCoIP host card brokered by VMware View 4.

1. VMware View environment currently running with VMware View 4.0.1 Connection Server and VMware View 4.0.1 Agent
2. Firmware Release 3.1.0 for PCoIP zero clients and host cards
3. PCoIP zero client and host card configured for a PCoIP session
4. PCoIP Host Driver Software v3.1.11 for Windows
5. Operating System compatible with VMware View 4.0.1

Note: View 4.0.1 supports 32-bit operating systems. 64-bit operation systems are not supported.

This document also assumes you have thorough knowledge using PCoIP zero clients and PCoIP host cards independent of VMware View. You should also read and understand *Using PCoIP Zero Clients with VMware View 4* (TER0904005)

2.1 VMware View 4.0.1, or newer

A VMware View 4.0.1 installation is required, consisting of the VMware View 4.0.1 Manager. The VMware View 4.0.1 Agent will be installed in the target desktop in Section 3.1.

Refer to the VMware document *View Manager Administration Guide, View Manager 4.0* for more information. The *Using PCoIP Zero Clients with VMware View 4* (TER0904005) can also be used for information related to the zero client.

2.2 Tera1 Firmware Release 3.1.0, or newer

The functionality described in this document is available with Tera1 firmware release 3.1.0 and later releases. Check the client and host card to verify they are using firmware release 3.1.0 or a newer release.

You can use the Administrative Web Interface (or “admin interface”) or PCoIP Management Console to update the firmware release. This document will use the administrative web interface, as it used later in the install process.

Checking Firmware Version Using the Admin Interface

To check the firmware version in the admin interface, enter the IP address of the client in a web browser, log in (if required) and click *Info > Version* on the menu bar.

Note: The IP address for the client and host card can be obtained from the router’s DHCP lease table or from the PCoIP Management Console. For more information on using the PCoIP Management Console, refer to TER0812002 PCoIP Management Console User Manual. The client’s IP address can also be obtained from the On Screen Display (from connect screen, menu *Options > Configuration > Network*).

The example in Figure 2-1 also shows that firmware release 2.3 is currently in use, and the client will have to be updated to firmware release 3.1.0 or a later release.

Figure 2-1: Administrative Web Interface Version Webpage



Updating PCoIP Firmware

Firmware can be updated via the admin interface - see the *PCoIP Administrative Interface User Manual* (TER0606004), the PCoIP Management Console - see the *PCoIP Management Console User Guide* (TER0812002) or other tools such as connection brokers. If you do not have firmware release 3.1.0, contact your PCoIP solution vendor.

Example admin interface firmware upload process using the admin interface:

1. Ensure host PC or Workstation is in an idle state (all applications must be closed)
2. Log into the host card admin interface, e.g. 192.168.1.100 (accepting certificates and using password if enabled)
3. Select the *Firmware Upload* webpage then select the *Browse* button to browse to the firmware ".all" file, e.g. tera1x00_rel3-1-0_v265.all
4. Select the .all file and select the *Open* button
5. Select the webpage *Upload* button
6. Select the webpage *OK* button on the warning window that reads, *Are you sure? This will upload a new firmware image. This operation may take a few minutes.*
7. Wait for the firmware upload to complete. The following message appears when complete: *Success Flash successfully programmed! You must reset the device for the changes to take effect.*
8. Select the *Reset* button

9. Select the *OK* button on the warning window that reads, *The PColP processor will reset on the next host system restart; your changes will take effect then. Are you sure you want to proceed?*
10. Repeat steps 2 through 7 on the client, but do not reset or power cycle the client
11. Restart the Host PC or Workstation (completes reset of the host and starts using updated firmware)
12. Reset the client (starts using updated firmware)
13. Start PColP Session

2.3 Setting up the PColP Host Card and Zero Client

1. Setup a physical host PC with host card installed with network and DVI cables connected (refer to vendor setup documentation).
2. Setup a client, connecting display(s), power cable, network cable and USB mouse/keyboard.
3. Make sure that the host card and client are running PColP Firmware Release 3.1.0 or newer (refer to Section 2.2).
4. Log into the admin interface of the client and be sure *Enable VMware View* in *Configuration > VMware View* is not checked (i.e. disable use with VMware View Connection Server/Manager).
5. Make sure the host PC NIC is connected to the same network as the host card, the client and View Connection Server. The host PC should be able to ping the host card, client and View Connection Server IP addresses. The View Connection Server must be able to communicate with the host card, client and View Agent installed (installation instructions are in Section 3.1) on the host PC to allow View to manage connections between the host card and client.
6. Establish a PColP session between the client and the host card (refer to vendor setup documentation)

2.4 PColP Host Driver Software Release v3.1.11 for Windows

The functionality described in this document requires PColP Host Driver Software v3.1.11 and later releases. Check the PColP host driver software installed on the host PC to verify it is using host driver software release 3.1.11 or a later release. Section 5 outlines the host software installation process. The Host Software package can be obtained from your PColP solution vendor.

2.5 Operating System compatible with VMware View 4.0.1

Ensure that you are using a operating system that is supported by VMware View 4.0.1. View does not currently support 64-bit operation systems.

Refer to the *VMware View Architecture Planning Guide* (EN-000241-02) for supported operating systems.

3 Host PC Configuration

VMware View 4.0 enables use of the PColP protocol to connect PColP zero clients to virtual desktops and physical host PCs (with PColP host cards installed). This section highlights the configuration of dedicated physical host PCs with PColP host cards.

Note: Be sure that the host PC computer name is unique to easily identify (e.g. in Windows XP: *My Computer > Properties > Computer Name* tab > *Change...*).

3.1 Installing the View Agent on a host PC

1. Start the VMware View Agent installation wizard by double clicking the file (e.g. VMware-viewagent-4.0.1-233023.exe) in the host PC's Windows operating system
2. Click *Next* in the welcome screen
3. If you accept the terms, select *I accept the terms in the license agreement* and click *Next*
4. Make sure the View Agent is highlighted for install. If VMware View Agent 4.0.1 is being installed on a 64-bit operating system, uncheck USB Redirection during the install process.

Note that the USB redirection component is not used by the PColP host card solution.

5. Click *Next*
6. Select *Enable the Remote Desktop capability* on this computer and click *Next*
7. Enter the IP address / FQDN of the physical server or virtual machine hosting VMware View Manager 4.0 when prompted

Select *Specify administrator credentials* and enter the credentials of a VMware View Manager administrator.

Click *Next*

8. Select *Install* and wait for the agent to install
9. Select *Finish* when install completes
10. Reboot the host PC when prompted by selecting *Yes*.
11. Wait for the PC to reboot before continuing.

4 Configuring View Manager 4.0.1 for a Physical PC

This section outlines the configuration steps to configure a physical PC for use in View Manager 4.0.1.

4.1 Configuring the View Manager 4.0.1

1. In VMware View Manager 4.0.1 web administrator interface (VMware View Administrator 4.0.1), choose *Add...* to create a desktop entry with the following attributes:
 - a. Choose Type *Individual Desktop* and Select *Next*
 - b. Choose Desktop Source *Other source. A physical computer or a VM not managed by VirtualCenter. Does not support Offline Desktop* and select *Next*
 - c. Unique ID: Assign the physical PC a *Unique ID, Display name* and *Description* and select *Next*
 - d. Desktop/Pool Settings:
 - i. General:
 1. State: *Enabled*
 2. Automatic logoff and disconnect: *Never*
 3. Connection server restrictions: *None*
 - ii. Display Protocol:
 1. *PCoIP*
 2. Allow users to override the default protocol: *Not Selected*
 - iii. Adobe Flash:
 1. Adobe Flash quality: *Do not control*
 2. Adobe Flash throttling: *Disabled*
 - e. By now VMware View Agent installed on the host PC should have contacted the VMware View Manager 4. You should see an entry for the host PC in the list of desktop hosts. Choose the entry corresponding to the name of the host PC and select *Next*
 - f. Finish
2. Entitle a user to the new desktop entry.
 - a. Click to highlight the desktop just configured
 - b. Click on *Entitlements...*
 - c. Click on *Add...*

- d. Enter username in *Name* field and select *Find*.
- e. Click to highlight username from list and select *OK*.
- f. Select *OK* to close Entitlements window.

5 Installing the PColP Host Driver Software

To complete the process to allow the physical PC to be brokered via View, the PColP Host Driver must be installed.

This section provides a quick overview of the Host Driver installation process. For more detail, refer to the *PColP Host Software User Guide* (TER0810001).

5.1 Installing the PColP Host Driver Software on a Host PC

1. Log into the administrative interface of the host card and enable the *Host Driver Function* (under *Configuration* menu) and restart the host PC.
2. Install the PColP Host Software package appropriate for the operating system installed on the host PC (32-bit is only supported at this time). This installation can be done by double clicking the installer.
 - a. 32 bit: PcoipHostSoftwarePackage_x86-Release_v3.1.11.msi
 - b. 64 bit: PcoipHostSoftwarePackage_x64-Release_v3.1.11.msi
3. Following the installation steps:
 - a. Click *Next* in the welcome screen
 - b. If you accept the terms, select *I accept the terms in the license agreement* and click *Next*
 - c. Optionally change the install location and select *Next*
 - d. Click *Install* to begin the installation

Note: For Windows Vista: During the installation when the drivers are installed, a Windows Security dialog may pop up. Click *Install* to continue with the installation. Optionally check off *Always trust software from Teradici Corporation* to avoid seeing this dialog in the future.

 - e. If Windows asks you to restart, restart the OS.
 - f. The Host Driver Software installation process continues when the OS boots up. Click *Install* to continue
 - g. Click on *Finish* to complete installation
4. Once the PColP Host Software is installed, log off the windows account (but do not shut down the PC) and then disconnect the PColP session

6 PColP Zero Client Configuration

To use the PColP zero client brokered by View, the client must be enabled for management by View.

6.1 Configuring the PColP Zero Client

1. Log into the client administrative interface or OSD (On Screen Display *Options* menu on the client Connect screen):
 - a. Be sure *Enable Connection Management* is not checked (*Configuration* menu → *Connection Management*)
 - b. Configure the View parameter (*Configuration* menu → *VMware View*)
 - i. Check *Enable VMware View*
 - ii. *Connection Server IP Address*: Enter the IP address / FQDN of the physical server or virtual machine hosting VMware View Manager 4.0
 - iii. Check *SSL*
 - iv. Select *Apply*
2. The client's OSD connect screen should now show the VMware View Logo.

7 PCoIP Zero Client Configuration

This section provides a brief outline of connecting a client to a physical PC brokered by View. Refer to *TER0904005 Using PCoIP Zero Clients with VMware View 4* for more detailed instructions.

7.1 Testing the PCoIP Connection

1. Select *Connect* on the client's OSD connect screen
2. Enter the credentials of the user you entitled to the desktop entry created in VMware View Manager 4.0. Make sure to select the domain associated with the entitled user.
3. Select *Login*
4. Select the physical PC's desktop entry created in VMware View Manager 4.0 from the list of available desktops.
5. Select *Connect*
6. At this point, VMware View Manager 4.0 will establish a PCoIP session between the client and the host card allowing you access to the physical PC.

Note: If this is the first time that the physical PC is installed with View Agent 4.0.1 and registered to the View Manager, it may take a short while for the physical PC to be available in View Manager. If a warning message appears stating the desktop source is not available yet, wait a couple minutes and try to connect again.

8 Known Issues, Troubleshooting and FAQ

This section outlines known issues, troubleshooting and frequently asked questions relating to firmware release 3.1.0 on zero clients and host cards when using View Connection Server 4.0.1.

8.1 Known Issues

8.1.1 View 4.0.1 currently supports 32-bit operating systems

View does not currently support 64-bit operation systems. Refer to the *VMware View Architecture Planning Guide* (EN-000241-02) for supported operating systems.

8.2 Troubleshooting

This section outlines some common issues and suggested solutions.

Table 8-1: Troubleshooting

Item	Description	Solution
1	Trouble connecting to the host machine.	The PC is often unreachable within the first two minutes (or so) of powering on my host PC. Wait several minutes for the View Agent to communicate with the View Connection Server. Log into the View Manager and check the state for the host PC.

8.3 Frequently Asked Questions

8.3.1 How can I verify the PCoIP Host Driver Software is installed and running properly?

You can do this by logging into the host PC, clicking the host software icon in the system tray and verify the session statistics are being updated. This indicates the host driver software is able to communicate with the host card.

If the statistics are not being updated you should refer to the *PCoIP Host Software User Guide* (TER0810001) for guidance on debugging the issue.