

TERA1 Firmware Release Notes

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Issue 21

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Revision History

Version	Date	Description
1	Apr 10, 2008	Initial Release
2	May 8, 2008	Updated for release 1.0
3	May 30, 2008	Updated for release 1.1
4	Jun 18, 2008	Updated for release 1.2
5	Jul 8, 2008	Updated for release 1.3
6	Jul 23, 2008	Updated for release 1.4
7	Aug 5, 2008	Updated for release 1.5, release 1.6
8	Sep 05, 2008	Updated for release 1.7
9	Oct 16, 2008	Updated for release 1.8
10	Nov 18, 2008	Updated for release 1.9
11	Jan 08, 2009	Updated for release 1.10 Updated document formatting
12	Feb 25, 2009	Updated for release 1.11
13	Apr 28, 2009	Updated for releases 1.12, 2.0 and 2.1
14	May 04, 2009	Clarified feature added to release 2.1
15	Jun 12, 2009	Updated for release 2.2 Clarified feature added to release 2.1
16	Oct 08, 2009	Updated for release 2.3
17	Dec 07, 2009	Updated for release 3.0 Changed the term Portal to Zero Client
18	Mar 12, 2010	Updated for release 3.1.0
19	Apr 16, 2010	Updated for release 3.1.1
20	Jun 11, 2010	Updated for release 3.1.2
21	Jul 30, 2010	Updated for release 3.2.0

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Definitions

CMI	Connection Management Interface – interface provided by the Zero Client or Host, used to communicate with an external connection management server
CMS	Connection Management Server (a.k.a Connection Broker)
EDID	Extended Display Identification Data – information provided by a monitor that describes the capabilities of the monitor. This information is typically used by the graphics card in the host computer.
OS	Operating System
OSD	On Screen Display. The configuration GUI is available on the Zero Client.
PCoIP®	Personal Computer over Internet Protocol (PC-over-IP®)
PCoIP Host	Host side of PCoIP system
PCoIP Zero Client	User or client side of PCoIP system in the form of a standalone desktop device or integrated display based on a PCoIP processor
RDP	Remote Desktop Protocol
Software Client	VMware View™ software application that can establish a PCoIP session with a PCoIP Host
TERA1100	Teradici PCoIP zero client processor
TERA1200	Teradici PCoIP host processor
USB	Universal Serial Bus

Preface

This application note provides a brief summary of the feature additions and issues resolved in each TERA1x00 firmware release after release 0.18 through release 3.2.0. The sections in this document are organized according to release date with the most recent releases listed first.

1 Release 3.2.0

This section provides a brief summary of the feature additions and issues resolved in release 3.2.0 versus release 3.1.2.

1.1 Compatibility

VMware View™ 4, View 4.01 and View 4.5 deployments using zero client devices to connect to View virtual desktops should install release 3.2.0 on the zero client devices.

Deployments using zero clients with PCoIP Host cards should install release 3.2.0 on the PCoIP processor found in both the host and client devices. This release is compatible with 3.1.x releases (3.1.2 through 3.1.0). This release is not interoperable with releases 3.0, 2.x, 1.x or 0.x. A "session timeout" error message will appear on the display if trying to connect to a PCoIP Host card running an incompatible release.

Note that this firmware release can only be installed on PCoIP processors running firmware release 1.4 or greater. If the processor is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PCoIP processor. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (3.2.0)
0.18 through 1.3	1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (3.2.0)
1.4 through 3.1.1	1) Install the new firmware (3.2.0)

1.2 Feature Additions

Description	Zero Client	Host
Added support for analog audio input in PCoIP connections between zero clients and a PCoIP server installed with VMware View 4.5. Support for analog audio input requires the installation of a Teradici audio driver in the virtual desktop. This driver is not installed by the VMware View Agent 4.5 installer and is not officially supported by VMware. To install the audio driver or for any technical support issues, please contact support@teradici.com .	✓	
Added support for pre-session secure user authentication via smart card (CAC only). This feature may only be used in conjunction with VMware View 4.5 and above.	✓	
Added support for configuring the zero client's topology (screen resolution and position). The settings are accessed via the zero client's <i>Options->User Settings->Display</i>	✓	✓

<p><i>Topology</i> OSD screen, see section 1.6.1. These settings control the topology of PColP sessions with both VMware View PColP servers and PColP host cards.</p> <p>Experimental: Users must install PColP Host Software release 3.2.20 to use this feature with PColP host cards. Section 1.6.2 provides a screen shot of a new Host Software <i>Monitors</i> tab which allows users to configure the feature and view the client and host topology settings.</p>		
<p>Added support for configuring zero clients to operate in Kiosk Mode. In this mode the clients automatically log into a configured VMware View PColP server. Refer to sections 1.6.3 through 1.6.5.</p>	✓	
<p>Added support for configuring the image displayed on the zero client connect window GUI (On Screen Display) when VMware View connections are enabled. The feature is enabled using the <i>Use OSD logo for View banner</i> option shown on the OSD and web interfaces in sections 1.6.6 and 1.6.7. The OSD logo replaces the default View banner. The OSD logo may be changed through the <i>Upload->OSD Logo</i> web page.</p>	✓	
<p>Added support for enabling keyboard repeat detection in client devices connected to PColP host cards. Users must install PColP Host Software release 3.2.20 to use this feature. The feature is enabled using the Host software's <i>Features</i> tab, as shown in section 1.6.8.</p> <p>When this feature is disabled the host OS (Windows) performs keyboard repeat processing. When this feature is enabled the client performs keyboard repeat processing.</p>	✓	✓
<p>Added support to configure whether the <i>username</i> of the previous VMware View brokered session is displayed when a user enters their credentials. The feature is enabled using the <i>Login Username Caching</i> option shown on the OSD and web interfaces in sections 1.6.6 and 1.6.7.</p>	✓	
<p>Added support to maintain the state of the <i>Num Lock</i> key outside of a session. Zero clients read the state of the key when a session starts and restore the key to the pre-session state when a session ends.</p>	✓	
<p>Added support for the following keyboard layouts:</p> <ul style="list-style-type: none"> Lithuanian Russian 	✓	

1.3 Important Bug Fixes

Description	Zero Client	Host
Fixed a problem where the network interface of a PColP host card or zero client stops working.	✓	✓
Fixed problem where some SNMP statistics were not	✓	✓

maintained properly.		
Fixed problem where no video is displayed after a session is established. The problem occurred on clients using certain DVI-VGA adapter cables.	✓	

1.4 Known Issues

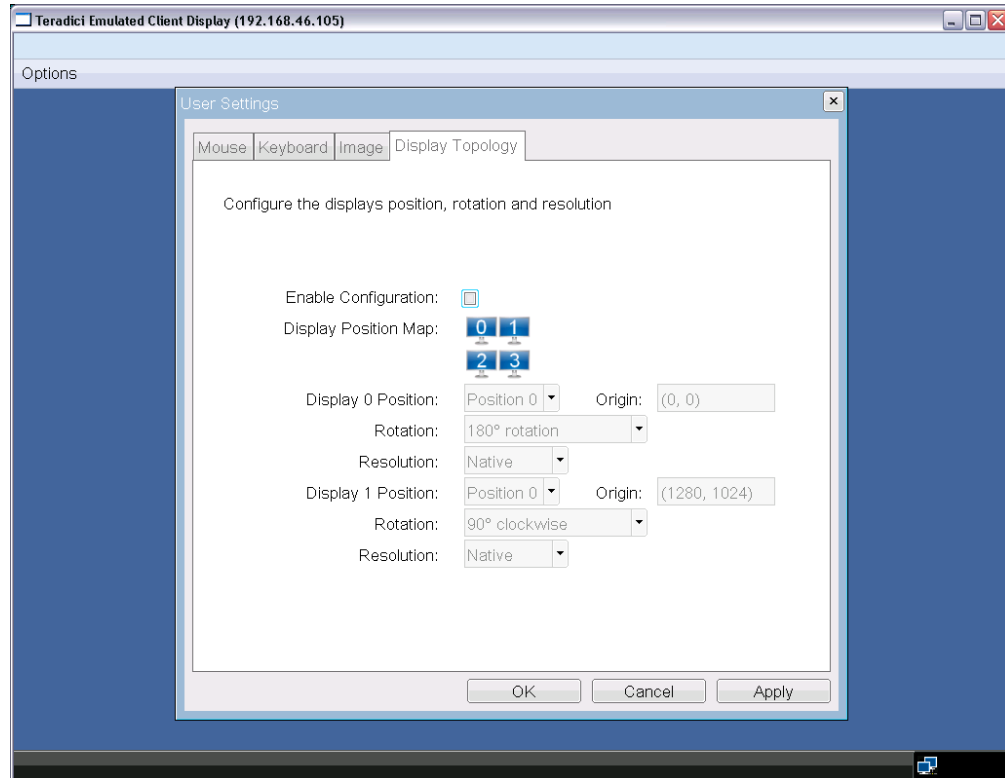
Description	Zero Client	Host
Refer to the latest <i>Using PCoIP Zero Clients with VMware View 4 (TER0904005)</i> document for a list of known issues when using zero clients loaded with firmware release 3.2.0 with VMware View 4.	✓	

1.5 Additional Collateral

Description	Zero Client	Host
Refer to the latest <i>VMware View 4 to PCoIP Zero Client Optimization Guide (TER1003001)</i> document for optimization guidelines for connecting PCoIP zero clients to VMware View 4 virtual desktops.	✓	
Refer to the latest <i>VMware View 4 to PCoIP Zero Client Network Guidelines (TER1007002)</i> document for network optimization guidelines when connecting PCoIP zero clients to VMware View 4 virtual desktops over remote access WAN networks.	✓	

1.6 Supplemental Information

1.6.1 Display Topology OSD Screen



1.6.2 Host Software Monitors Settings

The image shows a screenshot of the "PCoIP Agent Settings" dialog box. The "Monitors" tab is selected in the left sidebar. The main area is titled "Monitor (Display Topology) Settings" and contains two sections: "Agent Configuration Settings" and "Client Display Topology Settings".

Agent Configuration Settings

- ☒ Use client topology settings when a session is established

Client Display Topology Settings

DVI-1

Display Resolution	1280 x 1024
Display Position	(0, 0)
Display Refresh Rate	60 Hz
Display Rotation	no rotation
Monitor Name	VA730m
Monitor Serial Number	QD4064520703

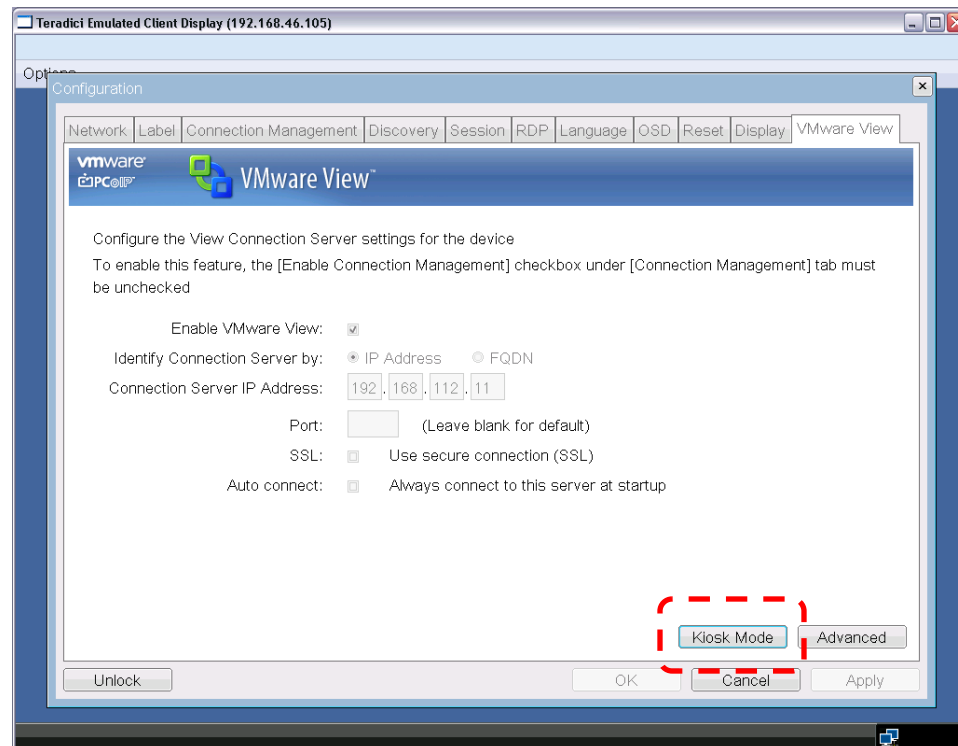
Host Display Topology Settings

Display 0

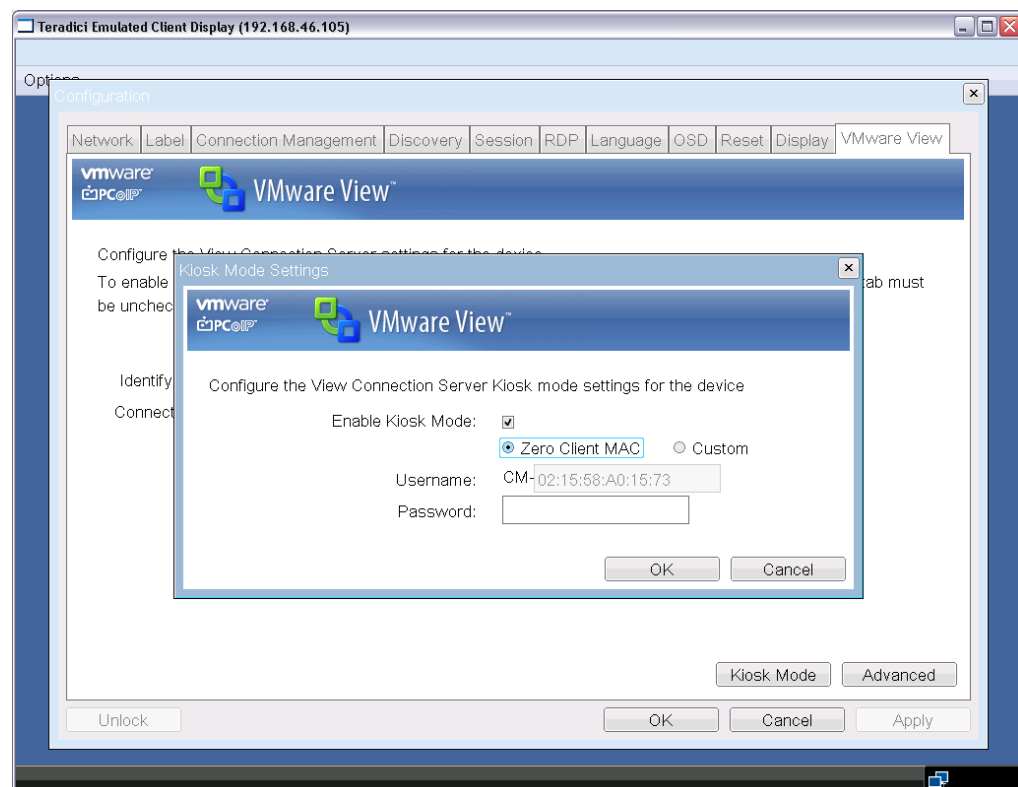
Display Resolution	1280 x 1024
Display Position	(0, 0)
Display Refresh Rate	60 Hz
Display Rotation	no rotation
Monitor Name	VA730m
Monitor Serial Number	QD4064520703

At the bottom of the dialog, there are three buttons: "Write these settings to the client", "Refresh", and "OK".

1.6.3 VMware View Kiosk Mode OSD Screen Selection



1.6.4 VMware View Kiosk Mode OSD Screen



1.6.5 VMware View (Kiosk Mode) Web Page

Home Configuration / Permissions / Diagnostics / Info / Upload

PCoIP@ Zero Client

vmware PCoIP VMware View™

Configure the advanced View Connection Server settings for the device

To access these settings, "Enable VMware View" checkbox under "VMware View" tab must be checked

Enable Kiosk Mode: ☒

☐ Zero Client MAC ☒ Custom

Username: Custom-

Password:

Apply Cancel

1.6.6 VMware View Advanced OSD Screen

Teradici Emulated Client Display (192.168.46.101)

Configuration

Network Label Connection Management Discovery Session RDP Language OSD Reset Display VMware View

vmware PCoIP VMware View™

Configure the advanced View Connection Server settings for the device

To enable these settings, the "Enable VMware View" checkbox under the "VMware View" tab must be checked

Auto Launch If Only One Desktop: ☐

Login Username Caching: ☒

Use OSD logo for View banner: ☐

OK Cancel

Kiosk Mode Advanced

Unlock OK Cancel Apply

1.6.7 VMware View (Advanced) Web Page

[Debug](#)
[Log Out](#)

PCoIP® Zero Client

[Home](#)
[Configuration](#) / [Permissions](#) / [Diagnostics](#) / [Info](#) / [Upload](#)


Configure the advanced View Connection Server settings for the device

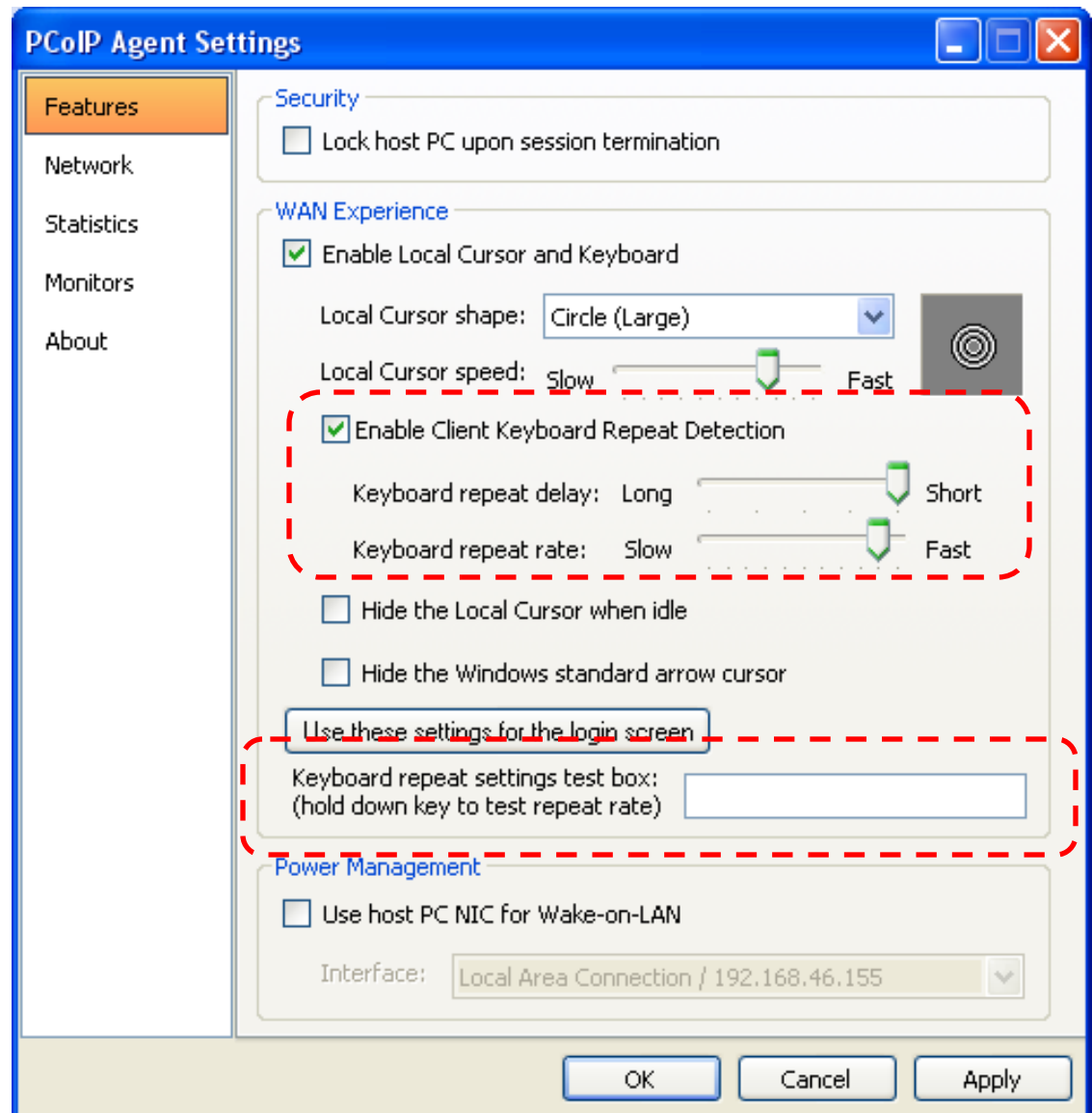
To access these settings, "Enable VMware View" checkbox under "VMware View" tab must be checked

Auto Launch If Only One Desktop: ☐

Login Username Caching: ☒

Use OSD logo for View banner: ☐

1.6.8 Host Software Client Keyboard Repeat Enable



2 Release 3.1.2

This section provides a brief summary of the feature additions and issues resolved in release 3.1.2 versus release 3.1.1.

2.1 Compatibility

View 4 and View 4.0.1 deployments using zero client devices to connect to View virtual desktops should install release 3.1.2 on the zero client devices.

Deployments using zero clients with PCoIP Host cards should install release 3.1.2 on the PCoIP processor found in both the host and client devices. This release is compatible with 3.1.x releases (3.1.2 through 3.1.0). This release is not interoperable with releases 3.0, 2.x, 1.x or 0.x. A "session timeout" error message will appear on the display if trying to connect to a PCoIP Host card running an incompatible release.

Note that this firmware release can only be installed on PCoIP processors running firmware release 1.4 or greater. If the processor is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PCoIP processor. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	<ol style="list-style-type: none"> 1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (3.1.2)
0.18 through 1.3	<ol style="list-style-type: none"> 1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (3.1.2)
1.4 through 3.1.1	<ol style="list-style-type: none"> 1) Install the new firmware (3.1.2)

2.2 Feature Additions

Description	Zero Client	Host
Added support to enable/disable displaying the <i>Peer Loss</i> overlay when no PCoIP traffic is received by a zero client. This feature is configured using the web interface (refer to section 2.6.1) or the OSD (refer to section 2.6.2).	✓	

2.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where no video is displayed after a session is established. The problem occurred using some monitors that		✓

support HDCP (High-bandwidth Digital Content Protection)		
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2.4 Known Issues

Description	Zero Client	Host
Refer to the latest <i>Using PCoIP Zero Clients with VMware View 4 (TER0904005)</i> document for a list of known issues when using zero clients loaded with firmware release 3.1.2 with VMware View 4.	✓	

2.5 Additional Collateral

Description	Zero Client	Host
Refer to the latest <i>VMware View 4 to PCoIP Zero Client Optimization Guide (TER1003001)</i> document for optimization guidelines for connecting PCoIP zero clients to VMware View 4 virtual desktops.	✓	

2.6 Supplemental Information

2.6.1 Session Web Page

Session

Configure the connection to a peer device

Accept Any Peer (host only): ☐

Session Type (client only): PCoIP ▼

Identify Peer by: ☒ IP address ☐ FQDN

Peer IP Address: 192 . 168 . 110 . 100

Peer MAC Address: 00 - 0F - 01 - 00 - 01 - 00

Enable Auto-Reconnect (client only): ☐

Enable Peer Loss Overlay (client only): ☒

Enable AES-128-GCM: ☒

Enable Salsa20-256-Round12: ☒

Apply Cancel

2.6.2 OSD Session Web Page

Configuration

Network Label Connection Management Discovery Session RDP Language OSD Reset Display VMware View

Configure the connection to a peer device

Session Type: PColP

Identify Peer by: ☒ IP Address ☐ FQDN

Peer IP Address: 192 . 168 . 110 . 100

Peer MAC Address: 00 - 0F - 01 - 00 - 01 - 00

Enable Auto Reconnect: ☐

Enable Peer Loss Overlay: ☒

Unlock OK Cancel Apply

3 Release 3.1.1

This section provides a brief summary of the feature additions and issues resolved in release 3.1.1 versus release 3.1.0.

3.1 Compatibility

View 4 and View 4.0.1 deployments using zero client devices to connect to View virtual desktops should install release 3.1.1 on the zero client devices.

Deployments using zero clients with PCoIP Host cards should install release 3.1.1 on the PCoIP processor found in both the host and client devices. This release is compatible with release 3.1.0. This release is not interoperable with releases 3.0, 2.x, 1.x or 0.x. A "session timeout" error message will appear on the display if trying to connect to a PCoIP Host card running an incompatible release.

Note that this firmware release can only be installed on PCoIP processors running firmware release 1.4 or greater. If the processor is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PCoIP processor. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	<ol style="list-style-type: none"> 1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (3.1.1)
0.18 through 1.3	<ol style="list-style-type: none"> 1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (3.1.1)
1.4 through 3.1.0	<ol style="list-style-type: none"> 1) Install the new firmware (3.1.1)

3.2 Feature Additions

None

3.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where the time of a View 4 virtual desktop was set incorrectly. The problem affected zero client devices connecting to View 4 virtual desktops in certain time zones.	✓	

3.4 Known Issues

Description	Zero Client	Host
Refer to the latest <i>Using PCoIP Zero Clients with VMware View 4 (TER0904005)</i> document for a list of known issues when using zero clients loaded with firmware release 3.1.1 with VMware View 4.	✓	

3.5 Additional Collateral

Description	Zero Client	Host
Refer to the latest <i>VMware View 4 to PCoIP Zero Client Optimization Guide (TER1003001)</i> document for optimization guidelines for connecting PCoIP zero clients to VMware View 4 virtual desktops.	✓	

4 Release 3.1.0

This section provides a brief summary of the feature additions and issues resolved in release 3.1.0 versus release 3.0.

4.1 Compatibility

Release 3.1.0 should be installed on both the PCoIP host and zero client processors. This release is not interoperable with previous releases, including release 3.0. A “session timeout” error message will appear on the display if trying to connect to a PCoIP Host card running a previous release.

Note that this firmware release can only be installed on PCoIP processors running firmware release 1.4 or greater. If the processor is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PCoIP processor. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (3.1.0)
0.18 through 1.3	1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (3.1.0)
1.4 through 3.0	1) Install the new firmware (3.1.0)

4.2 Feature Additions

Description	Zero Client	Host
Added support for Windows® 7.	✓	✓
Added experimental support for PCoIP connections between workstations with PCoIP host cards and software clients		✓
Added experimental support for pre-session secure user authentication via smart card (CAC only). This feature may only be used in conjunction with VMware View 4.5 and above.	✓	
Add local cursor/keyboard support. This feature allows users to operate PCoIP sessions over a long latency network connection. The software package is available for Windows 7, Windows Vista® and Windows® XP 32-bit and 64-bit operating systems. Refer to the PCoIP Host Software User Guide (TER0810001) for additional details on this feature.	✓	✓
Added a third digit to the firmware release number. The new digit is a patch number that increments when bug fixes are released.	✓	✓

Changed the UDP port number used for data plane communications from 50002 to the IANA reserved port for PCoIP traffic (4172).	✓	✓
Changed the TCP port number used for control plane communications from 50002 to the IANA reserved port for PCoIP traffic (4172). This affects connections that are not brokered by a VMware View Connection Server.	✓	✓
Increased the maximum number of domains displayed when connecting to a VMware View Connection Server from 5 to 100.	✓	
Added support for the following keyboard layouts: <ul style="list-style-type: none"> - Danish Codepage 865 - Danish ISO-8859-1 - Danish ISO-8859-1 (accented keys) - Finnish Codepage 850 - Finnish ISO-8859-1 - Finnish ISO-8859-1 (accented keys) - Norwegian Dvorak - Norwegian ISO-8859-1 - Norwegian ISO-8859-1 (accented keys) - Swedish Codepage 850 - Swedish ISO-8859-1 - Swedish ISO-8859-1 (accented keys) - Turkish Q ISO-8859-9 (accented keys) - Turkish Q ISO-8859-9 - Dutch ISO-8859-1 (accented keys) - Polish ISO-8859-2 (Programmers) - Belgian ISO-8859-1 - Belgian ISO-8859-1 (accented keys) 	✓	

4.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem that prevents the zero client from establishing an RDP session with a Windows 7 desktop.	✓	
Fixed problem that prevents zero clients from completing the SSL handshake process with VMware View Connection Servers using extended validation certificates.	✓	
Fixed problem that prevents zero clients from connecting with VMware View Connection Servers that have optionally enabled smart cards.	✓	
Fixed problem where the network loss overlay was sometimes not displayed on zero client devices loaded with firmware release 3.0.	✓	
Added support for configuring the following setting via the CMI interface, which is used by the PCoIP Management Console.	✓	✓

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> - Session encryption type - Host Driver Function | | |
|---|--|--|

4.4 Known Issues

Description	Zero Client	Host
Refer to the latest <i>Using PColP Zero Clients with VMware View 4 (TER0904005)</i> document for a list of known issues when using zero clients loaded with firmware release 3.1.0 with VMware View 4.	✓	

4.5 Additional Collateral

Description	Zero Client	Host
Refer to the latest <i>VMware View 4 to PColP Zero Client Optimization Guide (TER1003001)</i> document for optimization guidelines for connecting PColP zero clients to VMware View 4 virtual desktops.	✓	

5 Release 3.0

This section provides a brief summary of the feature additions and issues resolved in release 3.0 versus release 2.3.

5.1 Compatibility

Release 3.0 should be installed on both the PCoIP Host and zero client devices. This release is not interoperable with previous releases. A “session timeout” error message will appear on the display if trying to connect to a PCoIP Host card running a previous release.

Note that this firmware release can only be installed on PCoIP devices running firmware release 1.4 or greater. If the device is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PCoIP device. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (3.0)
0.18 through 1.3	1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (3.0)
1.4 through 2.3	1) Install the new firmware (3.0)

5.2 Feature Additions

Description	Zero Client	Host
Added interoperability support for PCoIP zero clients with the PCoIP server installed with VMware View 4.	✓	
Added support that allows VMware View to manage PCoIP sessions between PCoIP zero clients and workstations with PCoIP host add-in cards.	✓	✓
Added support for an additional encryption algorithm, SALSA20-256. Firmware releases prior to 3.0 use AES-128. Firmware release 3.0 allows the user to select either AES-128 or SALSA20-256. Refer to section 5.4.1. The SALSA20-256 algorithm provides the best user experience when connecting a zero client to a View 4 virtual desktop over a network connection that provides more than around 5Mbps of bandwidth.	✓	✓
Improved Statistics <ul style="list-style-type: none"> The following changes have been made to the Home web page. Refer to section 5.4.2. 	✓	✓

<ul style="list-style-type: none"> ○ Added minimum and maximum round trip latency ○ Added minimum and maximum transmit bandwidth ○ Added receive bandwidth (minimum, average and maximum) ○ Added display frame rate • The following changes have been made to the Session Statistics web page. Refer to section 5.4.3. <ul style="list-style-type: none"> ○ Added minimum and maximum round trip latency ○ Added minimum and maximum transmit bandwidth ○ Added receive bandwidth (minimum, average and maximum) ○ Added display frame rate on zero client devices. Previously this was only valid on Host devices. ○ Added “Reset Statistics” button. 		
Added experimental support for Windows® 7. See the note regarding Windows 7 support in the <i>Known Issues</i> section below.	✓	✓
Modified the zero client screen saver. The new screen saver turns off the monitor when it is activated. Previously the zero client displayed a text string configured on the OSD web page. Refer to section 5.4.4.	✓	
Added support for configuring USB permissions on the Host. Previously this could only be configured on the zero client. Refer to 5.4.5 and the <i>PCoIP Administrative Interface User Manual (TER0606004)</i> document for details on configuring USB permissions.	✓	✓
Changed the term “Portal” to “Zero Client” on all OSD and Web Pages.	✓	✓

5.3 Known Issues

Description	Zero Client	Host
Refer to the <i>Using PCoIP Zero Clients with VMware View 4 (TER0904005)</i> document for a list of know issues when using zero clients loaded with firmware release 3.0 with VMware View 4.	✓	
Audio may not work on host systems with PCoIP Host add-in cards loaded with the Windows 7 64-bit operating system. This will be resolved in a future release. To work around this, disable HD Audio on the PCoIP Host card using the Permissions->Audio web page.		✓

5.4 Supplemental Information

5.4.1 Session Web Page

The screenshot shows a Mozilla Firefox browser window titled "Session - Mozilla Firefox". The address bar displays "https://10.200.2.154". The page content is titled "Session" and includes the instruction "Configure the connection to a peer device".

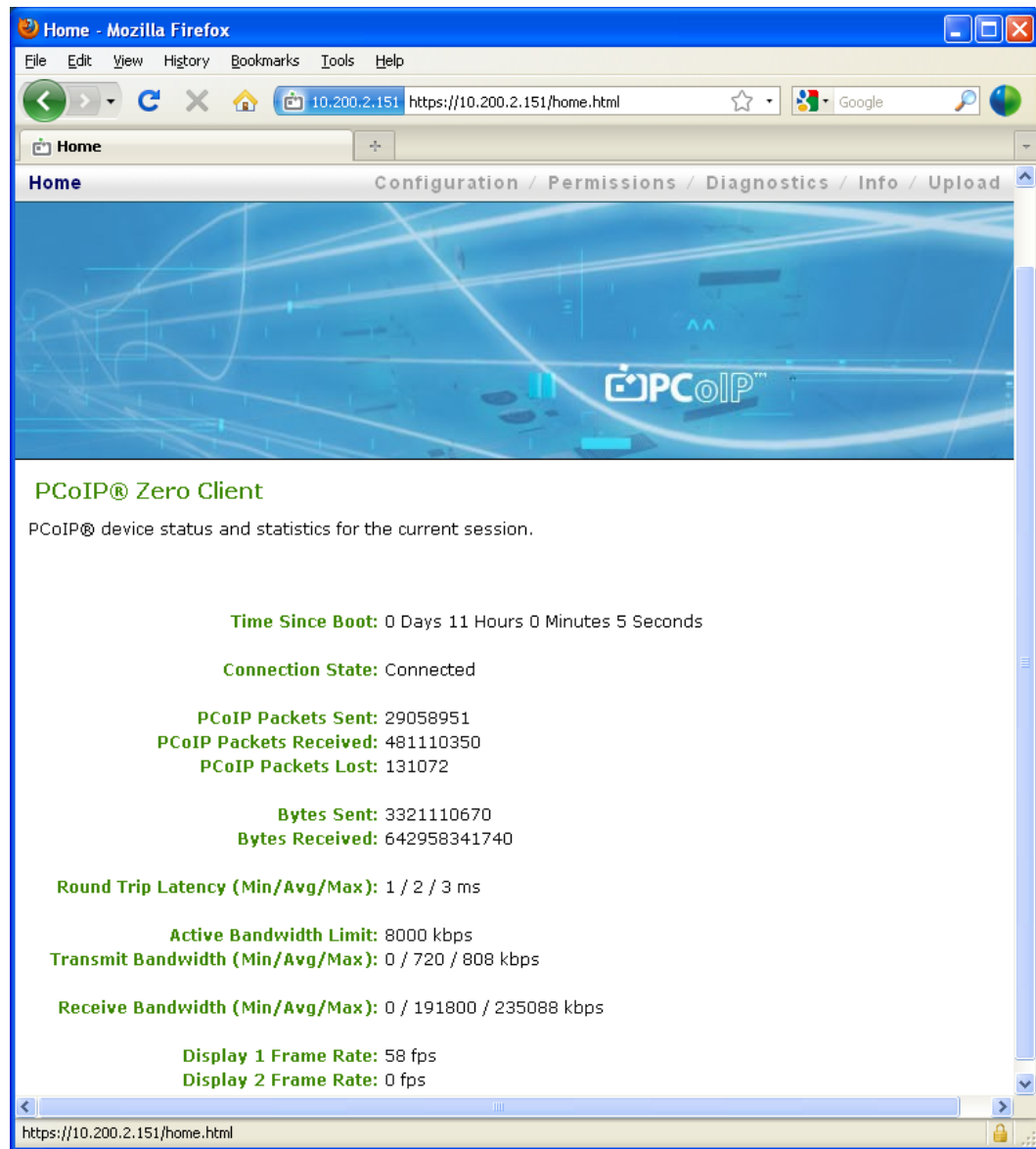
Configuration options include:

- Accept Any Peer (host only):** ☐
- Session Type (client only):** PCoIP (dropdown menu)
- Identify Peer by:** ☒ IP address ☐ FQDN
- Peer IP Address:** 192.168.112.66
- Peer MAC Address:** 00-00-00-00-00-00
- Enable Auto-Reconnect (client only):** ☐
- Enable AES-128-GCM:** ☒ (highlighted with a red dashed oval)
- Enable Salsa20-256-Round12:** ☒ (highlighted with a red dashed oval)

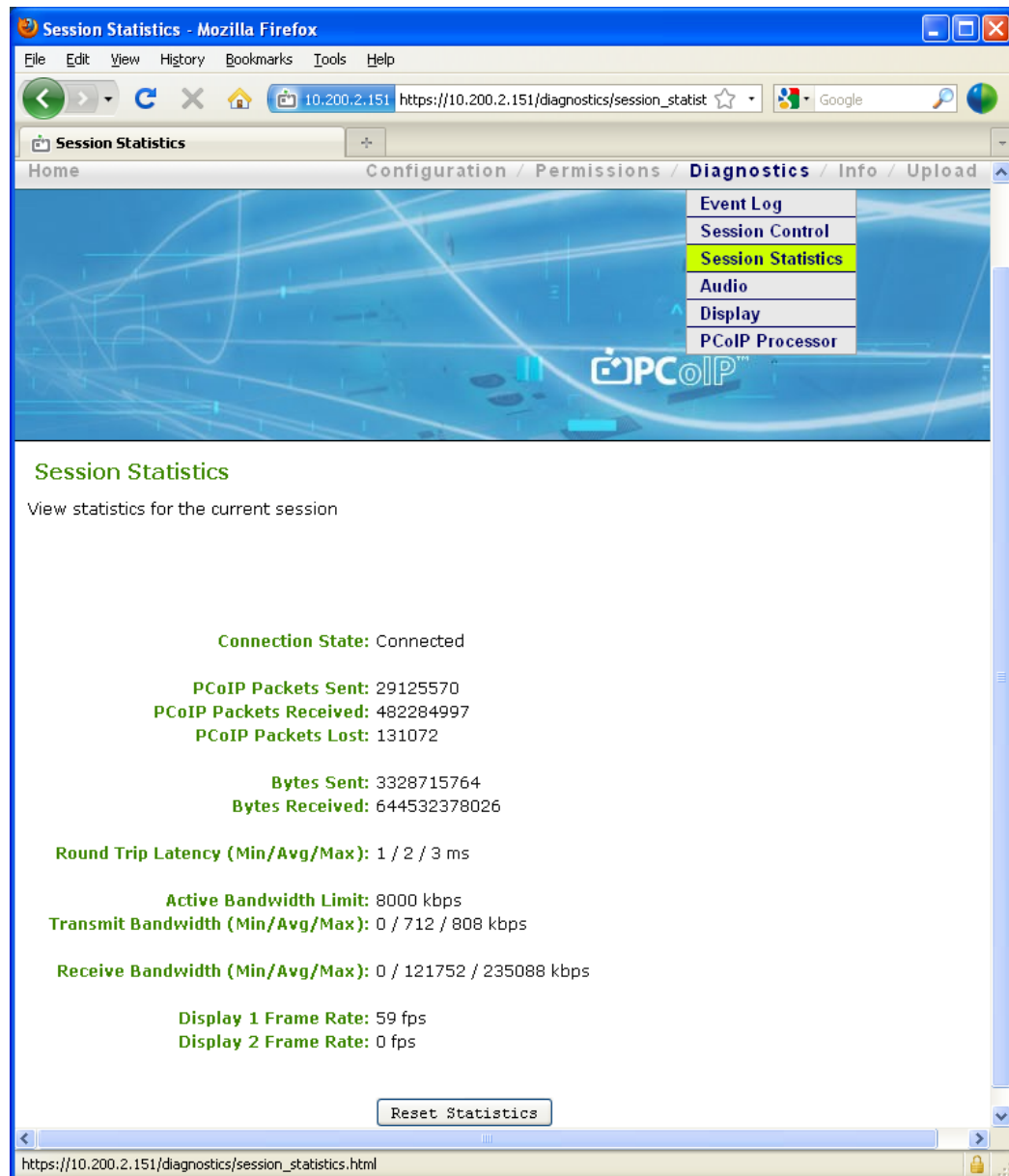
Buttons at the bottom: Apply, Cancel.

The status bar at the bottom shows the URL: <https://10.200.2.154/configuration/bandwidth.html>.

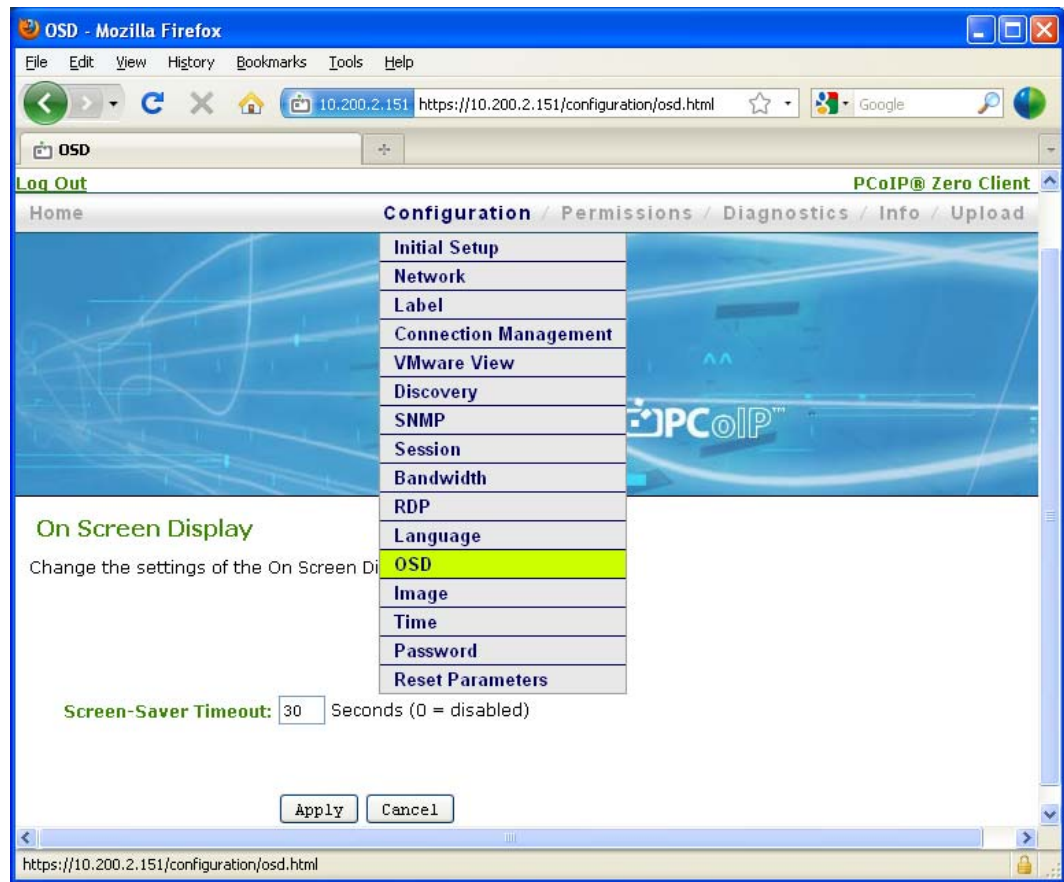
5.4.2 Home Web Page



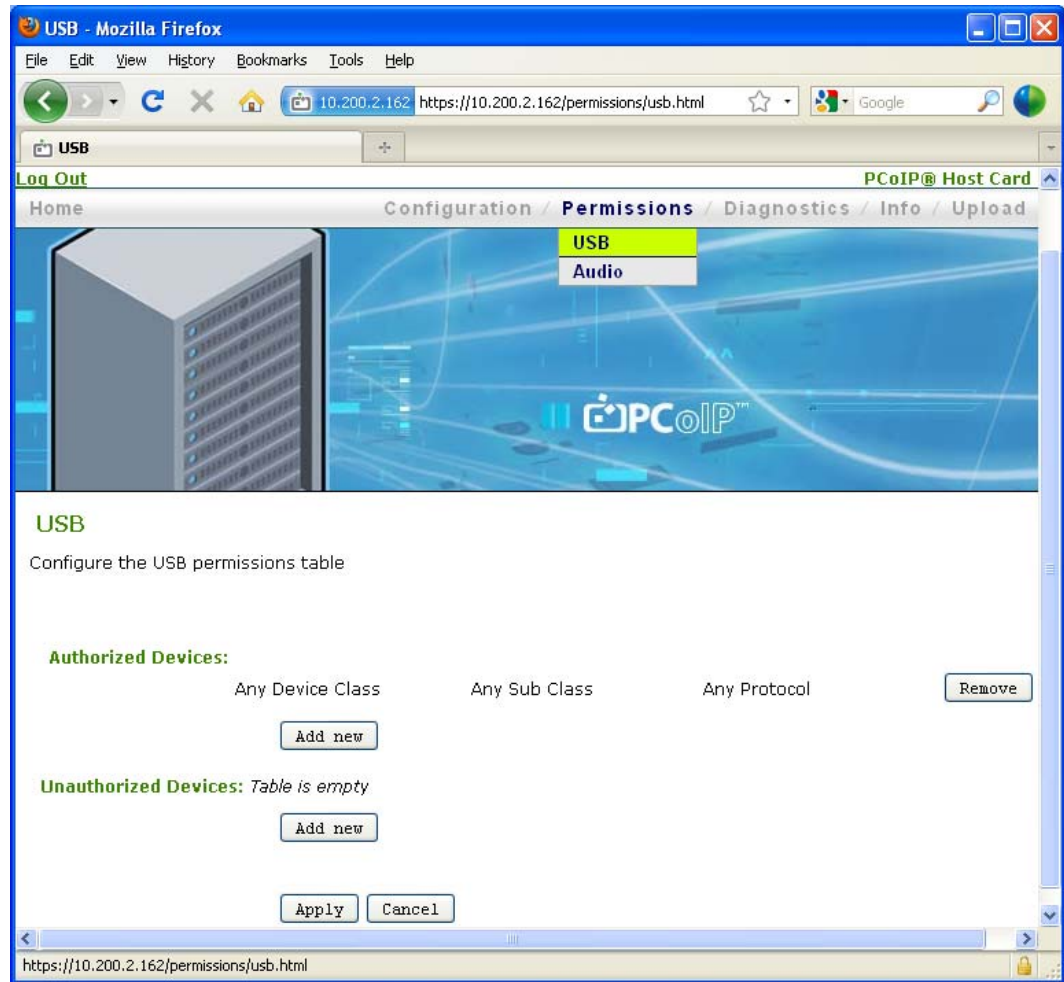
5.4.3 Session Statistics Web Page



5.4.4 OSD Web Page



5.4.5 Host USB Permissions Web Page



6 Release 2.3

This section provides a brief summary of the feature additions and issues resolved in release 2.3 versus release 2.2.

6.1 Compatibility

Release 2.3 should be installed on both the PColP Host and zero client devices. This release is compatible with all 2.x releases (2.3 through 2.0). This release is not interoperable with release 1.12 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 2.x.

Note that this firmware release can only be installed on PColP devices running firmware release 1.4 or greater. If the device is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PColP device. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (2.3)
0.18 through 1.3	1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (2.3)
1.4 through 2.2	1) Install the new firmware (2.3)

6.2 Feature Additions

Description	Zero Client	Host
Modified the banners of the Host and zero client administrative web pages to make them more easily identifiable. Refer to sections 6.4.1 and 6.4.2.	✓	✓
Added support for passing DDC/CI expansion commands.	✓	
Added support for disconnecting a PColP session using the PColP Host Software. This feature requires additional changes to the PColP Host Software. These changes are included in release 1.4.3 of the PColP Host Software.		✓
Added support for brokering PColP sessions via VMware View.	✓	✓
Modified the Host and zero client administrative web pages to include a new SNMP web page that allows users to enable/disable the device's SNMP agent. Refer to section 6.4.3.	✓	✓

Reduced the minimum bandwidth required to support an idle PCoIP session to less than 20 kbps.

✓

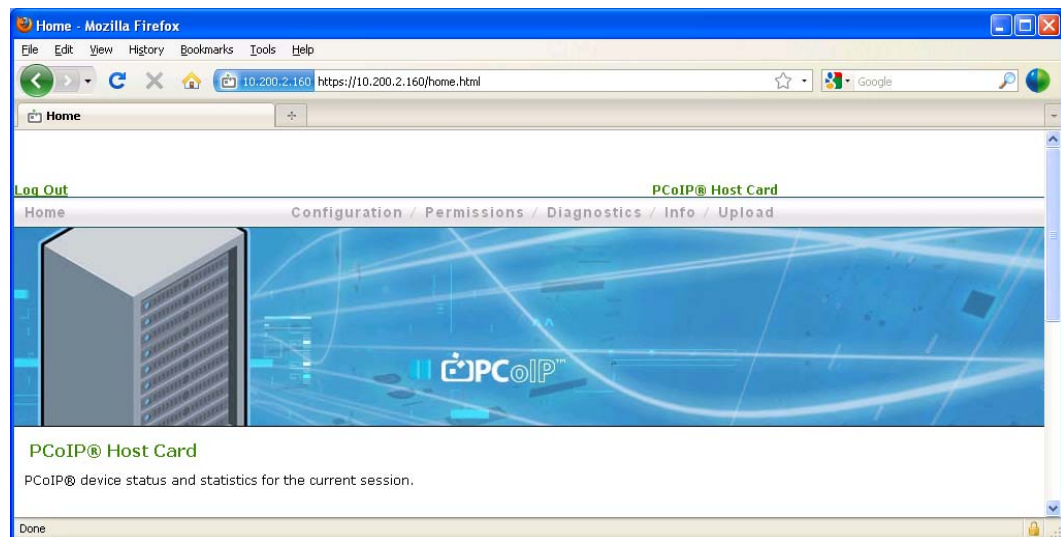
✓

6.3 Important Bug Fixes

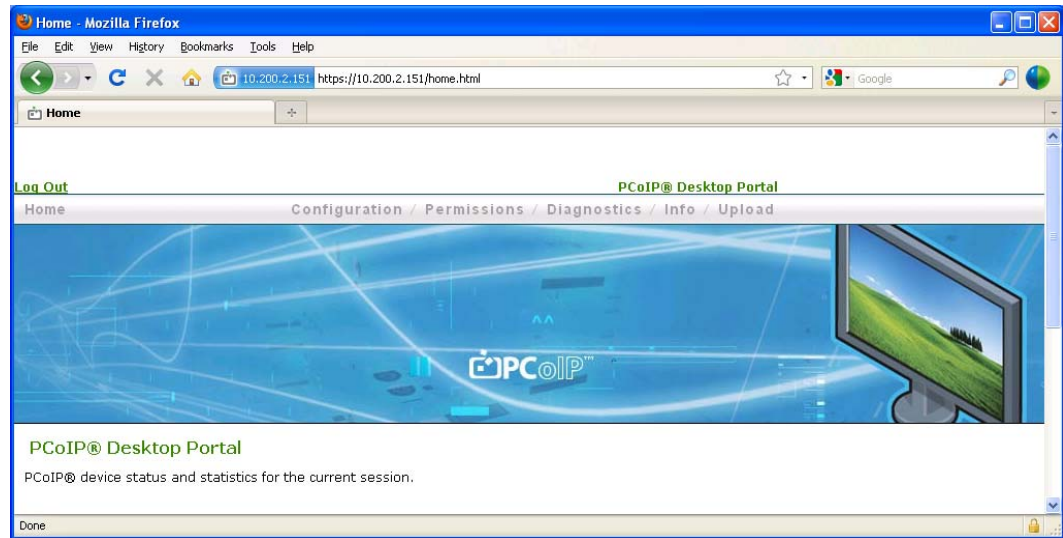
Description	Zero Client	Host
Fixed problem where the movement of the mouse was slow/choppy when the local cursor feature was enabled.	✓	✓
Implemented a change that allows PCoIP devices that have an invalid serial number to communicate with connection brokers.	✓	✓

6.4 Supplemental Information

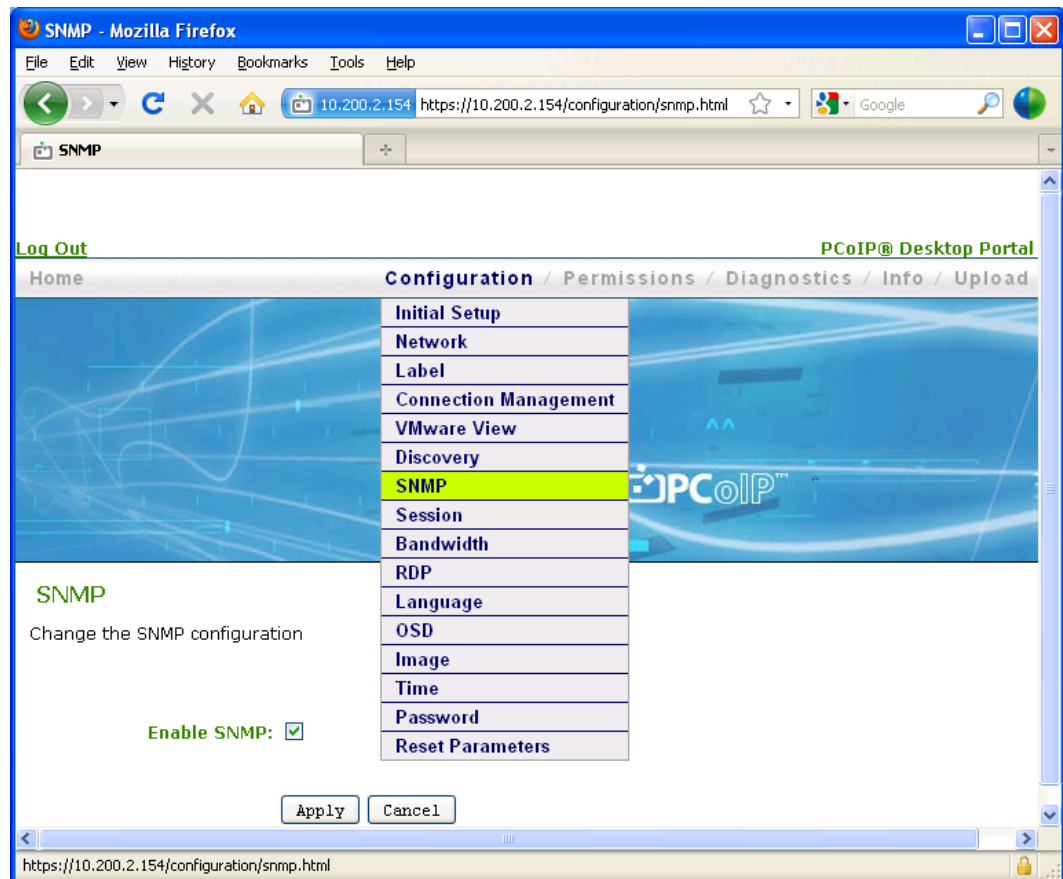
6.4.1 Host Web Page Banner



6.4.2 Zero Client Web Page Banner



6.4.3 SNMP Configuration Web Page



7 Release 2.2

This section provides a brief summary of the feature additions and issues resolved in release 2.2 versus release 2.1.

7.1 Compatibility

Release 2.2 should be installed on both the PColP Host and zero client devices. This release is compatible with all 2.x releases (2.2 through 2.0). This release is not interoperable with release 1.12 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 2.x.

Note that this firmware release can only be installed on PColP devices running firmware release 1.4 or greater. If the device is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PColP device. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (2.2)
0.18 through 1.3	1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (2.2)
1.4 through 2.1	1) Install the new firmware (2.2)

7.2 Feature Additions

Description	Zero Client	Host
Added support for advertising default EDID information when no monitor is detected. This feature is configured using a new OSD Display configuration window. Refer to section 7.4.1. When a zero client boots with this feature enabled the zero client reports default EDID information for each DVI port in which the zero client does not detect a monitor.	✓	
Added support to display the PColP logo on the web browser path bar when connected to web server of a PColP device.	✓	✓
Modified the VMware View web and the OSD interfaces such that the default port number is used when the field is left blank.	✓	
Added support to display an overlay when no PColP traffic is received for 2 or more seconds.	✓	
Added support to report PColP Host network link status and session statistics to the PColP Host Software.		✓

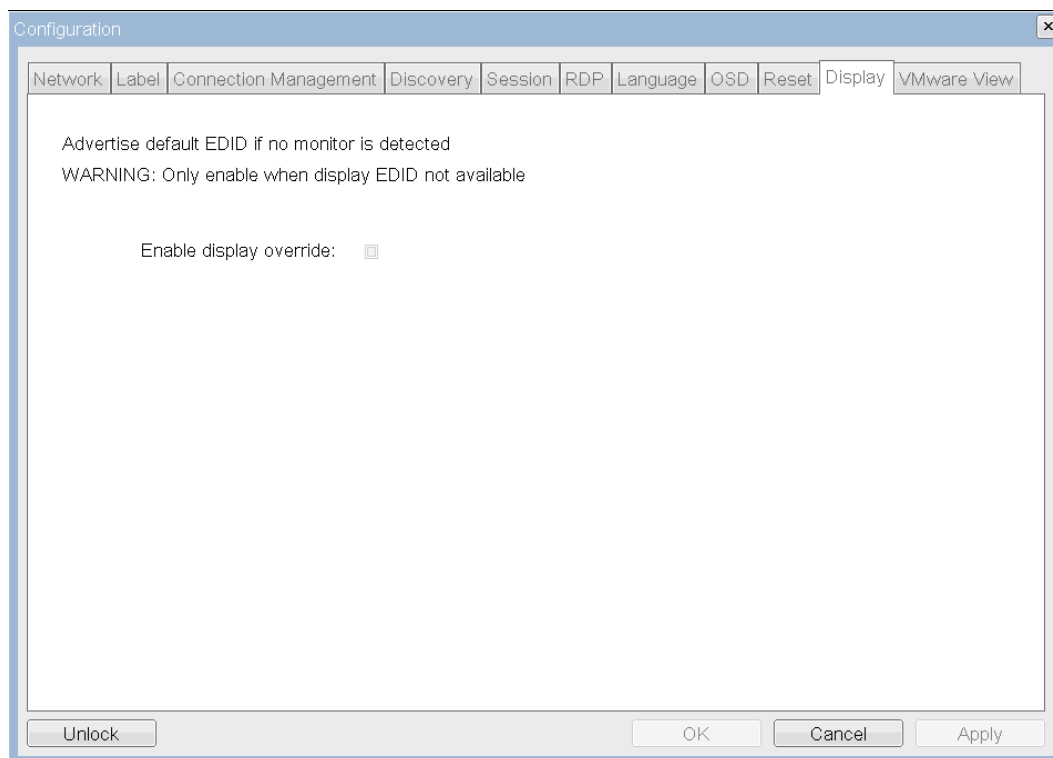
<p>Modified the format of the magic packet, which is sent by a zero client when it attempts to wake a Host that is in a low power state. The new formats allow zero clients to wake Hosts located on different subnets.</p> <p>The firmware now sends 3 packets: broadcast Wake-On-LAN (WOL) packet, unicast UDP encapsulated WOL packet and a subnet directed broadcast WOL packet over UDP.</p>	✓	
<p>Modified the algorithm that reorders imaging packets. The changes improve the performance of sessions operating over low bandwidth links that experience small imaging changes such as mouse movements.</p>	✓	

7.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where zero client devices could not connect to VMware View Connection Server 3.1.	✓	
Fixed problem where PCoIP sessions operated across a firewall were being dropped because the firewall was closing ports that were idle for 5 or more minutes.	✓	✓
Fixed problem where the zero client monitor was not always turned off when the operating system attempted to turn it off.	✓	
Fixed problem where the OSD Password reset feature would not always generate unique challenge strings.	✓	
Fixed problem that prevented users from establishing sessions in a brokered environment when OSD queries were used.	✓	

7.4 Supplemental Information

7.4.1 OSD Display Configuration Window



8 Release 2.1

This section provides a brief summary of the feature additions and issues resolved in release 2.1 versus release 2.0.

8.1 Compatibility

Release 2.1 should be installed on both the PCoIP Host and zero client devices. This release is compatible with release 2.0. This release is not interoperable with release 1.12 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PCoIP Host card running a release that is not equal to 2.1, or 2.0.

Note that this firmware release can only be installed on PCoIP devices running firmware release 1.4 or greater. If the device is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PCoIP device. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (2.1)
0.18 through 1.3	1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (2.1)
1.4 through 2.0	1) Install the new firmware (2.1)

8.2 Feature Additions

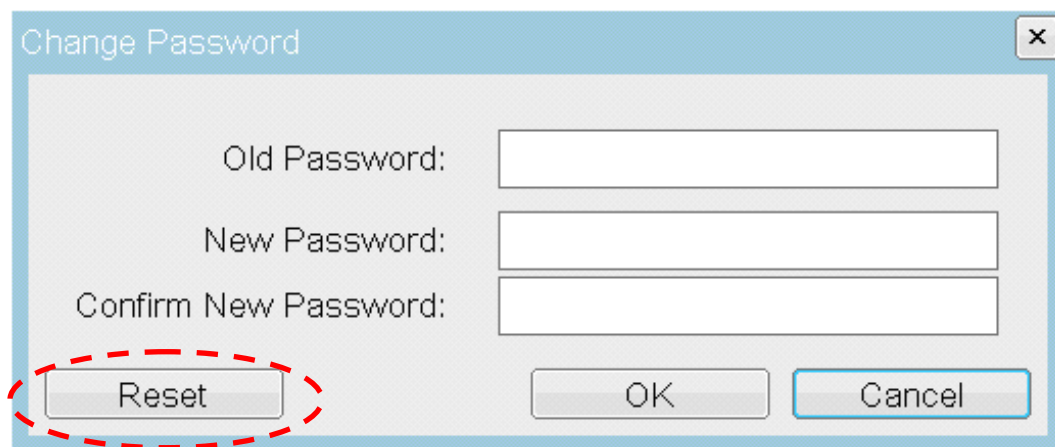
Description	Zero Client	Host
Added support for resetting the zero client administrative password using the OSD Change Password window. Refer to sections 8.4.1 and 8.4.2. Users that forget the device password can retrieve the <i>Challenge</i> field from the device and send it to the PCoIP hardware vendor. The vendor will provide the <i>Response</i> field, which will reset the zero client password to an empty (blank) string.	✓	
Added support for dual 1280x1600 monitor resolution.	✓	✓
Added experimental support for displays with up to 2048 pixels vertically over a single-link DVI connection.	✓	✓

8.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where zero client devices may generate more than 1 Mbps of traffic when the <i>Device Bandwidth Limit</i> setting equals 1.	✓	
Fixed problem, which occurred on some systems, that prevented the zero client from establishing a VMware View brokered session with a powered off host.	✓	
Fixed problem where the <i>Peer MAC Address</i> value is not saved when the user enters this field on the zero client OSD screen with the <i>Session Type</i> equal to "PCoIP" and the <i>Identify Peer By</i> field equal to "FQDN".	✓	
Removed support for configuring the <i>Session Timeout</i> configuration setting on the Web interface and the OSD. This was done to prevent users from setting the field equal to a value that prevents the system from working.	✓	✓
Fixed problem where the OSD window becomes corrupt when waking a host from a low power state. This problem prevented the user from seeing the message "Waiting for host to wake up".	✓	
Fixed problem where the zero client would reset after repeated PCoIP session connect/disconnects.	✓	

8.4 Supplemental Information

8.4.1 OSD Change Password Window



Change Password

Old Password:

New Password:

Confirm New Password:

8.4.2 OSD Password Reset Window

Authorized Password Reset

Contact your hardware vendor to reset a lost password.

Challenge:

97SF

-

HV8D

-

B5BH

-

2HLH

-

UHEU

-

ALMM

Response:

-

-

-

-

-

OK

Cancel

9 Release 2.0

This section provides a brief summary of the feature additions and issues resolved in release 2.0 versus release 1.12.

9.1 Compatibility

Release 2.0 should be installed on both the PCoIP Host and zero client devices. This release is not interoperable with previous releases. A “session incompatible” error message will appear on the display if trying to connect to a PCoIP Host card running a previous release.

Note that this firmware release can only be installed on PCoIP devices running firmware release 1.4 or greater. If the device is loaded with a firmware release less than version 1.4 users must first download one or more intermediate firmware releases. The following table lists the steps the user must follow for each version of firmware that may be installed on a PCoIP device. The firmware version can be viewed on the Info->Version web page for the device.

Installed Firmware Version	Upgrade process
0.1 through 0.17	1) Install firmware release 0.18 2) Install a 1.x firmware release (1.4 or greater) 3) Install the new firmware (2.0)
0.18 through 1.3	1) Install a 1.x firmware release (1.4 or greater) 2) Install the new firmware (2.0)
1.4 through 1.12	1) Install the new firmware (2.0)

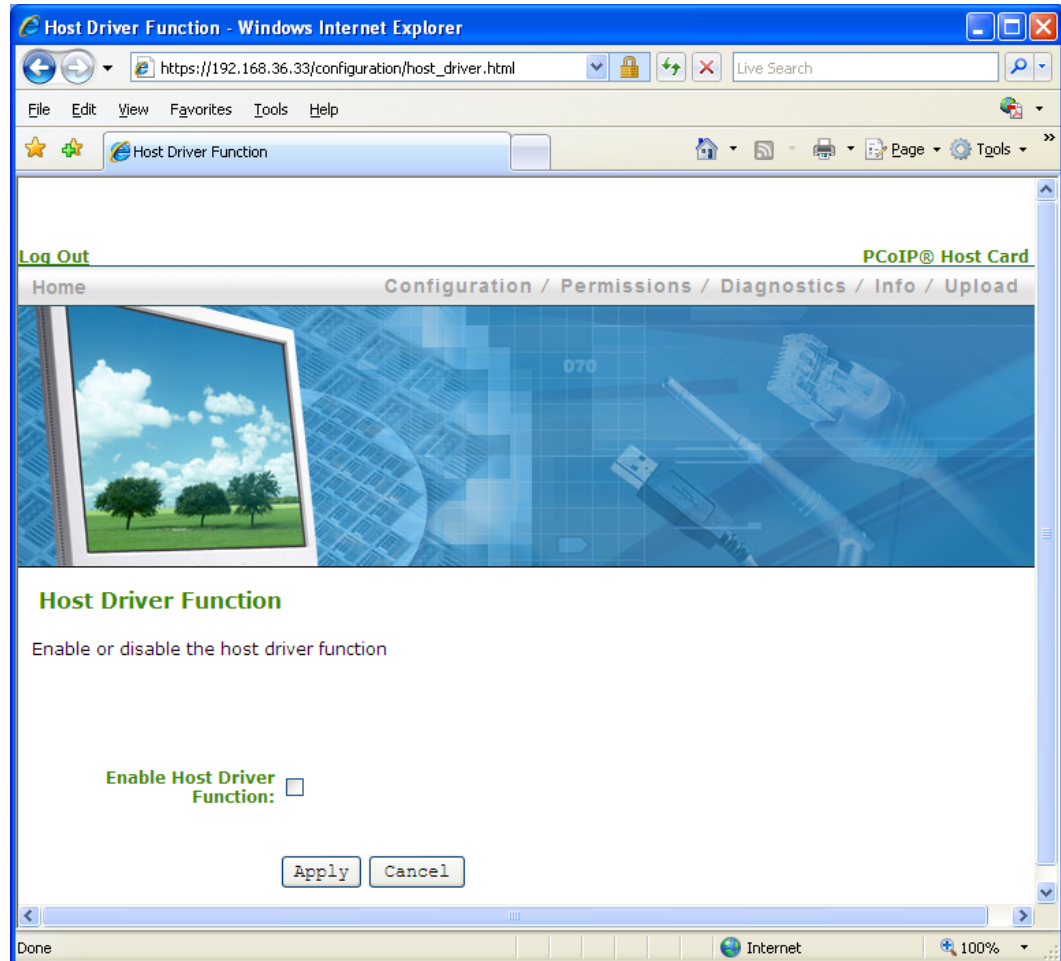
9.2 Feature Additions

Description	Zero Client	Host
Add local cursor/keyboard support. This feature allows users to operate PCoIP sessions over a long latency network connection. This feature requires the user to enable the <i>Host Driver Function</i> flag (refer to section 9.3.1) and install a software package on the host system. The software package is available for Windows Vista and Windows XP 32-bit and 64-bit operating systems. Refer to the <i>PCoIP Host Software User Guide (TER0810001)</i> for additional details on this feature.	✓	✓
Network Improvements <ul style="list-style-type: none"> The maximum device bandwidth may now be configured as low as 1 Mbps, versus the previous 3 Mbps lower limit in releases 0.19 through 1.11. Add new device configuration setting (<i>Device Bandwidth Floor</i>). This setting controls the maximum bandwidth used by the device while congestion/packet loss is present. Refer to section 9.3.2. Add support for configuring the PCoIP device hostname. 	✓	✓

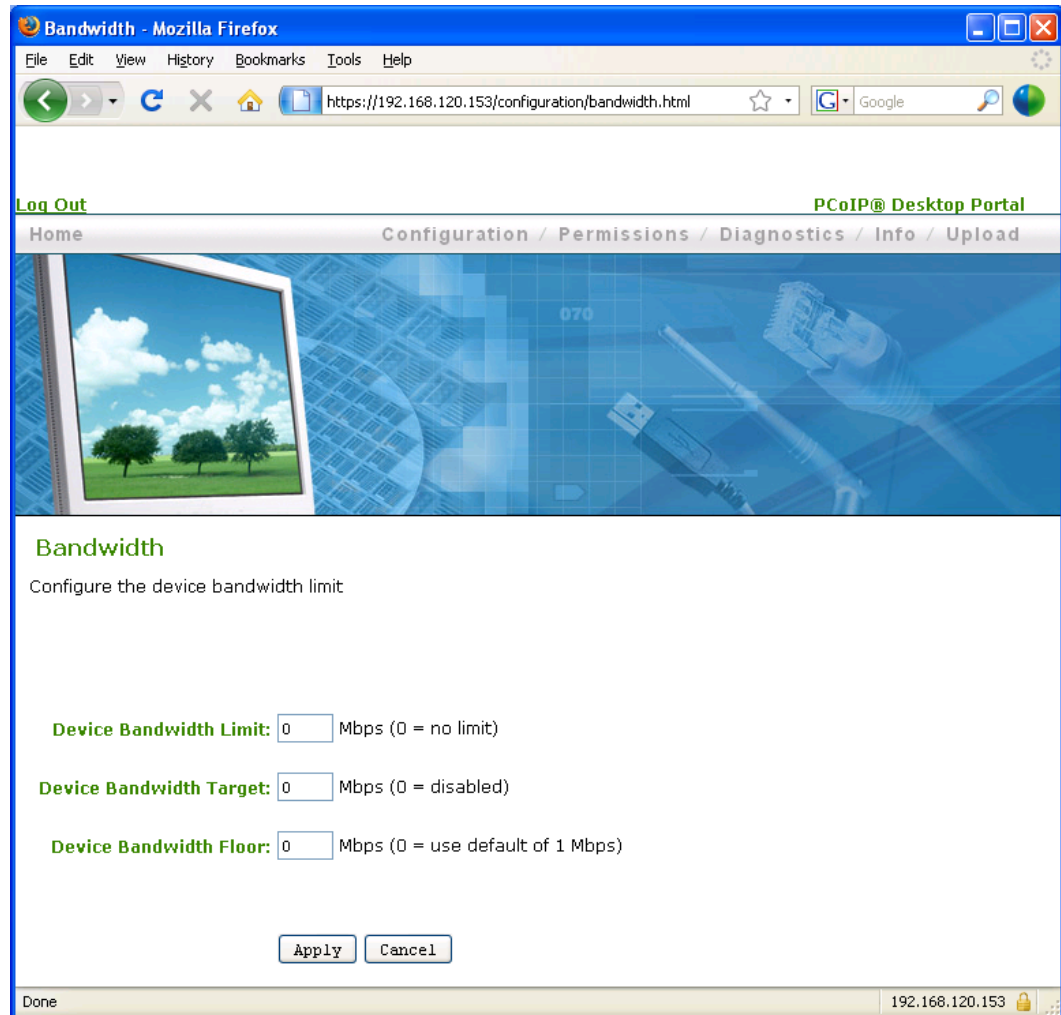
<p>PCoIP devices send the hostname to the DHCP server when requesting an IP address. The DHCP server can be configured to register this hostname with the DNS server.</p> <ul style="list-style-type: none"> Implemented support for packet reordering of imaging traffic to improve user experience on network links that may produce out of order packets. 		
<p>Added support so that zero clients can establish RDP sessions with Windows Terminal Services in the VMware View 3.0 environment. Refer to section 9.3.3.</p>	✓	
<p>Imaging Improvements</p> <ul style="list-style-type: none"> Reduced the lower limit of the <i>Minimum Image Quality</i> and <i>Maximum Initial Image Quality</i> configuration settings from 40 to 30. Added support for dual 2560x1600@30Hz resolution (Host/zero client must have 1 Gbit of XDR™ memory). 	✓	✓
<p>Add support for configuring two device specific strings (Description and Tag). These fields are end-user configurable. Users may wish to store peer location specific information in these fields to simplify locating the peered device when connection problems exist. Refer to section 9.3.4.</p>	✓	✓
<p>Removed support for enabling/disabling audio compression. The PCoIP firmware now controls this based on the amount of available bandwidth. Refer to section 9.3.5.</p>	✓	✓
<p>Add support for waking the host PC from the low power states (S3/S4/S5) by transmitting Wake-On-LAN (WOL) messages from the zero client to the host PC NIC, rather than the Host PCoIP device. The host PC must support waking from these low power states when it receives a WOL message. To use this feature the PCoIP Host Software Package must be installed and configured properly on the host PC.</p>	✓	✓

9.3 Supplemental Information

9.3.1 Host Driver Function Web Page



9.3.2 Bandwidth Web Page



9.3.3 VMware View Web Page

VMware View - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://192.168.120.153/configuration/vdm.html

Google

[Log Out](#) [PCoIP® Desktop Portal](#)

Home Configuration / Permissions / Diagnostics / Info / Upload

 **VMware View**

Configure the View Connection Server (RDP only) settings for the device

To enable this feature, the "Enable Connection Management" checkbox under "Connection Management" tab must be unchecked

Enable VMware View: ☐

Identify Connection Server by: ☒ IP address ☐ FQDN

Connection Server IP Address: . . .

Port: (Default is 80)

SSL: ☐ Use secure connection (SSL)

Auto connect: ☐ Always connect to this server at startup

Done 192.168.120.153

9.3.4 Label Configuration Web Page

The screenshot shows a Mozilla Firefox browser window titled "Label - Mozilla Firefox". The address bar displays the URL "https://192.168.120.153/configuration/label.html". The browser's menu bar includes File, Edit, View, History, Bookmarks, Tools, and Help. The page content features a header with a "Log Out" link on the left and "PCoIP® Desktop Portal" on the right. Below the header is a navigation bar with links: Home, Configuration / Permissions / Diagnostics / Info / Upload. The main content area has a blue background with a grid pattern and a small image of a landscape. The "Label" section is titled "Label" and contains the instruction "Change the PCoIP device labels". It includes three input fields: "PCoIP Device Name" (containing "pcoip-portal-001641ffe660"), "PCoIP Device Description", and "Generic Tag". At the bottom of the form are "Apply" and "Cancel" buttons. The status bar at the bottom of the browser window shows "Done" on the left and "192.168.120.153" with a lock icon on the right.

Label - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://192.168.120.153/configuration/label.html

Google

Log Out PCoIP® Desktop Portal

Home Configuration / Permissions / Diagnostics / Info / Upload

Label

Change the PCoIP device labels

PCoIP Device Name: pcoip-portal-001641ffe660

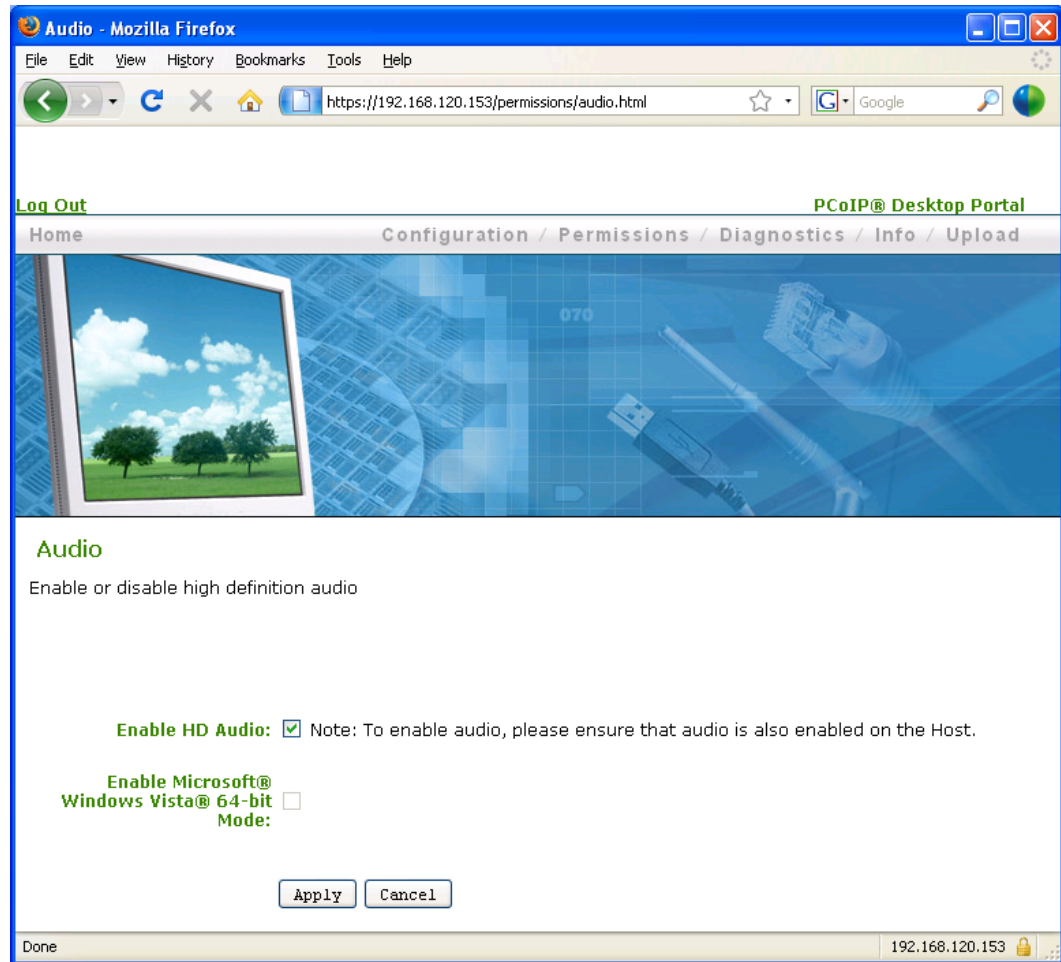
PCoIP Device Description:

Generic Tag:

Apply Cancel

Done 192.168.120.153

9.3.5 Audio Permissions Web Page



10 Release 1.12

This section provides a brief summary of the feature additions and issues resolved in release 1.12 versus release 1.11.

10.1 Compatibility

Release 1.12 should be installed on both the PColP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10 and 1.11. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 1.12, 1.11, 1.10, 1.9, 1.8, 1.7, 1.6, 1.5, 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

10.2 Feature Additions

Description	Zero Client	Host
Added support for configuring the PCI subsystem device ID and PCI subsystem vendor ID of the USB OHCI and HDA functions via the optional factory default (OFD) parameters.		✓

11 Release 1.11

This section provides a brief summary of the feature additions and issues resolved in release 1.11 versus release 1.10.

11.1 Compatibility

Release 1.11 should be installed on both the PCoIP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9 and 1.10. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PCoIP Host card running a release that is not equal to 1.11, 1.10, 1.9, 1.8, 1.7, 1.6, 1.5, 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

11.2 Feature Additions

Description	Zero Client	Host
Support retrieving device uptime via the CMI interface. The PCoIP Management Console uses this to determine whether a device has been reset after device configuration settings are updated.	✓	✓

11.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where Host and zero client devices may reset after being scanned by the nCircle® IP360™ security risk management system.	✓	✓

12 Release 1.10

This section provides a brief summary of the feature additions and issues resolved in release 1.10 versus release 1.9.

12.1 Compatibility

Release 1.10 should be installed on both the PCoIP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8 and 1.9. This release is not interoperable with release 0.23 or earlier releases. A "session incompatible" error message will appear on the display if trying to connect to a PCoIP Host card running a release that is not equal to 1.10, 1.9, 1.8, 1.7, 1.6, 1.5, 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

12.2 Feature Additions

Description	Zero Client	Host
Webpage modifications: <ul style="list-style-type: none"> Remove the following zero client specific pages from the Host: <ul style="list-style-type: none"> Configuration->RDP Configuration->Language Configuration->OSD Configuration->Image Permissions->USB Permissions->Power Diagnostics->Audio Diagnostics->Display Remove the following Host specific pages from the zero client: <ul style="list-style-type: none"> Configuration->Monitor Emulation Diagnostics->Host CPU Remove the Configuration->Monitor Emulation webpage on Host devices that support hardware monitor emulation. 	✓	✓
Enhanced the firmware provisioning code to prevent loading incompatible images on target devices. This change prevents loading images on platforms that did not exist when the image was created.	✓	✓
Add support for the Japanese 106 keyboard in the RDP client.	✓	

12.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where the Diagnostics->Session Statistics webpage did not update properly when using version 6 of the Internet Explorer web browser with SP2.	✓	✓

13 Release 1.9

This section provides a brief summary of the feature additions and issues resolved in release 1.9 versus release 1.8.

13.1 Compatibility

Release 1.9 should be installed on both the PColP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7 and 1.8. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 1.9, 1.8, 1.7, 1.6, 1.5, 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

13.2 Feature Additions

Description	Zero Client	Host
Add support for the Realtek™ ALC888 high definition audio CODEC		✓
Support programming device VPD parameters via the serial port. This feature is only accessible when the VPD section of FLASH is uninitialized.	✓	✓
Provide a visual indication by activating the “Heartbeat” LED when the Host card enters a low power state (S3, S4 or S5). This feature only affects Host devices that enter a low power state when the system enters S3, S4 or S5.		✓

13.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where the local screensaver would appear when the user disconnected and reconnected the zero client monitor while the host is sleeping.	✓	
Do not drop PColP sessions at the zero client when the host power state is set equal to hard power-off (hard-S5). Previous releases running on some systems would drop the session if the power state change was initiated from the web-interface or the connection broker (CMI) interface.		✓

Fixed problem where zero client headphone jack requires disconnecting and re-connecting session for audio to work properly.		✓
Resolved issue preventing session establishment when the zero client and Host devices are on the same subnet and connected through a wireless bridge (e.g. Netgear® WNHDE111).	✓	✓

14 Release 1.8

This section provides a brief summary of the feature additions and issues resolved in release 1.8 versus release 1.7.

14.1 Compatibility

Release 1.8 should be installed on both the PCoIP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6 and 1.7. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PCoIP Host card running a release that is not equal to 1.8, 1.7, 1.6, 1.5, 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

14.2 Feature Additions

None

14.3 Important Bug Fixes

Description	Zero Client	Host
Under certain conditions the imaging engine in the Teradici device may reset. The image on the screen freezes when this occurs. The time it takes to recover from this reset has been reduced from 5 seconds to less than 100 milliseconds.	✓	✓
Fixed problem that occurred when a connection management system is used to establish PCoIP sessions. During this process users enter their password and each character in the password is displayed as an asterisk character '*'. In releases prior to 1.8 the zero client did not hide non-ASCII characters.	✓	

15 Release 1.7

This section provides a brief summary of the feature additions and issues resolved in release 1.7 versus release 1.6.

15.1 Compatibility

Release 1.7 should be installed on both the PCoIP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PCoIP Host card running a release that is not equal to 1.7, 1.6, 1.5, 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

15.2 Feature Additions

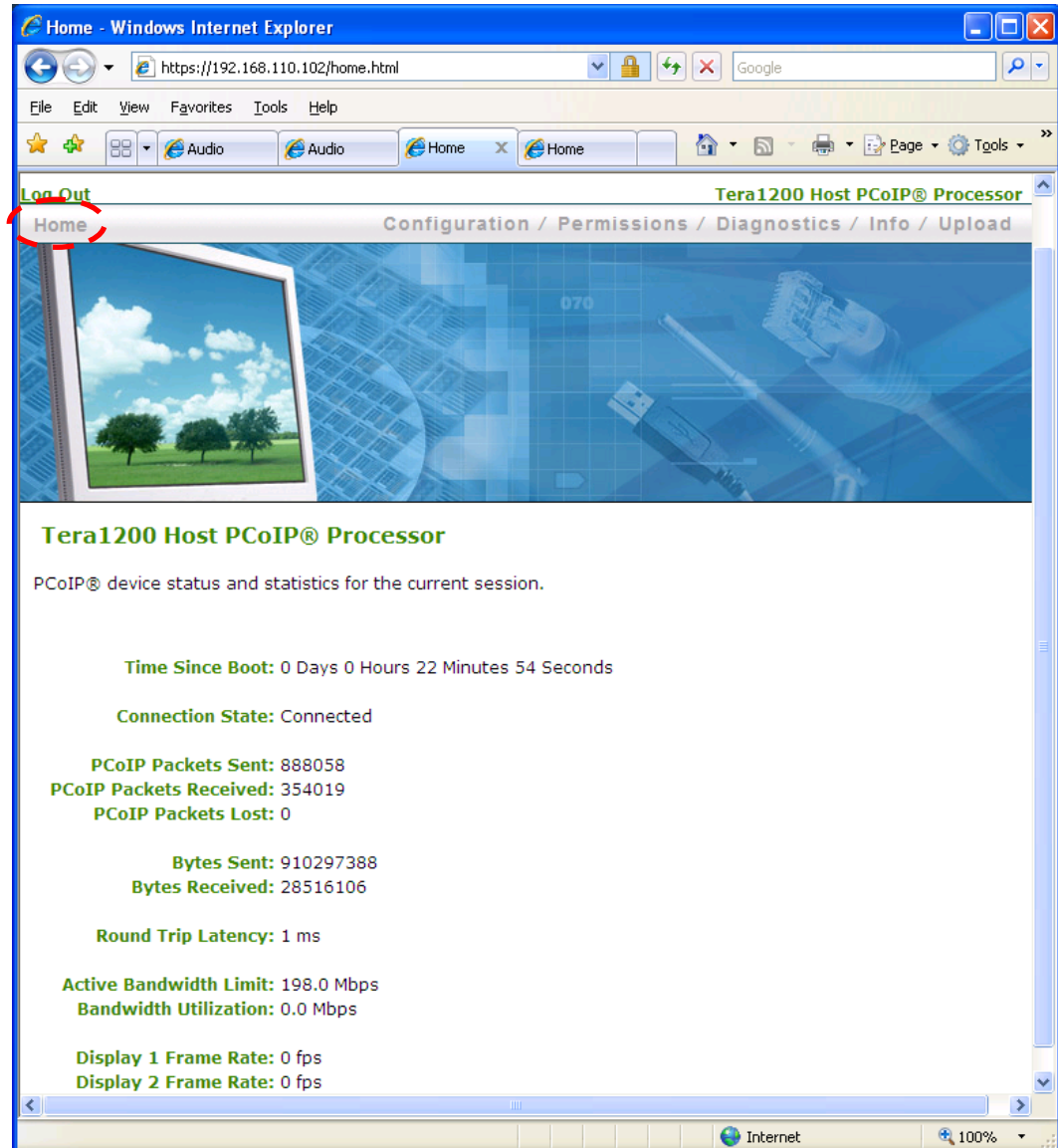
Description	Zero Client	Host
<p>Added Home web page</p> <ul style="list-style-type: none"> A Home web page has been added to both the Host and zero client devices. Sections 15.4.1 and 15.4.2 display the Host and zero client Home web pages. The Home web page appears after logging into the device web interface. To access the Home web page select the Home menu, refer to the red circle in the screen shot in section 15.4.1. 	✓	✓
<p>Added Initial Setup web page</p> <ul style="list-style-type: none"> An Initial Setup web page has been added to both the Host and zero client devices. Sections 15.4.4 and 15.4.5 display the Host and zero client Initial Setup web pages. To access the Initial Setup web page select the Initial Setup link in the Configuration menu, refer to the red circle in the screen shot in section 15.4.3. The Initial Setup web page contains the configuration parameters users must first set when using the Host and zero client devices. The web page was added to simplify the out of box experience and reduce the time for initial users to establish a PCoIP session. 	✓	✓

15.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where the image on the display connected to the zero client freezes for a couple seconds while the user is moving a 2D image that included a grid.		✓
Fixed problem in release 1.5 and 1.6 that occurred when adding a rule for authorized or unauthorized USB devices. Section 16.4 describes the problem in more detail. The workaround described in section 16.4 is no longer necessary.	✓	
Updated the manufacturing tests to support audio testing.	✓	

15.4 Supplemental Information

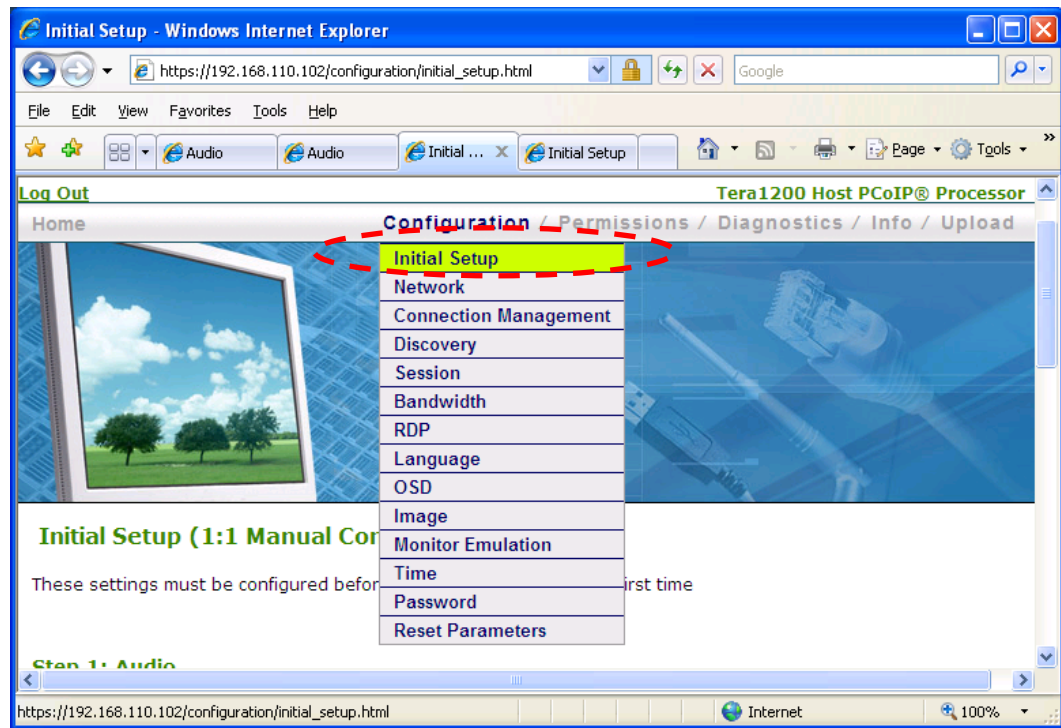
15.4.1 Home Web Page (Host)



15.4.2 Home Web Page (Zero Client)



15.4.3 Accessing Initial Setup Web Page



15.4.4 Initial Setup Web Page (Host)

Initial Setup (1:1 Manual Configuration)

These settings must be configured before the device is used for the first time

Step 1: Audio

Enable HD Audio: ☒ Note: To enable audio, please ensure that audio is also enabled on the Portal.

Enable Microsoft® Windows Vista® 64-bit Mode: ☐ Important: If using Microsoft® Windows Vista® 64-bit Edition, this feature must be enabled for audio to function correctly.

Step 2: Network

Enable DHCP: ☐

IP Address: 192 . 168 . 110 . 102

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 192 . 168 . 110 . 1

Primary DNS Server: 192 . 168 . 110 . 1

Secondary DNS Server: 0 . 0 . 0 . 0

Step 3: Session

Accept Any Portal: ☒

Portal MAC Address: - - - - -

Step 4: Apply Changes

Apply Cancel

15.4.5 Initial Setup Web Page (Zero Client)

Initial Setup - Windows Internet Explorer

https://192.168.110.153/configuration/initial_setup.html

File Edit View Favorites Tools Help

Initial Setup (1:1 Manual Configuration)

These settings must be configured before the device is used for the first time

Step 1: Audio

Enable HD Audio: ☒ Note: To enable audio, please ensure that audio is also enabled on the Host.

Step 2: Network

Enable DHCP: ☐

IP Address: 192 . 168 . 110 . 153

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 192 . 168 . 110 . 1

Primary DNS Server: 192 . 168 . 110 . 1

Secondary DNS Server: 0 . 0 . 0 . 0

Step 3: Session

Session Type: PCoIP

Identify Host by: ☒ IP address ☐ FQDN (RDP only)

Host IP Address: 192 . 168 . 110 . 102

Host MAC Address: 00 - 1A - 64 - 2D - 02 - 2B

Step 4: Apply Changes

Apply Cancel

16 Release 1.6

This section provides a brief summary of the feature additions and issues resolved in release 1.6 versus release 1.5.

16.1 Compatibility

Release 1.6 should be installed on both the PColP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2, 1.3, 1.4 and 1.5. This release is not interoperable with release 0.23 or earlier releases. A "session incompatible" error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 1.6, 1.5, 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

16.2 Feature additions

None

16.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem with USB traffic that can cause Host devices to reset.		✓

16.4 Known Issues

Description	Zero Client	Host
<p>In release 1.5 and 1.6 users may see an error dialog that says "Invalid Device Class/Sub Class/Protocol" when adding a new rule for authorized or unauthorized devices. The problem occurs when adding a rule that specifies Device Class = Any, Sub Class = Any, and Protocol = Any.</p> <p>To work around this, users must change the device class to something other than "Any", and then back to "Any" before clicking the "Add" button. This causes the numeric value of the rule to be correctly set to *-*- instead of 00-00-00.</p>	✓	

17 Release 1.5

This section provides a brief summary of the feature additions and issues resolved in release 1.5 versus release 1.4.

17.1 Compatibility

Release 1.5 should be installed on both the PColP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2, 1.3 and 1.4. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 1.5, 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

17.2 Feature additions

None

17.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem with RDP that appeared after sessions were established.	✓	
Increased the time before displaying the debug overlay messages included in release 1.4 (see section 18.2 for details on the overlay messages).	✓	
Modified the appearance of the debug overlay messages included in release 1.4 (see section 18.2 for details on the overlay messages).	✓	

17.4 Known Issues

See section 16.4

18 Release 1.4

This section provides a brief summary of the feature additions and issues resolved in release 1.4 versus release 1.3.

18.1 Compatibility

Release 1.4 should be installed on both the PColP Host and zero client devices. This release is compatible with releases 1.0, 1.1, 1.2 and 1.3. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 1.4, 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

18.2 Feature additions

Description	Zero Client	Host
Support DDC/CI Interface on Specific NEC Panels <ul style="list-style-type: none"> DDC/CI is a command interface extension to the DDC link present on DVI interfaces. Bridging the DDC/CI interface over PColP sessions is a new feature that has been tested and verified to work with the following system configuration. NEC® NaViSet™ host software operating on hosts running Windows XP NEC Panels (LCD4020, LCD4620, LCD5710, LCD6520) The DDC/CI interface of other panels may operate without problems. Additional testing would be required to verify this. Host software packages other than NaViSet from NEC, which utilize the DDC/CI interface, may work with monitors attached over a PColP session. Additional testing would be required to verify this. 	✓	✓
Improved Debug <ul style="list-style-type: none"> Display overlay error message on the zero client monitor when a PColP session is active and the network interface is operating in half-duplex mode. Display overlay error message on the zero client monitor when video is present on the zero client DVI connector that a monitor is not connected to. Display overlay error message on the zero client monitor when a PColP session is active and no video signal is present on the Host DVI connector(s). 	✓	

Firmware Provisioning Changes <ul style="list-style-type: none"> Enhanced the firmware provisioning code to detect and prevent loading incompatible images on target devices. 	✓	✓
Improve Manufacturing Test Support <ul style="list-style-type: none"> Add the ability to control manufacturing tests using the TERA1xxx device serial debug port. 	✓	✓
Configure Ethernet Mode on Host Devices <ul style="list-style-type: none"> Support configuring the Ethernet Mode on Host devices. Previously Host devices always set the Ethernet Mode equal to Auto and it could only be changed on zero clients. Users can now set this field equal to Auto, 100 Mbps Full-duplex or 10 Mbps Full-duplex on all devices. This feature only affects Host devices that enter a low power state when the system enters S3, S4 or S5. 		✓
Store Host MAC Address in PCI Config Space <ul style="list-style-type: none"> Add support so that all Host devices store the Host MAC address in the Subsystem Vendor ID and Subsystem ID in PCI config space. Prior to this release this feature was only supported on Host devices that enter a low power state when the system enters S3, S4 or S5. Connection brokers include agent drivers that access the Host MAC address in PCI config space. This information is used to match TERA12xx Host cards with specific host systems. 		✓

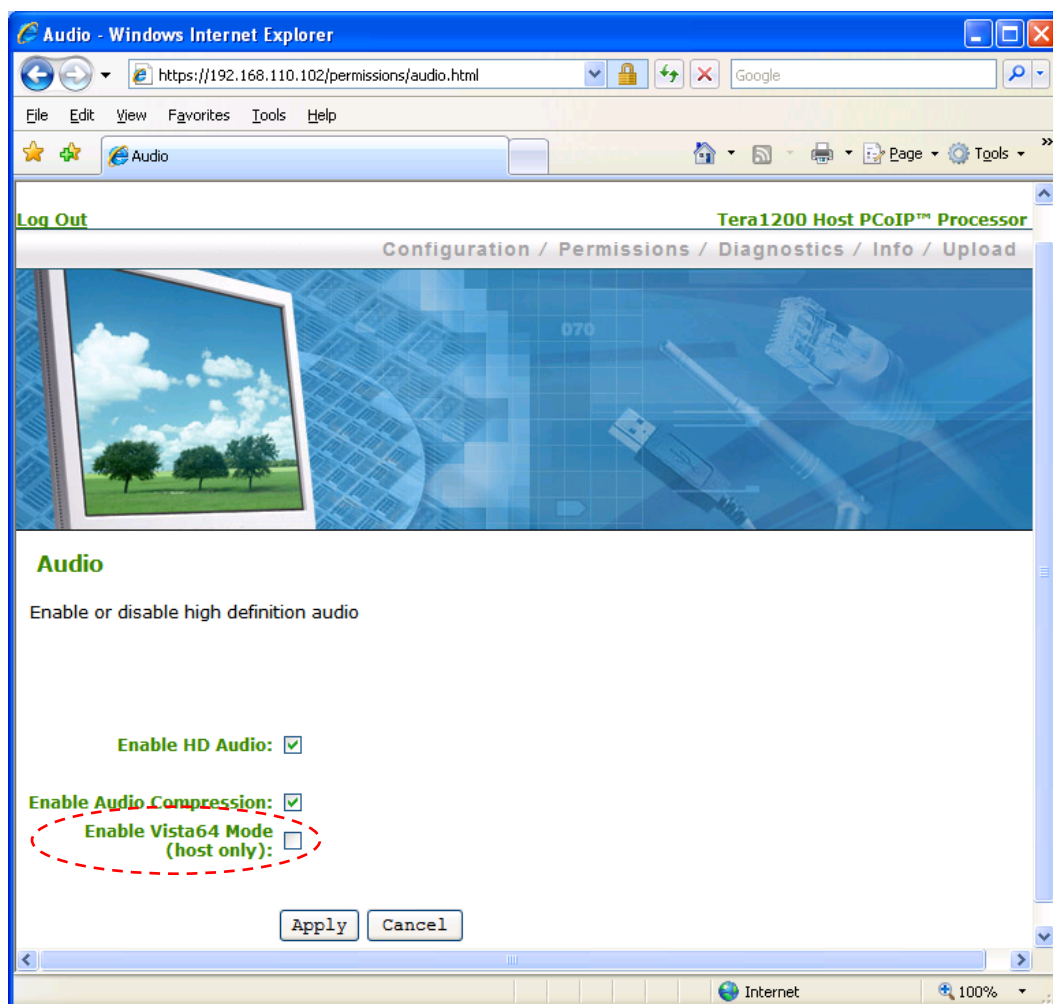
18.3 Important Bug Fixes

Description	Zero Client	Host
Fixed memory corruption problem when audio is enabled on host systems loaded with Windows Vista 64-bit operating systems that have more than 4 GB of RAM. <i>Note that this fix is disabled by default. To activate this workaround select the “Enable Vista64 Mode” option on the Host Permissions / Audio web page. See Section 18.4.1 for web page configuration.</i>		✓
Fixed problem where image tearing and low frame update rates were observed on displays with resolutions of 1600x1200 and 1680x1050.		✓
Fixed problem where RDP sessions could not be established with a Linux host running XRDP server.	✓	
Fixed problem where RDP sessions could not be established with a Windows Server 2008 host running Terminal Server.	✓	
Updated the auto-reconnect feature. zero clients that enable this feature now re-connect to the configured Host under all scenarios. In previous releases zero clients only reconnected after being reset or powered on but not after	✓	

network outages or other conditions that caused sessions to disconnect.		
RDP client now supports drawing solid color ellipses.	✓	
RDP client now correctly draws poly-line orders with negative coordinates.	✓	

18.4 Supplemental Information

18.4.1 Enable Windows Vista 64-bit Mode Setting



19 Release 1.3

This section provides a brief summary of the feature additions and issues resolved in release 1.3 versus release 1.2.

19.1 Compatibility

Release 1.3 should be installed on both the PColP Host and zero client devices. This release is compatible with releases 1.0, 1.1 and 1.2. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 1.3, 1.2, 1.1, or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

19.2 Feature additions

None

19.3 Important Bug Fixes

Description	Zero Client	Host
Eliminated a problem where the message “Gateway is not reachable” incorrectly appeared on the Configuration Network web page when the Gateway field was set equal to 0.0.0.0.	✓	✓
Fixed a problem on the Configuration Discovery web page where users could specify an illegal configuration where Host Discovery was enabled and SLP Discovery was disabled. When a zero client attempts to establish a connection in this configuration the target resets. The web page now prevents users from specifying this configuration.	✓	

20 Release 1.2

This section provides a brief summary of the feature additions and issues resolved in release 1.2 versus release 1.1.

20.1 Compatibility

Release 1.2 should be installed on both the PCoIP Host and zero client devices. This release is compatible with releases 1.0 and 1.1. This release is not interoperable with release 0.23 or earlier releases. A "session incompatible" error message will appear on the display if trying to connect to a PCoIP Host card running a release that is not equal to 1.2, 1.1 or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

20.2 Feature additions

None

20.3 Important Bug Fixes

Description	Zero Client	Host
Reduced the probability of the boot state machine lock condition occurring. This problem is described in document <i>TER0806002 – TERA1202 PCoIP Host Processor Errata</i> . Host devices no longer log event messages when entering a low power state. This fix only applies to Host devices that enter a low power state when the system enters S3, S4 or S5.		✓

21 Release 1.1

This section provides a brief summary of the feature additions and issues resolved in release 1.1 versus release 1.0.

21.1 Compatibility

Release 1.1 should be installed on both the PColP Host and zero client devices. This release is compatible with release 1.0. This release is not interoperable with release 0.23 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 1.1 or 1.0.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

21.2 Feature additions

None

21.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where USB devices connected to the zero client no longer appeared after disconnecting and reconnecting a PColP session. This bug was not present on hosts running Microsoft XP or Microsoft Vista.	✓	✓

22 Release 1.0

This section provides a brief summary of the feature additions and issues resolved in release 1.0 versus release (0.23).

22.1 Compatibility

Release 1.0 should be installed on both the PCoIP Host and zero client devices. This release is not interoperable with previous releases. A "session incompatible" error message will appear on the display if trying to connect to a PCoIP Host card running a previous release.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

22.2 Feature additions

Description	Zero Client	Host
Enhance Setting USB Permissions <ul style="list-style-type: none"> The USB Permissions web page has been improved to support specifying both authorized and unauthorized devices. Previously the web page only supported specifying authorized devices. See Section 22.4.1 for web page configuration. 	✓	
Add Support for Hardware Monitor Emulation <ul style="list-style-type: none"> Hardware monitor emulation is a new feature that requires an EEPROM device on the Host card connected to the GPU that stores the EDID. This device provides the GPU with EDID data at times when the TERA1202 Host device is not operational, which occurs during the first 10 seconds after powering on or being reset. 		✓

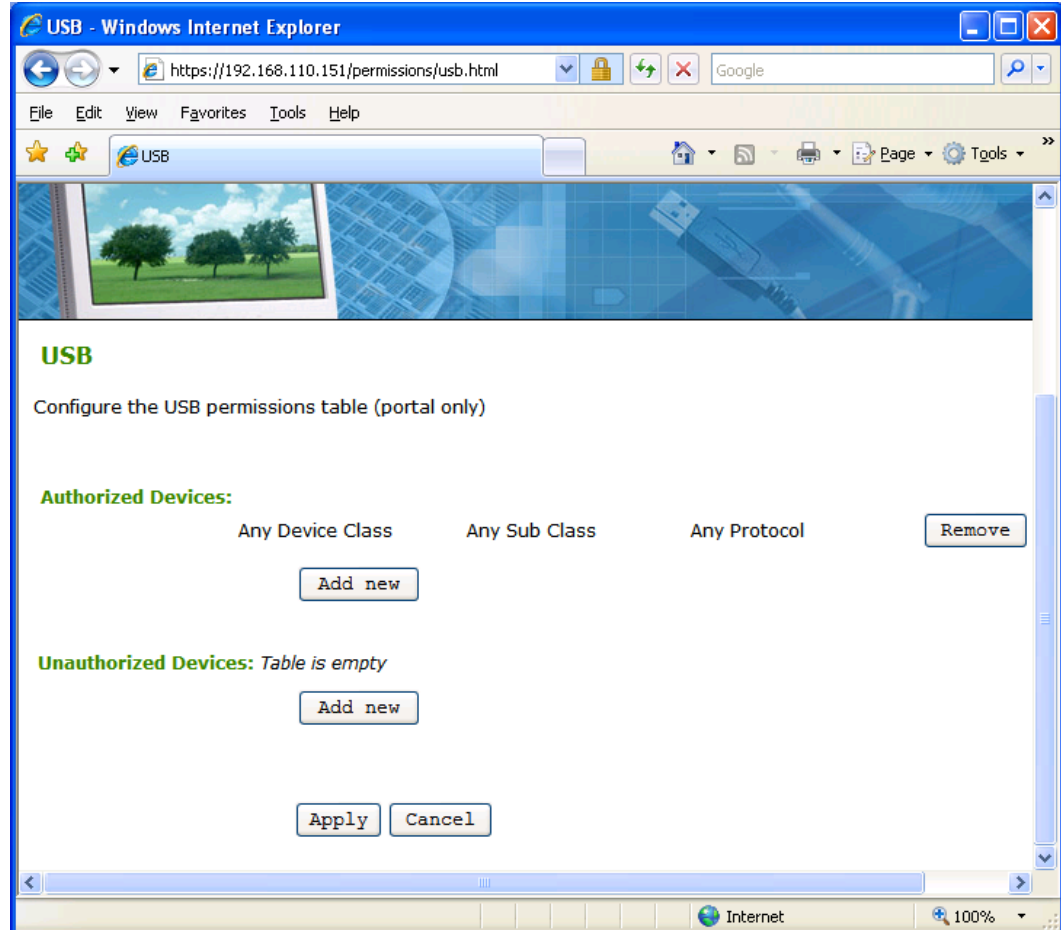
22.3 Important Bug Fixes

Description	Zero Client	Host
Support setting session type via the CMI interface. This fix is important in unmanaged deployments.	✓	
Fix problem where devices were sending encrypted messages with an invalid SPI.	✓	✓
Fix problem where devices were sending SNMP trap	✓	✓

messages to a fixed IP address.		
Fixed problem where the network interface would fail to boot if the gateway was unreachable or invalid.	✓	✓

22.4 Supplemental Information

22.4.1 USB Permissions Settings



23 Release 0.23

This section provides a brief summary of the feature additions and issues resolved in release 23 (0.23) versus release (0.21).

23.1 Compatibility

Release 0.23 should be installed on both the PColP Host and zero client devices. This release is compatible with releases 0.19, 0.20, 0.21, and 0.22. This release is not interoperable with release 0.18 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 0.19, 0.20, 0.21, 0.22 or 0.23.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

23.2 Feature additions

None

23.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where the screen resolution of the OSD does not match to monitor. The problem caused a corrupted strip on one side of the screen or the connect window being slightly offset from the middle of the screen.	✓	
Fixed a problem in the stress test/scalability feature of the emulator, where the OSD user query SOAP response sent to the Connection Broker had an empty tag and label string.		
Added HOST_IDENTITY to the emulator configuration file to support specification of the host UUID, returned in the getHostIdentity SOAP response.		

24 Release 0.22

Release 0.22 internal release only.

25 Release 0.21

This section provides a brief summary of the feature additions and issues resolved in release 21 (0.21) versus the previous release (0.20).

25.1 Compatibility

Release 0.21 should be installed on both the PColP Host and zero client devices. This release is compatible with releases 0.19 and 0.20. This release is not interoperable with release 0.18 or earlier releases. A "session incompatible" error message will appear on the display if trying to connect to a PColP Host card running a release that is not equal to 0.19, 0.20 or 0.21.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

25.2 Feature additions

None

25.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where the Device Bandwidth Target field could not be configured using the CMI interface.	✓	✓
Included additional error checking code in CMI server wrappers to prevent the target from crashing in response to receiving malformed SOAP messages.	✓	✓
Fixed problem where some applications running on RDP sessions would generate some unwanted diagonal lines on the screen. The applications that showed this problem were Microsoft Paint, Microsoft Hearts and Microsoft 3D Pinball.	✓	

26 Release 0.20

This section provides a brief summary of the feature additions and issues resolved in release 20 (0.20) versus the previous release (0.19).

26.1 Compatibility

Release 0.20 should be installed on both the PCoIP Host and zero client devices. This release is compatible with release 0.19. This release is not interoperable with release 0.18 or earlier releases. A “session incompatible” error message will appear on the display if trying to connect to a PCoIP Host card running a release that is not equal to 0.19 or 0.20.

Note that when updating from a release earlier than 0.18, release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

26.2 Feature additions

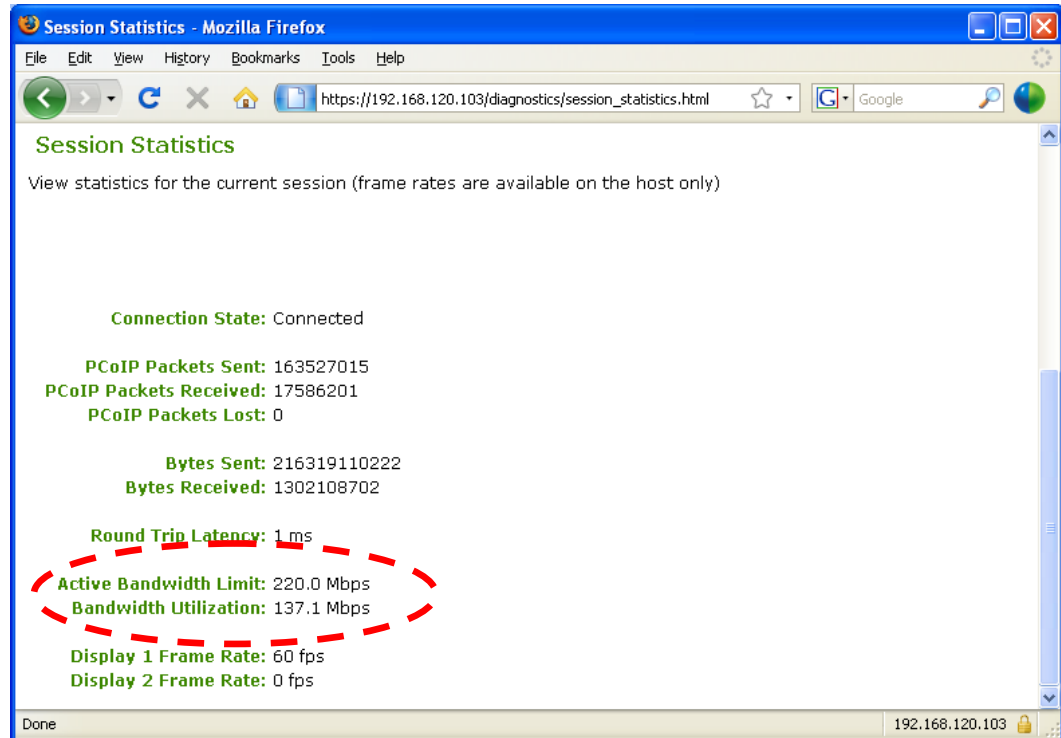
Description	Zero Client	Host
Improved Statistics <ul style="list-style-type: none"> Two new fields have been added to the Session Statistics web page. See section 26.4.1 for web page setting. <ul style="list-style-type: none"> Active Bandwidth Limit displays the maximum amount of network traffic the device may generate. The value is derived from the configured bandwidth settings and the current network congestion levels. Bandwidth Utilization is the average amount of traffic generated by the target over a small period of time. 	✓	✓

26.3 Important Bug Fixes

Description	Zero Client	Host
Fixed problem where RDP sessions would disconnect while video was active and the user pressed keys on the keyboard or the mouse was active.	✓	
Fixed problem in RDP sessions where audio didn't work on Windows XP hosts.	✓	
Fixed video artifacts in RDP sessions.	✓	

26.4 Supplemental Information

26.4.1 Session Statistics Improvements



27 Release 0.19

This section provides a brief summary of the feature additions and issues resolved in release 19 (0.19) versus the previous release (0.18).

27.1 Compatibility

Release 19 must be installed on both the PColP Host and zero client devices. This release is not interoperable with the previous release. A “session incompatible” error message will appear on the display if trying to connect to a PColP Host card running a previous release.

Note that when updating the firmware to this release, the previous release (0.18) must first be installed or the update will be prevented. Specifically, the Firmware Version must be greater than or equal to 0.18 and the Bootloader Version must be greater than or equal to 2.0. The firmware and bootloader versions can be viewed on the Info->Version web page for the device.

27.2 Feature additions

Description	Zero Client	Host
<p>Localization</p> <ul style="list-style-type: none"> The following languages are now supported in the zero client OSD, and in any dialogs presented to the user by the CMS via the CMI (e.g username query). The languages listed below may be selected from the OSD (language tab) or via the CMS. The web pages remain English only. <ul style="list-style-type: none"> English, French, German, Spanish, Italian, Portuguese (Brazil), Greek, Chinese Simple, Chinese Traditional, Japanese, Korean. 	✓	
<p>Network Improvements</p> <ul style="list-style-type: none"> A 10Mb fixed Ethernet mode network setting has been added to zero client OSD and web page for use with older 10Mbps switches which don't support auto-negotiation. <p>The maximum device bandwidth may now be configured as low as 3 Mbps, versus the previous 10Mbps lower limit in release 18. As in the previous releases, this value represents a hard limit and is metered by the integrated network traffic shaper.</p> <ul style="list-style-type: none"> The default maximum MTU size has been reduced from 1500 bytes to 1400 bytes. This is to accommodate operating within a VPN tunnel. The MTU size may also be configured via the web page or CMI. See section 27.4.2 for web page configuration. <p>A PColP MIB has been added including OIDs for network statistics and imaging status and statistics. See section 27.4.1 for MIB contents.</p> <ul style="list-style-type: none"> A “Device Bandwidth Target” configurable setting has been added to provide a soft limit on the network bandwidth used by imaging during periods of congestion (packet loss). When 	✓	✓

congestion is experienced, the imaging network bandwidth will be rapidly reduced to the target value, and more slowly reduced below this point. The intent is to allow for a more even distribution of bandwidth between users on congested trunks. A good understanding of the network topology is required before setting this to a non-zero value. See section 27.4.3 for web page setting.		
Audio Improvements <ul style="list-style-type: none"> Audio compression has been added, which if enabled will adjust compression levels based on available network bandwidth. Above 10 Mbps, lossless overhead compression is used (no impact to audio quality). Below 10 Mbps ADPCM compression is used. If audio compression is disabled, then no compression is used (disabling audio compression is not recommended). 	✓	✓
USB Improvements <ul style="list-style-type: none"> The number of small USB network packets has been reduced somewhat by concatenation of these packets. This is especially relevant to HID class devices (e.g. mouse) for which many USB transactions may occur. In some network environments these small packets had a higher susceptibility of being dropped, which would result in a “jumpy mouse”. 	✓	✓
Imaging Improvements <ul style="list-style-type: none"> A “Maximum Initial Image Quality” slider has been added to augment the functionality provided by the “Minimum Image Quality” slider, included in the previous release. This new slider can be used to reduce network bandwidth peaks due to screen content changes by limiting the initial quality on the first video frame of a screen change. Unchanged regions of the image will build to a lossless state regardless of this setting. See section 27.4.4 for web page setting. 	✓	✓
Firmware Update <ul style="list-style-type: none"> The firmware application and boot loader downloads [.app and .blr] are now combined into a single download file [.all]. 	✓	✓
Discovery <ul style="list-style-type: none"> DNS-SRV support has been added for CMS discovery. DNS SRV discovery uses the hierarchical domain name obtained from either DHCP options 15 or 12 as a basis for the DNS SRV query. In each DNS SRV query, the endpoint prefixes the “_pcoip-broker” service to the protocol name, and suffixes the domain name variant. Details of this configuration will be provided in an app note (TBD). 	✓	✓
Power Management <ul style="list-style-type: none"> When the Host (PC) is in S3-S5, the remote keyboard activity will now cause the wake signal to be generated to PC. This is in addition to the previously supported remote power button. Mouse activity will not generate this wake, to reduce spurious wake events. Note that this functionality is dependant upon how the TERA1200 connects to system components at the host, and actual functionality may vary from customer to customer. 	✓	

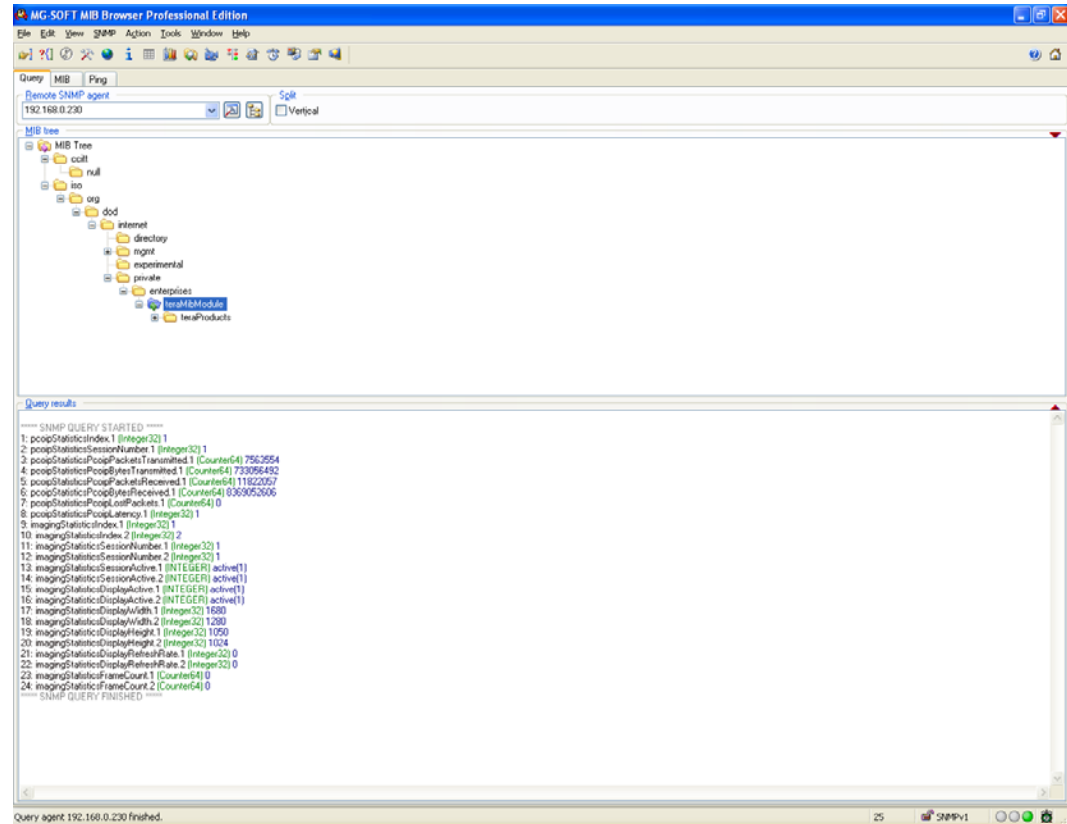
<p>RDP Client</p> <ul style="list-style-type: none"> The “low” encryption level is now supported when connecting to Terminal Services running on Win2003 server. This is in addition to the previously supported “Client Compatible” and “High” encryption modes. The CMS can now configure the following values for the RDP session. <ul style="list-style-type: none"> Username, password, domain, alternateShell, shellWorkingDirectory, audioMode, enableWallpaper, enableFullWindowDrag, enableMenuAnims, enableThemes The following resolutions are now supported by the RDP client. Resolutions marked with an asterisk (*) were previously supported. 800x600, 1024x768*, 1280x768, 1280x1024*, 1440x900, 1600x1200*, 1680x1050, 1920x1200 The performance of the RDP client has been improved by approximately 15%. Mouse responsiveness has been improved when streaming video or large screen changes. The RDP client now supports a subset of the keyboard layouts specified on the configuration Language web page. Previously, keyboard layout was hard-coded to “us-en”. 	✓	
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27.3 Important Bug Fixes

Description	Zero Client	Host
A USB device with a Class Code of 0, can now be authorized when the USB authorization class code of ‘ANY’ is selected. Previously the required work around was to enable the device's VID/PID in the authorization table.	✓	
Audio codec emulation is now functional earlier in the Tera1200 boot sequence to insure operation when the host PC exits low power states. This is only relevant if the Tera Host is not fully powered during these sleep states.		✓
In the event that PCoIP packets (IPSec) are not routable, a “Session Lost” message is displayed to the user. Previously this error was generated solely if TCP/IP (SSL) communication was not established, or interrupted.	✓	✓
Fixed SOAP message retransmission mechanism to guarantee message delivery to the CMS.	✓	✓

27.4 Supplemental Information

27.4.1 PCoIP MIB



27.4.2 MTU size configuration

Network - Windows Internet Explorer

https://192.168.0.233/

Google

Network

Network

Change the network settings for the device

Enable DHCP: ☒

IP Address: 192.168.0.233

Subnet Mask: 255.255.254.0

Gateway: 192.168.1.100

Primary DNS Server: 192.168.1.52

Secondary DNS Server: 192.168.1.50

Ethernet Mode (client only): Auto

Maximum MTU Size: 1400 bytes

Apply Cancel

27.4.3 Device Bandwidth Target Setting

Bandwidth - Windows Internet Explorer

https://192.168.0.233/configuration/bandwidth.html

Google

Bandwidth

Log Out

Tera1100 Portal PCoIP™ Processor

Configuration / Permissions / Diagnostics / Info / Upload

Bandwidth

Configure the device bandwidth limit

Device Bandwidth Limit: 90 Mbps (0 = no limit)

Device Bandwidth Target: 0 Mbps (0 = disabled)

Apply Cancel

27.4.4 Maximum Initial Quality Slider

