TERA Firmware Release Notes
Version 4.x

TER1204003

Issue 10

teradici®

PCoIP

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Revision History

Version	Date	Description
10	Oct. 01, 2014	Updated for release 4.6.0.
9	July 18, 2014	Updated for release 4.5.1.
8	May 09, 2014	Updated for release 4.5.0.
7	Jan. 08, 2014	Updated for release 4.2.0.
6	Aug. 23, 2013	Updated for release 4.1.2.
5	April 26, 2013	Updated for release 4.1.0.
4	Nov. 09, 2012	Updated for release 4.0.3.
3	Aug. 23, 2012	Updated for release 4.0.2.
2	Aug. 13, 2012	Updated for release 4.0.1.
1	May 17, 2012	Initial release for 4.0.0.

Contents

1   Preface

This document provides a brief summary of the feature additions and issues resolved in each TERA1x00/TERA2xxx firmware release starting with release 4.0.0. The sections in this document are organized according to release date, with the most recent releases listed first.

1.1   Audience

This document is intended for administrators who are responsible for configuring and managing PCoIP deployments.

1.2   Additional Documentation

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
See the latest "VMware View to PCoIP Zero Client Optimization Guide" (TER1003001) for optimization guidelines for connecting PCoIP zero clients to VMware Horizon View virtual desktops.	✓		
See the latest "VMware View to PCoIP Zero Client WAN Network Guidelines" (TER1007002) for network optimization guidelines when connecting PCoIP zero clients to VMware Horizon View 4 virtual desktops over remote access WAN networks.	✓		
See the Teradici support website for additional information on PCoIP zero client and PCoIP host card applications, implementation, and management.	✓	✓	✓

2 Release 4.6.0

This section provides a brief summary of the feature additions and issues resolved in release 4.6.0.

2.1 Compatibility

2.1.1 Workstation and VDI

Deployments using the PCoIP Management Console (MC) to manage Tera2 PCoIP endpoints must use PCoIP MC version 1.8.1 or later with this firmware release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 4.5.1	Install the new firmware (4.6.0).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.6.0).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.6.0).

2.1.2 VDI Specific

This PCoIP firmware is compatible with the release of VMware Horizon View that was generally available when this firmware was released. It is also compatible with one major release of Horizon View prior to this. Other versions of Horizon View may also be compatible, but will need to be verified in your specific deployment environment.

The version of Horizon View available at the time of this firmware release was Horizon View 6.0.

VMware Horizon View 5.2 or later deployments using zero client devices to connect to View virtual desktops should install release 4.6.0 on the zero client devices.

Local image caching is supported in Tera2 zero clients when deployed with VMware Horizon View 5.2 or later. This enables considerable bandwidth savings when accessing image intensive content.

2.1.3 Workstation Specific

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.6.0 on *both* the host card and zero client devices.

Note: If either the host card or zero client device is running an earlier firmware release, certain power management and host discovery functions do not work. For more information, see Retirement of peer-to-peer communication on port 50001 usage on page 19 and Knowledge Base topic 15134-1857 on the Teradici support site.

While mixed firmware release operation is not tested, this firmware release is compatible with 4.5.1, 4.2.0, 4.1.x, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases with the above limitation. Firmware 4.0.0 and later is not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

2.2 Feature Additions

Description	Supported Products	Platforms	Interfaces
Connectivity to Amazon WorkSpaces Clients can connect to Amazon WorkSpaces by being configured for either Auto Detect or PCoIP Connection Manager modes. Enter the FQDN of the PCoIP Connection Manager for Amazon WorkSpaces as the server address. The zero client's branding shows the Amazon WorkSpaces banner in place of the default PCoIP banner when connecting via the PCoIP Connection Manager mode or the Auto Detect mode after the WorkSpaces environment had been detected by connecting once. **Important**: For zero client connectivity to work, the PCoIP Connection Manager for Amazon WorkSpaces must be installed and configured along with Amazon WorkSpaces. For more information, see "Connecting PCoIP® Zero Clients to Amazon WorkSpaces" (TER1408002) in the Teradici Support Document Center.	Tera2	AWS	
Updated Logo in OSD The logon screen for VMware Horizon 6 (with View) and Imprivata OneSign now displays the certified VMware logo.	Tera1 Tera2	VDI	

2.3   Important Bug Fixes

Description	Supported Products		Platforms		
	Tera1	Tera2	Work-station	VDI	AWS
10319. Resolved an issue where clicking **Apply** on the AWI Configuration > Network page on a Tera1 host or Tera1 client caused the device to reset without applying the changes.	✓		✓	✓	
10343. The Korean text translation is modified. In AD logins in the multi-factor authentication flow, 인증번호 is now 암호.	✓	✓		✓	
10353. The Kodak i1120 scanner is now supported on Tera2 zero clients for VDI access. The EHCI USB configuration option must be disabled for the i1120 to work with a Tera1 zero client.	✓	✓		✓	
10348. The MD5 ciphers in the AWI have been deprecated and are no longer supported.	✓	✓	✓	✓	
10237. Resolved an issue where a zero client reboots when connecting to an Imprivata OneSign server that does not send the expected <SSPREnabled> tag.	✓	✓		✓	
13008. When a zero client in the Warn security level connects to a PCoIP Connection Manager that presents a self-signed certificate, the zero client firmware compares the certificate's subject against the address of the Connection Manager associated with the client. If they do not match, then the zero client displays this condition in a warning message. You can accept this condition and continue. This mismatch no longer causes an error that prevented session authentication.		✓	✓	✓	
10226. For the NCST Cirrus LT laptop computer, removed the WoUSB option from the AWI since WoUSB is not supported for this model.		✓	✓	✓	✓
10227. For the NCST Cirrus LT laptop computer, reduced the time to switch between the micro-controller-controlled keyboard/mouse and the zero client-controlled keyboard/mouse.		✓	✓	✓	✓

2.4   Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

Tera1 USB Device Modes and Tera2 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

3   Release 4.5.1

This section provides a brief summary of the feature additions and issues resolved in release 4.5.1.

3.1   Compatibility

3.1.1   Workstation and VDI

Deployments using the PCoIP Management Console (MC) to manage Tera2 PCoIP endpoints must use PCoIP MC version 1.8.1 or later with this firmware release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 4.5.0	Install the new firmware (4.5.1).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.5.1).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.5.1).

3.1.2   VDI Specific

This PCoIP firmware is compatible with the release of VMware Horizon View that was generally available when this firmware was released. It is also compatible with one major release of Horizon View prior to this. Other versions of Horizon View may also be compatible, but will need to be verified in your specific deployment environment.

The version of Horizon View available at the time of this firmware release was Horizon View 6.0.

VMware Horizon View 5.2 or later deployments using zero client devices to connect to View virtual desktops should install release 4.5.1 on the zero client devices.

Local image caching is supported in Tera2 zero clients when deployed with VMware Horizon View 5.2 or later. This enables considerable bandwidth savings when accessing image intensive content.

3.1.3 Workstation Specific

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.5.1 on *both* the host card and zero client devices.

Note: If either the host card or zero client device is running an earlier firmware release, certain power management and host discovery functions do not work. For more information, see Retirement of peer-to-peer communication on port 50001 usage on page 19 and Knowledge Base topic 15134-1857 on the Teradici support site.

While mixed firmware release operation is not tested, this firmware release is compatible with 4.2.0, 4.1.x, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases with the above limitation. Firmware 4.0.0 and later is not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

3.2 Feature Additions

Description	Supported Products		Platforms		Interfaces		
	Tera1	Tera2	Work-station	VDI	AWI	OSD	MC
New Enable Gigabit Auto-Negotiation feature This feature lets you select the maximum negotiated speed of the network interface for a Tera2 host card. When enabled (the default), the maximum possible speed for the network interface is 1 Gbps. When disabled, it is 100 Mbps. This option is in the Administrative Web Interface in the **Configuration** > **Network** page.		✓	✓		✓		
BX10 SFP Support For customers using small form-factor pluggable (SFP) Ethernet interfaces, this release now supports BX10 SFP modules for single-mode optical fiber. This feature is included by default. No user configuration is required.	✓	✓	✓				

3.3 Important Bug Fixes

Description	Supported Products		Platforms	
	Tera1	Tera2	Work-station	VDI
13187. Resolved an issue where devices may crash as a result of password changes.	✓	✓	✓	✓
13100. A PCoIP session no longer freezes and gets disconnected under severe network impairment. Previously when this occurred, the host and/or client logs are filled with messages indicating a prolonged RDMA full condition on the UFCC and/or FCC channel.	✓	✓	✓	
12860. Resolved an issue where the Connection Management Interface could not be disabled because using the AWI or OSD checkboxes to disable CMI had no effect.	✓	✓	✓	✓
13185. Host cards no longer respond with incorrect monitor serial numbers when the host monitor emulation feature is enabled.		✓	✓	
12752. Tera2 host cards no longer prevent specific SFP modules from obtaining an IP address or prevent Wake-on-LAN from working.		✓	✓	
13212. Resolved an issue where connecting to VMware Horizon View servers may occasionally fail.	✓	✓		✓
13220. You can now authenticate with CardOS Smart Cards after the card's certificates have been reissued.		✓		✓

3.4 Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

Tera1 USB Device Modes and Tera2 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

4   Release 4.5.0

This section provides a brief summary of the feature additions and issues resolved in release 4.5.0.

4.1   Compatibility

4.1.1   Workstation and VDI

Deployments using the PCoIP Management Console (MC) to manage Tera2 PCoIP endpoints must use PCoIP MC version 1.8.1 or later with this firmware release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 4.2.0	Install the new firmware (4.5.0).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.5.0).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.5.0).

4.1.2   VDI Specific

This PCoIP firmware is compatible with the release of VMware Horizon View that was generally available when this firmware was released. It is also compatible with one major release of Horizon View prior to this. Other versions of Horizon View may also be compatible, but will need to be verified in your specific deployment environment.

The version of Horizon View available at the time of this firmware release was Horizon View 5.3.

VMware Horizon View 5.2 or later deployments using zero client devices to connect to View virtual desktops should install release 4.5.0 on the zero client devices.

Local image caching is supported in Tera2 zero clients when deployed with VMware Horizon View 5.2 or later. This enables considerable bandwidth savings when accessing image intensive content.

4.1.3 Workstation Specific

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.5.0 on *both* the host card and zero client devices.

Note: If either the host card or zero client device is running an earlier firmware release, certain power management and host discovery functions do not work. For more information, see Retirement of peer-to-peer communication on port 50001 usage on page 19 and Knowledge Base topic 15134-1857 on the Teradici support site.

While mixed firmware release operation is not tested, this firmware release is compatible with 4.2.0, 4.1.x, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases with the above limitation. Firmware 4.0.0 and later is not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

4.2 Feature Additions

Description	Supported Products		Platforms		Interfaces		
	Tera1	Tera2	Work-station	VDI	AWI	OSD	MC
Auto detect session connection type This release supports a new session connection type called Auto Detect. This connection type automatically detects which broker protocol a connection server is using so users in a mixed environment (e.g., one that uses View Connection Servers and PCoIP Connection Managers) do not have to manually reconfigure the session type each time they switch brokers. Auto Detect is now the default connection type.		✓	✓	✓	✓	✓	✓

Description	Supported Products		Platforms		Interfaces		
	Tera1	Tera2	Work-station	VDI	AWI	OSD	MC
Support for Low Bandwidth Text Codec This release introduces a new Low Bandwidth Text Codec, a new compression method that provides improved bandwidth usage when encoding lossless data, such as text and background. It does not apply to lossy data, such as video. *Note: Low Bandwidth Text Codec affects TERA2321 zero clients only, and is disabled by default.		✓*		✓	✓		✓
SCEP certificate key size The generated SCEP Certificate Request on the zero client now uses a 2048-bit key (previously 1024-bit).		✓	✓		✓	✓	✓
Accelerated monitor emulation Tera2 hosts can now perform accelerated monitor emulation. When enabled, this property accelerates the delivery of EDID information to host systems that boot up very quickly (e.g., faster than five seconds), causing blank screens on the remote end. Typically, these are systems with solid-state drives (SSDs).		✓	✓		✓		✓
Default maximum MTU size The default maximum MTU size for zero clients has been reduced from 1400 to 1200 to work better with some VPN configurations. Any overrides to the original default MTU size of 1400 are not affected as a result of the upgrade.	✓	✓			✓		✓

Description	Supported Products		Platforms		Interfaces		
	Tera1	Tera2	Work-station	VDI	AWI	OSD	MC
ePass3000 smart card support This release adds support for ePass3000 smart cards manufactured by FEITIAN Technologies. This feature is enabled by default. No user configuration is required.		✓		✓			
Enhanced bandwidth management algorithm You now get better image quality during your PCoIP sessions when connecting with a zero client, especially if you are playing a video under tight bandwidth conditions.	✓	✓	✓	✓			
SACK implementation on reliable channels This release implements the PCoIP Selective Acknowledgement Protocol (Selective ACK, or SACK), which is designed to improve PCoIP performance over lossy networks (e.g., WANs). SACK is automatically negotiated on reliable channels with the host software. No user configuration is necessary.	✓	✓	✓	✓			
Self-service password reset with Imprivata OneSign This release adds support for Imprivata OneSign's Q&A authentication modality, which can be used for self-service password reset (SSPR). Note: No user configuration is required on the zero client, but password reset with Imprivata OneSign must be enabled on the OneSign server.	✓	✓		✓			

Description	Supported Products		Platforms		Interfaces		
	Tera1	Tera2	Work-station	VDI	AWI	OSD	MC
Retirement of peer-to-peer communication on port 50001 usage TCP port 50001 is no longer used for peer-to-peer messages sent between zero clients and remote workstation cards. If a PCoIP session is active, messages are now sent within PCoIP traffic pipes or on port 4172 (the PCoIP port). This affects messages such as: • Host power control messages sent from the zero client to remote workstation card • Wake-on-LAN messages sent from the remote workstation card to the zero client • Power status change messages sent from the remote workstation card to the zero client See Knowledge Base topic 15134-1857 on the Teradici support site about backward compatibility.	✓	✓	✓				
UTC timestamps Log file timestamps are now in UTC (Universal Time Coordinated) to facilitate debugging large deployments that cross time zone boundaries. No user configuration is required.	✓	✓	✓	✓			

4.3 Important Bug Fixes

Description	Supported Products		Platforms	
	Tera1	Tera2	Work-station	VDI
10890. The keyboard repeat setting is no longer changed on the OSD if the VDI session has a different setting.	✓	✓		✓

Description	Supported Products		Platforms	
	Tera1	Tera2	Work-station	VDI
5653. Resolved an issue in a Tera2 host configuration where some Wacom tablet devices don't work properly with older Linux OSes, e.g. CentOS 5.3. These tablet devices are now detected using the Wacom vendor ID and the zero client triggers a firmware-based workaround.		✓	✓	
11026. Resolved a display issue with hybrid Tera2LC devices (one DisplayPort and one DVI) when the DisplayPort monitor is set to 2560x1600 resolution and the secondary monitor is set to native resolution. In this configuration, the graphics now display properly.		✓ LC	✓	
11622. You can now connect to an Imprivata OneSign server using a static IP address and spanning tree protocol without excessive delay.	✓	✓		✓
11645. Resolved an issue where entering an incorrectly-formatted FQDN into the SCEP server URL field caused a zero client to crash.	✓	✓	✓	✓
11653. Resolved an issue where certificates pass their validity checks if a zero client is rebooted so frequently that the cache does not have enough time to be updated.	✓	✓		
11678. Resolved an issue where you sometimes get the maximum login attempts exceeded message after you change your password.	✓	✓		✓
11806. eBeam whiteboard (VID/PID 2650/1311) now works with zero clients. You must *disabled* Enhanced Host Controller Interface (EHCI) to use this function.	✓	✓		✓
11879. The timeout for DNS lookup is increased from 3 to 5 seconds to accommodate slow DNS resolve time in some network configurations.	✓	✓	✓	
12015. If password protection is disabled, the force password change configuration option is also disabled.	✓	✓	✓	✓
12523. Zero clients no longer crash in specific workflows where token code verification is the last step before a desktop is provisioned for the user. This was a result of using certain third-party RADIUS two factor authentication server products installed in VMware View Connection servers.	✓	✓		✓

Description	Supported Products		Platforms	
	Tera1	Tera2	Work-station	VDI
12131. Resolved an issue where some models of USB 3.0-capable flash drives may not be detected when inserted into a USB 2.0 hub attached to a zero client.		✓	✓	✓
12098. The Jabra 150 MS Duo headset no longer has a choppy audio quality issue.	✓	✓		✓
12286. This release supports the Dell E2014T touch monitor for zero clients that are in session; however, when not in session, this monitor is not supported in the zero client's OSD due to the lack of a local driver for this device.	✓	✓	✓	✓
12223. Resolved an issue of displaying the incorrect time when packets from a socket connected to an NTP server are read incorrectly.	✓	✓	✓	✓
12571. Korean translations for **Next Token** and **Passcode** have been improved for clarity. 인증번호 replaces 비밀번호 and 다음 토큰 코드.	✓	✓		✓
12367. Japanese text string translations have been updated and improved.	✓	✓	✓	✓
12490. This release improves compatibility with CardOS smart cards.		✓		✓
12053. The E70 Interactive Smartboard fails to enumerate on the first connection to a zero client following a power cycle of the zero client. This includes the connection that occurs on power up if the Smartboard is plugged into the zero client during the power cycle. This is resolved.	✓	✓		✓
12678. The incompatibility with CAC/PIV ActivClient middleware v7.0.2.318 has been resolved.	✓	✓		✓

4.4   Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

Tera1 USB Device Modes and Tera2 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

5 Release 4.2.0

This section provides a brief summary of the feature additions and issues resolved in release 4.2.0.

5.1 Compatibility

5.1.1 Workstation and VDI

Deployments using the PCoIP Management Console (MC) to manage Tera2 PCoIP endpoints must use PCoIP MC version 1.8.1 or later with this firmware release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 4.1.2	Install the new firmware (4.2.0).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.2.0).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.2.0).

5.1.2 VDI Specific

This PCoIP firmware is compatible with the release of VMware Horizon View that was generally available when this firmware was released. It is also compatible with one major release of Horizon View prior to this. Other versions of Horizon View may also be compatible, but will need to be verified in your specific deployment environment.

The version of Horizon View available at the time of this firmware release was Horizon View 5.2.

VMware Horizon View 5.0 or later deployments using zero client devices to connect to View virtual desktops should install release 4.2.0 on the zero client devices.

Local image caching is supported in Tera2 zero clients when deployed with VMware Horizon View 5.2 or later. This enables considerable bandwidth savings when accessing image intensive content.

5.1.3 Workstation Specific

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.2.0 on *both* the host card and zero client devices. While mixed firmware release operation is not tested, firmware release 4.2.0 is compatible with 4.1.2, 4.1.1, 4.1.0, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases. Firmware 4.0.0 and later is not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

5.2   Feature Additions

Description	Supported Products		Platforms	
	Tera1	Tera2	Workstation	VDI
Boot-up splash screen If enabled in the factory, a splash screen is displayed briefly while the zero client is powering on and before the user connection screen appears.		✓		
PCoIP Utility Bar support A GUI drop-down bar can now be used to disconnect a session or to shut down a remote workstation. When enabled, administrators can optionally pin this bar, and users can drag it to the left or right. This utility bar is disabled by default and drops down only when users move the cursor directly under it. For any session type involving a host card, Local Cursor and Keyboard must be enabled in order for the zero client to process mouse events for the utility bar. For all connection types, the mouse must be locally connected (i.e., not bridged). PCoIP Utility Bar Mode can be configured for Tera2 zero clients under the **Configuration > Session > Advanced Options** page using the MC or AWI—for example, the MC View Connection Server Session Settings or the AWI Direct to Host Session Settings.		✓	✓	✓

Description	Supported Products		Platforms	
	Tera1	Tera2	Workstation	VDI
Local USB audio support USB audio devices attached to Tera2 zero clients may now be terminated locally, improving performance and interoperability. This feature is enabled by default. New options are also available for configuring the preferred USB audio input and output device to use when more than one device is connected to a zero client. Note: For optimal performance, install the Teradici Audio Driver on your VM and select it as the default playback device.		✓		✓
Audio page Zero client and host card AWI **Audio** pages have been moved from the **Permissions** menu to the **Configuration** menu.	✓	✓	✓	✓
New Imprivata features The **View Connection Server + Imprivata OneSign** session type now has two new Imprivata options—**Invert Wiegand Data** and **Restrict Proximity Cards**. For details about these options, see MC: View Connection Server + Imprivata OneSign and AWI Client: View Connection Server + Imprivata OneSign.	✓	✓		✓
Unique naming of SCEP certificates SCEP certificates are now configured with the requested certificate "Subject" as the PCoIP Device Name and the "Subject Alternative" as the device MAC address (all in lower case and with no dashes). Previously, the requested certificate "Subject" was hard-coded to "PCoIP Endpoint" and the "Subject Alternative" was left blank. This change makes the requested certificates traceable back to the original zero client. This naming convention for SCEP certificates is not configurable.		✓	✓	
PCoIP Device Name label enhancement The **PCoIP Device Name** label has been extended to allow the underscore character inside a device name. It cannot be the first or last letter.	✓	✓	✓	✓

Description	Supported Products		Platforms	
	Tera1	Tera2	Workstation	VDI
Event Log Filter Mode enhancement Administrators can now disable event logging on a device.	✓	✓	✓	
RSA 2-factor authentication support This release adds support for combined smart card and RSA SecurID authentication against a View Connection Server. Note: This feature is not configurable in firmware.		✓		✓
RADIUS 2-factor authentication support In addition to the traditional smart card and username/password authentication, this feature enables the user to add a second authenticator for user authentication (i.e., RADIUS username/password). Note: This feature is not configurable in firmware.	✓	✓		✓

5.3   Important Bug Fixes

Description	Supported Products		Platforms	
	Tera1	Tera2	Workstation	VDI
10672. Resolved an issue where PCoIP zero clients may reset when using PCoIP Management Console 1.9.0.	✓	✓	✓	✓
10652. Smart cards that are provisioned using SafeNet 2.10 software can now be used for pre-session authentication on zero clients		✓		✓
10504. For users who authenticate using Proximity Card plus Password, if the user types the wrong password, typing the correct password on retry triggers Password authentication only rather than Proximity Card plus Password authentication. This prevents tap-out from working correctly, and does not start the grace period timer (if enabled). This is resolved.	✓	✓		✓
10464. When a View Connection Server is configured for RADIUS mode, user passwords are no longer limited to 16 characters.	✓	✓	✓	✓

Description	Supported Products		Platforms	
	Tera1	Tera2	Workstation	VDI
10419. If a display was unplugged from a Tera2 client while in session with a hard host, when the session disconnects, the OSD sometimes does not display correctly until the zero client is rebooted. This is resolved.		✓	✓	
10381. A zero client in CMI mode is unable to remotely power on a workstation containing a PCoIP remote workstation card using Wake-on-LAN under the following conditions: Requirements: Two workstations (A & B), one zero client and a CMI connection broker. 1. Connect to host A from the zero client using the connection broker. 2. Disconnect from host A. 3. Power off host B. 4. Try to connect to host B through the zero client by logging in through the connection broker. The PCoIP connection attempt times out and host B does not power on. This is now resolved.	✓	✓	✓	
10390. Resolved an issue where the zero client resets when trying to connect to a host while a USB hub is connected to a zero client root port and two or more hubs are connected to this hub.	✓	✓	✓	✓
10276. Server certificates that use Subject Alternative Names (SANs) to identify the server without having a Common Name in their Subject field are now accepted by zero clients.	✓	✓	✓	✓
10244. Workstation hosts no longer remain in a state where they cannot be discovered via SLP after being powered off from a zero client and subsequently powered on directly from the workstation's power switch. Previously, only the zero client from where the host was powered off is able to reconnect to the host; other zero clients fail to find that host through SLP discovery.	✓	✓	✓	

Description	Supported Products		Platforms	
	Tera1	Tera2	Workstation	VDI
10212. Resolved an issue where banner logo images could be corrupted by moving OSD dialog boxes containing the banner logo images around the OSD screen.	✓	✓	✓	✓
10042. In the OSD, if you press Tab and Caps Lock at the same time, the keyboard Caps Lock indicator light now correctly shows the Caps Lock state.	✓	✓	✓	✓
10010. When the zero client is configured to use the German language the VMware Horizon View desktop selection dialog's Reset VM button now fits the German text. This button has always functioned properly. Now, the first and last letter of the button text are not cut off.	✓	✓	✓	✓
10004. Resolved an issue where microphone recording in sessions between zero clients, Linux, and Windows workstations can have a low signal-to-noise ratio. This occurs when the workstation is using the Realtek audio driver to control a Realtek audio codec chip. The recorded audio quality is normal during the first PCoIP session after the workstation boots up and noisy in the following PCoIP sessions.	✓	✓	✓	
9761. Resolved an issue where the Permissions->USB web page fails to load properly when using the IE 10 web browser to access the Administrative Web Interface (AWI) of a zero client or host card, where the user typically sees a partially populated web page.	✓	✓	✓	✓
9648. Resolved an issue with Tera2 dual display clients where the second display may not work if the first display is dual-link and preferred resolution override is enabled.		✓ (dual)	✓	✓

5.4   Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

Tera1 USB Device Modes and Tera2 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

6 Release 4.1.2

This section provides a brief summary of the feature additions and issues resolved in release 4.1.2 versus 4.1.0.

6.1 Compatibility

6.1.1 Workstation and VDI

Deployments using the PCoIP Management Console (MC) to manage Tera2 PCoIP endpoints must use PCoIP MC version 1.8.1 or later with this firmware release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 4.1.1	Install the new firmware (4.1.2).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.1.2).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.1.2).

6.1.2 VDI Specific

This PCoIP firmware is compatible with the release of VMware Horizon View that was generally available when this firmware was released. It is also compatible with one major release of Horizon View prior to this. Other versions of Horizon View may also be compatible, but will need to be verified in your specific deployment environment.

The version of Horizon View available at the time of this firmware release was Horizon View 5.2.

VMware Horizon View 5.0 or later deployments using zero client devices to connect to View virtual desktops should install release 4.1.2 on the zero client devices

Local image caching is supported in Tera2 zero clients when deployed with VMware Horizon View 5.2 or later. This enables considerable bandwidth savings when accessing image intensive content.

6.1.3 Workstation Specific

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.1.2 on *both* the host card and zero client devices. While mixed firmware release operation is not tested, firmware release 4.1.2 is compatible with 4.1.1, 4.1.0, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases. Firmware 4.0.0 and later is not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

6.2   Feature Additions

6.2.1 Workstation and VDI

Description
Display Suspend (for Tera2 zero clients) • When users are in-session, the firmware now supports a display suspend feature after a specified keyboard and mouse inactivity timeout.

6.2.2 VDI Specific

Description
Changed the **Auto Connect** feature from a checkbox to a dropdown menu with the following options. • **Disabled**: The client does not automatically connect to the configured View Connection Server or PCoIP Connection Manager. Disabled is equivalent to the previous "unchecked" setting. • **Enabled**: The client attempts to connect to the configured View Connection Server or PCoIP Connection Manager. Enabled is equivalent to the previous "checked" setting. • **Enabled with Retry on Error**: The client attempts to connect to the configured View Connection Server or PCoIP Connection Manager. If a connection error occurs, the client will wait and retry the connection periodically until a connection is successful, or the Cancel button is pressed. The **Auto Connect** feature is an advanced option supported by the following **Session Connection Types**. • **PCoIP Connection Manager** (Tera2 zero clients) • **PCoIP Connection Manager + Auto-Logon** (Tera2 zero clients) • **View Connection Server** (Tera1 and Tera2 zero clients) • **View Connection Server + Auto-Logon** (Tera1 and Tera2 zero clients)

Description
Continuous Desktop Retry (for Tera1 and Tera2 zero clients) • After user authentication and desktop selection, if the View Connection Server or PCoIP Connection Manager reports that the selected desktop is not available, the client will retry connecting to that desktop every 5 seconds until the desktop becomes available, or the Cancel button is pressed.

For screen images of user interface changes, see the online help.

6.2.3 Workstation Specific

None.

6.3 Important Bug Fixes

6.3.1 Workstation and VDI

None.

6.3.2 VDI Specific

Description
Out of range certificate expiry dates will be capped at the year 2225 (for Tera1 and Tera2 zero clients).
PIN verification failure with CardOS smart cards has been resolved (for Tera2 zero clients).

6.3.3 Workstation Specific

None.

6.4 Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

Tera1 USB Device Modes and Tera2 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

7 Release 4.1.0

This section provides a brief summary of the issues resolved in release 4.1.0.

7.1 Compatibility

7.1.1 Workstation and VDI

Deployments using the PCoIP Management Console (MC) to manage Tera2 PCoIP endpoints must use PCoIP MC version 1.8.1 or later with this firmware release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 4.0.x	Install the new firmware (4.1.0).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.1.0).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.1.0).

7.1.2 VDI Specific

VMware Horizon View 5.0 or later deployments using zero client devices to connect to View virtual desktops should install release 4.1.0 on the zero client devices.

Local image caching is supported in Tera2 zero clients when deployed with VMware Horizon View 5.2 or later. This enables considerable bandwidth savings when accessing image intensive content.

7.1.3 Workstation Specific

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.1.0 on *both* the host card and zero client devices. While mixed firmware release operation is not tested, firmware release 4.1.0 is compatible with 4.0.3, 4.0.2, 4.0.1, 4.0.0, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases. Firmware 4.0.0 and later is

not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

7.2 Feature Additions

7.2.1 Workstation and VDI

Description
Security features (for Tera1 and Tera2 endpoints) • Following three failed attempts to access the Administrative Web Interface or the On Screen Display, each subsequent failed attempt will require additional time to complete. • Added option to force the changing of the administrative password upon the next access of the Administrative Web Interface or On-Screen-Display (selected password may be blank). • Logging of failed access attempts to the Administrative Web Interface, On Screen Display, or management interface (e.g. PCoIP Management Console). • Added options to disable the Administrative Web Interface and/or the management tool interface (e.g. Tera1 and Tera2 endpoints can lock out access by the PCoIP Management Console).
Added support for SCEP (Simple Certificate Enrollment Protocol): zero clients may be configured to submit a request for a certificate to a SCEP server (for Tera2 zero clients).
Added Auto-Power-Off option, which powers off PCoIP zero clients after a configurable period of idle time when users are out of session (for Tera2 zero clients). The zero client **Permissions->Power** and **Configuration->OSD** web pages have been replaced by the Configuration->Power web page.
Added option to configure PCoIP zero clients such that an image on a primary display can be reproduced on the secondary video port (for dual-display Tera2 zero clients). Note: The resolution setting of the primary display will also be applied on the secondary display when this feature is enabled.
Added support for Brazilian ABNT2 keyboards (for Tera1 and Tera2 zero clients).
Added two new **Session Connection Types** (PCoIP Connection Manager and PCoIP Connection Manager + Auto-Logon) for Tera2 zero clients. The PCoIP Connection Manager can be used in the future with third-party brokers.

For screen images of user interface changes, see the online help.

7.2.2   VDI Specific

Description
Added support for SafeNet SC650 smart cards with SafeNet PKI applet and SHAC middleware (for Tera2 zero clients).
Added support for Atos CardOS smart cards.
Added support for eToken 72k Pro USB user authentication devices.
Added support for isochronous USB devices without a Video class interface connected behind a USB 2.0 hub. Note: A webcam is an example of an isochronous USB device with a Video class interface.

7.2.3   Workstation Specific

Description
Added support for local termination of keyboards and mice behind USB hubs provided all devices attached to the USB hub are HID keyboards and mice.
Added ability to configure the **Wake Host from Low Power State**, **Host Wake MAC Address** and **Host Wake IP Address** settings for Direct to Host sessions on the advanced session configuration dialog of the On-Screen Display. Previous releases support configuring these settings through the web interface or the PCoIP MC.

7.3   Important Bug Fixes

7.3.1   Workstation and VDI

Description
Resolved an issue where the Display Override feature in the OSD does not function (for Tera1 and Tera2 zero clients).
Resolved an issue where Greek keyboards do not function correctly in the OSD (for Tera1 and Tera2 zero clients).
Resolved two issues where keys were not mapped correctly on a Japanese keyboard (for Tera1 and Tera2 zero clients).
Resolved an issue where syslog would disable itself when it was unable to send a syslog message to the configured server because of a network error (for Tera1 and Tera2 zero clients).

Description
USB port numbers are referred to as "logical" references in device logs to avoid confusion with physical labeling of USB ports (for Tera1 and Tera2 zero clients).
Resolved an issue where the Japanese 106 keyboard entered an incorrect character when the user presses the right-most character key in the upper row.
Edited supported language translations in the OSD.

7.3.2   VDI Specific

Description
Resolved an issue where supported smart cards may not be able to successfully complete their login process (for Tera1 and Tera2 zero clients).
Resolved an issue where IronKey USB devices do not function with PCoIP zero clients (for Tera1 and Tera2 zero clients).
Resolved an issue where the BASYS2 breadboard device does not function correctly with PCoIP zero clients (Tera1 and Tera2).
Resolved an issue where the USB certify scanner device fails to connect to a virtual machine when used with PCoIP zero clients (for Tera1 and Tera2 zero clients).
Resolved an issue where the SeaI/O USB device may not function when the PCoIP zero client power is cycled off and back on while the device is connected (for Tera1 and Tera2 zero clients).
Resolved an issue where the microphone gain was being incorrectly set (for Tera1 and Tera2 zero clients).
Resolved an issue where a Caps Lock warning message was not being displayed if a user had previously failed a login attempt due to a bad username/password (for Tera1 and Tera2 zero clients).
When Imprivata OneSign is in lockdown mode, a message indicating the reason for the failed connection is presented to the user (for Tera1 and Tera2 zero clients).
The secure session state is now included in device logs (for Tera1 and Tera2 zero clients).

7.3.3   Workstation Specific

Description
Resolved an issue where the workstation host card may reset when processing a malformed audio packet (for Tera1 and Tera2 host cards).

Description
Resolved an issue where the incorrect bandwidth limit may be selected when connecting a Tera1 client to a Tera2 workstation host card. This issue only occurs when mixing both Tera1 and Tera2 clients to the same Tera2 workstation host card.

7.4   Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

Tera1 USB Device Modes and Tera2 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

8 Release 4.0.3

This section provides a brief summary of the issues resolved in release 4.0.3 versus 4.0.2.

Note: Release 4.0.3 is only applicable to Tera2 zero clients and host cards.

8.1 Compatibility

VMware Horizon View 5.0 or later deployments using TERA2xxx zero client devices to connect to View virtual desktops should install release 4.0.3 on the zero client devices.

It is highly recommended that remote workstation deployments using TERA2xxx zero clients with TERA2xxx host cards install release 4.0.3 on *both* the host card and zero client devices. Deployments using a mix of TERA1x00 and TERA2xxx endpoints should install release 4.0.3 on the TERA2xxx endpoints and release 4.0.2 on the TERA1x00 endpoints. While mixed firmware release operation, other than the previously mentioned configuration, is not tested, firmware release 4.0.3 is compatible with 4.0.2, 4.0.1, 4.0.0, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases. Firmware 4.0.3 is not interoperable with releases 3.0, 2.x, 1.x or 0.x. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if trying to connect to a PCoIP host card running an incompatible release.

Deployments using the PCoIP Management Console (MC) to manage Tera2 PCoIP endpoints must use PCoIP MC version 1.8.1 or later with this firmware release.

Note: This firmware release can only be installed on TERA2xxx PCoIP processors.

8.2 Feature Additions

None.

8.3 Important Bug Fixes

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Resolved a flash memory issue that could cause a TERA2xxx device to become inoperative and unrecoverable while updating configuration settings using PCoIP MC version 1.8.0.	Tera2	Tera2	Tera2
Resolved a potential memory corruption problem on TERA2xxx host cards, which could cause sessions to disconnect or workstations to crash.			Tera2

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Set the minimum firmware version equal to 4.0.3 for TERA2xxx devices, preventing downgrades.	Tera2	Tera2	Tera2
Resolved a communication error with the View Connection Server that prevented users from starting a session when Online Certificate Status Protocol (OSCP) server is unresponsive.	Tera2		
Resolved a "Source signal on other port" error on video port 2 that affected deployments using View 4.6 and Windows XP.	Tera2		

8.4 Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

The following tables describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

Table 8-1: Tera1 USB Device Modes

Tera1 Client			
	EHCI Disabled (Devices operate in USB 1.1 mode only)		
	Root Port	Behind USB 1.1 and 2.0 Hub	
View Desktop	All devices operate in USB 1.1 mode		
Tera1 and Tera2 PCoIP host card	All devices operate in USB 1.1 mode		
	EHCI Enabled (USB 2.0 support is enabled) - Default		
	Root Port	Behind USB 1.1 Hub	Behind USB 2.0 Hub
View Desktop	All devices operate in their native mode (USB 1.1 or USB 2.0) except USB 2.0 isochronous devices, i.e., audio devices, web cams. USB 2.0 isochronous devices operate in USB 1.1 mode.	All devices operate in USB 1.1 mode.	All non-isochronous devices operate in their native mode (USB 1.1 or USB 2.0). Isochronous devices with a video class interface are not supported (a warning may appear).

Tera1 Client
Tera1 and Tera2 PCoIP host card — All devices operate in USB 1.1 mode

Table 8-2: Tera2 USB Device Modes

Tera2 Client			
	EHCI Disabled (Devices operate in USB 1.1 mode only)		
	Root Port	Behind USB 1.1 and 2.0 Hub	
View Desktop	All devices operate in USB 1.1 mode		
Tera1 and Tera2 PCoIP host card	The EHCI disable flag does not apply to the PCoIP host card. See following section for PCoIP host card behaviour.		
	EHCI Enabled (USB 2.0 support is enabled) - Default		
	Root Port	Behind USB 1.1 Hub	Behind USB 2.0 Hub
View Desktop	All devices operate in their native mode (USB 1.1 or USB 2.0) except USB 2.0 isochronous devices, i.e., audio devices, web cams. USB 2.0 isochronous devices operate in USB 1.1 mode.	All devices operate in USB 1.1 mode.	All non-isochronous devices operate in their native mode (USB 1.1 or USB 2.0). Isochronous devices with a video class interface are not supported (a warning may appear).
Tera1 PCoIP host card	All devices operate in USB 1.1 mode		
Tera2 PCoIP host card	All devices operate in their native mode (USB 1.1 or USB 2.0) except USB 2.0 isochronous devices, i.e., audio devices, web cams. USB 2.0 isochronous devices operate in USB 1.1 mode.	All devices operate in USB 1.1 mode.	All non-isochronous devices operate in their native mode (USB 1.1 or USB 2.0). Isochronous devices with a video class interface are not supported (a warning will not appear).

9 Release 4.0.2

This section provides a brief summary of the feature additions and issues resolved in release 4.0.2 versus 4.0.1.

Note: Tera2 endpoints with Release 4.0.2 must be upgraded to Release 4.0.3 or later in order to resolve a known issue where devices can potentially become non-functional and unrecoverable when managed by the PCoIP Management Console. Tera1 endpoints are not impacted. See Important Bug Fixes for additional details.

9.1 Compatibility

VMware Horizon View 5.0 or later deployments using zero client devices to connect to View virtual desktops should install release 4.0.2 on the zero client devices.

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.0.2 on *both* the host card and client devices. While mixed firmware release operation is not tested, firmware release 4.0.2 is compatible with 4.0.1, 4.0.0, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases. Firmware 4.0.0 and later is not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 4.0.1	Install the new firmware (4.0.2).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.0.2).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.0.2).

9.2 Feature Additions

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Added support for using the zero client in Imprivata OneSign Single Sign-On mode with the OMNIKEY 5427 proximity reader.	✓		

9.3 Important Bug Fixes

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Resolved an issue when using ATI FirePro RG220 and RG220A Remote Workstation Graphics (integrated GPU + PCoIP host card).			✓
Resolved an analog calibration issue with zero clients using the TERA2321 or TERA2140 with a DVI port (zero clients using only DisplayPort were not affected).	✓	✓	

9.4 Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

Tera1 USB Device Modes and Tera2 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

10 Release 4.0.1

This section provides a brief summary of the feature additions and issues resolved in release 4.0.1 versus 4.0.0.

Note: Tera2 endpoints with Release 4.0.1 must be upgraded to Release 4.0.3 or later in order to resolve a known issue where devices can potentially become non-functional and unrecoverable when managed by the PCoIP Management Console. Tera1 endpoints are not impacted. See Important Bug Fixes for additional details.

10.1 Compatibility

VMware Horizon View 5.0 or later deployments using zero client devices to connect to View virtual desktops should install release 4.0.1 on the zero client devices.

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.0.1 on *both* the host card and client devices. While mixed firmware release operation is not tested, firmware release 4.0.1 is compatible with 4.0.0, 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases. Firmware 4.0.0 and later is not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 4.0.0	Install the new firmware (4.0.1).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.0.1).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.0.1).

10.2   Feature Additions

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Added support for the new TERA2240/2220/2140/2321 Processor based zero clients and host cards.	✓	✓	✓
Added support for using the zero client in Imprivata OneSign Single Sign-On mode with the OMNIKEY 5127 proximity reader.	✓		
Added hotkey to disconnect support (Ctrl + Alt + F12). This feature is enabled by default and is available in Workstation and View deployments. Note: Workstation deployments require that the PCoIP host software be installed with the local cursor feature enabled. The advanced options section of the session web page added a field to enable/disable the feature.	✓	✓	
Added pre-session support for the eToken 5205 Pro Anywhere and eToken NG OTP.	✓		
Improved error indications in the View login flow. This change includes in-line error messages for bad username or password and a Caps Lock indicator.	✓		
Added support for configuring the SNMP community name.	✓	✓	✓
Removed network icon in the OSD and improved status indication in connect dialog.	✓	✓	
Modified the View connection security text to match current View clients.	✓		
Event log is cleared when a reset to factory defaults is applied.	✓	✓	✓
Added support for "Desktop Name to Select" configuration in "View Connection Server + Imprivata OneSign". This field is available in the advanced options under session configuration.	✓		

For screen images of user interface changes, see the online help.

10.3   Important Bug Fixes

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Zero client now trusts intermediate and leaf certificates.	✓		
Zero client does not require the View Connection Server certificate to have the Server Authentication Enhanced Key Usage if the certificate does not have any Enhanced Key Usage entries.	✓		
Certificates with RFC3280 GeneralizedTime four-digit years are now supported.	✓		
Zero client can now handle any OID appearing in a certificate's subject or issuer fields. For example, Go Daddy certificates.	✓		
Improved robustness when accessing smart card readers from applications on a virtual machine including RDP sessions.	✓		
Improved handling of certificates with Subject Alternative Name data.	✓		
Zero client now accepts certificates with a critical Certificate Policies extension.	✓		
Improved Online Certificate Status Protocol (OCSP) error handling.	✓		
Zero client no longer generates duplicate keystrokes when typing quickly. Note: For workstation deployments, this fix only applies to systems running the PCoIP host software with the **Local Cursor** feature enabled.	✓	✓	
Zero client no longer loses the first character typed on bridged keyboards.	✓		
Zero client no longer asserts when connecting to a disabled View Connection Server.	✓		
Certificate store is now cleared when resetting to factory defaults through the OSD, Web, and CMI interfaces (instead of only the Web interface).	✓	✓	✓

10.4 Known Issues

For known issues, see the Knowledge Base on the Teradici support website.

Tera1 USB Device Modes and Tera2 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

11 Release 4.0.0

This section provides a brief summary of the feature additions and issues resolved in release 4.0.0 versus 3.5.1.

Note: Release 4.0.0 is only applicable to Tera1 zero clients and host cards.

11.1 Compatibility

VMware Horizon View 5.0 or later deployments using zero client devices to connect to View virtual desktops should install release 4.0.0 on the zero client devices.

It is highly recommended that remote workstation deployments using zero clients with PCoIP host cards install release 4.0.0 on *both* the host card and client devices. While mixed firmware release operation is not tested, firmware release 4.0.0 is compatible with 3.5.x, 3.4.x, 3.3.x, 3.2.x and 3.1.x releases. Firmware 4.0.0 and later is not interoperable with release 3.0 and earlier. An "Unable to connect (0x1002). Please contact your IT administrator." error message appears on the display if you try to connect to a PCoIP host card running an incompatible release.

Deployments using the PCoIP Management Console (MC) to manage Tera1 PCoIP endpoints must use PCoIP MC version 1.7.0 or later with this firmware release.

Note: This Tera1 firmware release can only be installed on Tera1 PCoIP processors running firmware release 1.4 or later. If the processor is loaded with a firmware release prior to version 1.4, first download one or more intermediate firmware releases. The following table lists the installation steps for each version of firmware that may be installed on a PCoIP processor. To view the firmware version, go to the device **Info** > **Version** web page.

Installed Firmware Version	Upgrade process
1.4 through 3.5.1	Install the new firmware (4.0.0).
0.18 through 1.3	1. Install a 1.x firmware release (1.4 or later). 2. Install the new firmware (4.0.0).
0.1 through 0.17	1. Install firmware release 0.18. 2. Install a 1.x firmware release (1.4 or later). 3. Install the new firmware (4.0.0).

11.2   Feature Additions

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Security enhancement: Add support for configuring the **VCS Certificate Check Mode** and **VCS Certificate Check Mode Lockout** settings on the **Configuration->Session** web page. Three modes are supported. • Reject the unverifiable connection (Secure) – requires a trusted, valid certificate. • Warn if the connection may be insecure (Default) – warns when unsigned (View default), expired certificates or when the certificate is not self-signed and the zero client trust-store is empty. • Allow the unverifiable connection (Not Secure) – connects even if the connection may be compromised. The **VMware View** tab on the OSD **Options->User Settings** screen lets users view and potentially modify the **VCS Certificate Check Mode**. Users cannot modify the mode when the **VCS Certificate Check Mode Lockout** setting is checked.	✓	✓	
Security enhancement: Add support for configuring the **Session Negotiation Cipher** setting on the **Configuration->Session** web page. This setting applies to all session connection types (Direct to Host, View Connection Server and Connection Management System). Two cipher settings are supported. • Maximum Compatibility: TLS 1.0 with RSA keys and AES-256 or AES-128 encryption. • Suite B: TLS 1.2 with Suite B-compliant 192-bit elliptic curve encryption (Note: At the time of writing this cipher setting is not supported by View 5.1 and earlier virtual desktops).	✓	✓	✓
Updated the OSD look and feel: • Revised color scheme • Revised logo placement	✓	✓	
OSD enhancement: Remove **Peer MAC Address** and add **Enable Preparing Desktop Overlay** settings on the **Advanced Session** settings for Direct to Host connections.		✓	

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
OSD enhancement: Add support for configuring the **Desktop Name to Select** and **Enable Preparing Desktop Overlay** settings on the **Advanced Session** settings for VCS connections.	✓	✓	
OSD enhancement: Add support for setting **Session Connection Type** equal to **View Connection Server + Auto-Logon** using the OSD. Previous releases support configuring this connection type through the web interface or the PCoIP MC.	✓	✓	
OSD enhancement: Add support for configuring the native resolution of each display when the display override feature is enabled.	✓	✓	
OSD enhancement: Modified the display topology setting page.	✓	✓	
OSD enhancement: Removed requirement to reboot zero client after changing display topology **Rotation** setting.	✓	✓	
Add support for a newly defined Teradici SNMP MIB which adds an extensive set of read-only variables. For details on the new MIB, see Knowledge Base topic 15134-203 on the Teradici support site.	✓	✓	✓
Add support for configuring the PCoIP endpoint session timeout (from 5 to 60 seconds) using the CMI.	✓	✓	✓
Changed default OSD screen saver timeout to 300 seconds. Previous releases disabled the OSD screen saver by default.	✓	✓	
Updated the zero client Wake-on-LAN session configuration settings. Note: This change affects deployments using PCoIP host cards configured to wake workstations from a low power state using Wake-on-LAN messages.		✓	

For screen images of user interface changes, see the online help.

11.3 Important Bug Fixes

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Resolved an issue where disabling **Login Username Caching** has no effect when using Imprivata OneSign.	✓		
Resolved an issue where the PCoIP endpoint would reset if DHCP Options 60 and 43 are not configured to identify the PCoIP Management Console. See the latest "PCoIP® Management Console User Manual" (TER0812002) for configuration information.	✓	✓	✓
Resolved an issue where the Omnikey 5325CL proximity card reader would not work with a zero client.	✓		
Resolved an issue where the zero client resets when logging out of a session authenticated with a smart card reader that uses an ALCOR AU9540A51-GBS-GR device.	✓	✓	
Resolved an issue where the incorrect keyboard layout is used after downgrading firmware to a release that does not support the currently configured keyboard layout.	✓	✓	
Resolved issues when using smart cards in-session with applications and middleware that make use of the SCardListReaders and SCardControl API functions.	✓	✓	

11.4 Known Issues

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
For known issues, see the Knowledge Base on the Teradici support website when PCoIP zero clients are connected to VMware Horizon View virtual desktops.	✓		
Deployments using PCoIP MC releases earlier than 1.7.0 may experience a problem where the PCoIP MC daemon resets while communicating with a zero client running firmware release 3.5.0 or later. This occurs if the zero client has more than five VCS entries. **Workaround**: Upgrade to PCoIP MC version 1.7.0 or later or limit the maximum number of VCS entries to five.	✓	✓	

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
The desktop display resolution may change when a user resizes the software client window while a session is active with a PCoIP host card. This occurs if the client window becomes smaller than the current desktop or a larger resolution will fit within the client window. Sometimes when this change occurs, the graphics driver scales the image resulting in the desktop not fitting within the client window. **Workaround**: Resize the client window or configure the graphics driver to use the monitor's built in scaling feature.			✓
The PCoIP MC cannot be used to configure the IPv6 Gateway Address field. **Workaround**: Enable and configure DHCPv6 or SLAAC to set this field or configure the field statically using the device web interface.		✓	✓
Zero clients always connect to port 443 of the Imprivata OneSign server. Users cannot override the port by configuring a port number in the **Bootstrap URL** field.	✓		
Zero clients may fail to establish Imprivata OneSign sessions when the **OneSign Appliance Verification** setting equals **no verification**. This happens when the zero client trust store contains a certificate issued by the OneSign server that does not match the certificate used by the OneSign server. **Workaround**: Ensure the zero client trust store does not contain certificates issued by the OneSign server or ensure certificates in the zero client trust store match the certificates used by the OneSign server.	✓		
Zero clients in session with View 5.1 desktops running XP-32 may experience brief audio outages while using USB speakers or headsets.	✓		
Customers connecting a zero client to both PCoIP host cards and View desktops may experience USB device connectivity problems when connected to the View desktop. **Workaround**: After ending a session with a PCoIP host card, reset the zero client before establishing a session with a View desktop.	✓	✓	

Description	Zero Client (used with Horizon View)	Zero Client (used with Host Card)	Host Card
Customers connecting a zero client to a View 5.0.1 (or earlier) desktop may experience USB device connectivity problems. **Workaround**: Unplug and re-plug the USB device.	✓		

Tera1 USB Device Modes describe the mode USB devices connected to a zero client operate in based on device type, session type, and device configuration.

Glossary of Definitions

ACK

Acknowledgement

AWI

Administrator Web Interface. A PCoIP device used for monitoring and configuring PCoIP zero clients and host cards. To connect to the AWI, simply enter the PCoIP device IP address into a supported browser.

AWS

Amazon Web Services

CAC

Common Access Card – a smart card technology used in the U.S. Department of Defense

CMI

Connection Management Interface – interface provided by the portal or host used to communicate with an external connection management server

DVI

Digital Visual Interface

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.

EHCI

Enhanced Host Controller Interface – a USB specification

FQDN

Fully Qualified Domain Name

GPU

Graphics Processing Unit

GSC-IS

Government Smart Card Interoperability Specification or Government Smart Card Interface Standard

GUI

Graphical User Interface. When not operating in a PCoIP session, this interface is presented by the zero client OSD (On Screen Display).

HID

Human Interface Devices such as keyboards and mice

IETF

Internet Engineering Task Force

MAC

Media Access Control – a unique hardware identifier

MC

PCoIP Management Console

MIB

Management Information Base

NTP

Network Time Protocol

OCSP

Online Certificate Status Protocol – protocol used to determine the status of an X.509 digital certificate (defined in RFC 2560)

OFD

Opportunity for Defect or Optional Factory Defaults

OID

Object identifier – a numerical value used to identify objects in a certificate

OpenSLP

Open Service Location Protocol. This is an open-source implementation of the IETF suitable for commercial and non-commercial application. This is used by the zero client to discover the hard hosts in the subnet (Direct to Host + SLP).

OSD

On Screen Display. The interface presented by a zero client. The OSD displays connection dialogs and local configuration options that are accessible to both users and administrators. If desired, administrators can lock down or hide the configuration options from users.

OTP

One-Time Password – security system that requires a new password every time a user is authenticated

PCoIP

Personal Computer over Internet Protocol (PC-over-IP)

PCoIP Host

Host side of PC-over-IP system

PCoIP MC

PCoIP Management Console – tool provided by Teradici that gives IT personnel the ability to access and to manage all PCoIP hosts and zero clients from a single location in a deployment

PCoIP Zero Client

Desktop or client side of PC-over-IP system

PIV

Personal Identification Verification

PKI

Public-Key Infrastructure

RDP

Remote Desktop Protocol

RSA

RSA is public key cryptosystem

SACK

Selective Acknowledgement Protocol or Selective ACK is designed to improve PCoIP performance over lossy networks such as WANs

SAN

Subject Alternative Name

SCEP

Simple Certificate Enrollment Protocol – protocol which supports issuing and revoking digital certificates

SFP

Small Form Factor Pluggable - transceiver for Fast Ethernet or Gbit Ethernet applications

SHAC

SafeNet High Assurance Client (SHAC) middleware

SLP

Service Location Protocol

SNMP

Simple Network Management Protocol

Software Client

VMware Horizon View software application that can establish a PCoIP session with a PCoIP host

SSD

Solid State Drive

SSPR

Self-Service Password Reset

Tera1

First-generation family of Teradici processors for PCoIP zero clients and host cards

TERA1100

First-generation Teradici processor supporting PCoIP zero client functionality. TERA1100 zero clients support up to two displays at a resolution of 1920x1200. The maximum resolution depends on the zero client memory size.

TERA1202

First-generation Teradici processor supporting PCoIP host card functionality. TERA1202 host cards support two displays at a resolution of 1920x1200.

Tera2

Second-generation family of Teradici processors for PCoIP zero clients and host cards

TERA2140

Second-generation Teradici processor supporting PCoIP zero client functionality. TERA2140 zero clients support two displays at a resolution of 2560x1600 or four displays at a resolution of 1920x1200.

TERA2220

Second-generation Teradici processor supporting PCoIP host card functionality. TERA2220 host cards support two displays at a resolution of 1920x1200 or one display at a resolution of 2560x1600.

TERA2240

Second-generation Teradici processor supporting PCoIP host card functionality. TERA2240 host cards support four displays at a resolution of 1920x1200 or two displays at a resolution of 2560x1600.

TERA2321

Second-generation Teradici processor supporting PCoIP zero client functionality. TERA2321 zero clients support two displays at a resolution of 1920x1200 or one display at a resolution of 2560x1600.

TLS

Transport Layer Security

UTC

Universal Time Coordinated or Coordinated Universal Time—the primary time standard by which the world regulates clocks and time.

VCS

VMware View Connection Server

VM

Virtual Machine

WoUSB

Wake on USB