

# **Teradici PCoIP® Hardware Accelerator (APEX 2800) Driver Release Notes**

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Issue 12



Teradici Corporation  
#101-4621 Canada Way, Burnaby, BC V5G 4X8 Canada  
p +1 604 451 5800 f +1 604 451 5818  
[www.teradici.com](http://www.teradici.com)

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## Revision History

Version	Date	Description
Issue 12	Jan. 15, 2014	Upgraded VM driver to support VMware Horizon View™ 5.3.

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# 1 Preface

The Teradici PCoIP<sup>®</sup> Hardware Accelerator (APEX 2800) provides consistent user experience and delivers higher frames per second (FPS) to the remote end point by offloading PCoIP encoding tasks from the CPU. The Hardware Accelerator is only supported on VMware View<sup>™</sup> back end systems.

Available as a standard PCIe expansion card for industry-standard servers, and as a mezzanine card for Dell and HP blade servers, the Hardware Accelerator monitors the graphical demands of all displays and dynamically offloads the image encoding of up to the most demanding 100 displays.

As demands change, the Teradici PCoIP Hardware Accelerator seamlessly and automatically shifts between hardware encoding on the card and software encoding on the virtual desktop's vCPU(s), ensuring the best user experience at all times.

The Teradici PCoIP Hardware Accelerator is the ideal complement to GPU implementation on VMware Horizon View<sup>™</sup> (both vSGA and vDGA).

This document provides a summary of Teradici PCoIP Hardware Accelerator driver release 2.3.3.

## 1.1 Audience

This document is intended for IT administrators who have deployed or plan to deploy the Hardware Accelerator in a virtual desktop (VMware View<sup>™</sup>) environment.

## 1.2 Additional Resources

The following resources are also available:

- "Teradici PCoIP<sup>®</sup> Hardware Accelerator (APEX 2800) Administrator's Guide" (TER1109003)
- Teradici PCoIP Hardware Accelerator installation video tutorial:  
<http://techsupport.teradici.com/ics/support/KBAnswer.asp?questionID=776&hitOffset=69+12&docID=765>
- Teradici APEX 2800 Evaluation and Demo Guide:  
<http://techsupport.teradici.com/ics/support/KBAnswer.asp?questionID=825&hitOffset=124+85+12&docID=8055>
- APEX 2800 Dashboard for simple testing and evaluation of the Hardware Accelerator:  
<http://techsupport.teradici.com/ics/support/KBAnswer.asp?questionID=761&hitOffset=210+16&docID=754>

## 2 Release 2.3.3

This release includes an updated virtual machine (VM) driver to add support for VMware Horizon View™ 5.3.

Note: Administrators should ensure they have version 2.3.2 of the ESXi driver installed. No changes for this driver are included in this release.

### 2.1 Drivers Package Contents

The Hardware Accelerator drivers package includes the following software components:

- **VM driver:** apex2800-2.3.3-rel-28661.exe
- **ESXi driver:** apex2800-2.3.2-rel-esxi-<esxi version>-026461.zip

### 2.2 Version

Version information for the ESXi driver can be checked using the command “pcoip-ctrl -l”:

APEX2800 Driver Information:

- SVN revision (26461), Built Oct 16 2013 : 15:33:32
- Display Manager is (ENABLED)
- Display Portrait Mode is (DISABLED)
- Maximum Resolution Supported: 1920 x 1200
- Number of displays supported: 128

APEX2800 Device Summary:

- (1) APEX2800 device present
  - APEX2800-LP PCIe (Bus 14) (IN\_SERVICE)
    - ++ Serial Number (L12110006545)
    - ++ Firmware SVN revision (26461), Built Oct 16 2013 : 15:31:59
    - ++ CPU Temperature (52c), Ambient/Board Temperature (49c)
    - ++ Device Util (0), Image Pipeline (0) Kpps
  - APEX2800-LP PCIe (Bus 20) (IN\_SERVICE)
    - ++ Serial Number (L12110006546)
    - ++ Firmware SVN revision (26461), Built Oct 16 2013 : 16:44:39
    - ++ CPU Temperature (54c), Ambient/Board Temperature (50c)
    - ++ Device Util (0), Image Pipeline (0) Kpps

Virtual Machine Summary:

- (1) Virtual Machines Found
- (1) PCoIP Sessions Found
- (1) PCoIP Display Offloaded

## 2.3 Compatibility

VM driver release 2.3.3 tested on:

- VMware Horizon View™ 5.3
- VMware Horizon View™ 5.2
- VMware View™ 5.1, 5.1.1, 5.1.2
- VMware View™ 5.0, 5.0.1

ESXi driver release 2.3.2 tested with:

- ESXi 5.5, build number 1331820
- ESXi 5.1 Express Patch 3, build number 1117900
- ESXi 5.1 Update 1, tested on build number 1065491
- ESXi 5.0 Update 3, build number 1311175
- ESXi 4.1 Express Patch 12, build number 1050704

Teradici PCoIP Hardware Accelerator:

- APEX PCIe card reference T2800H0100, Rev 02
- APEX Low Profile PCIe card reference T2800H0101, Rev 01
- APEX MXM for HP Blade servers, card reference T2800H0200, Rev 01
- AHK DXM-A APEX for Dell blade servers

## 2.4 Release Features

### VM Driver Support

VM driver release 2.3.3 (apex2800-2.3.3-rel-28661.exe) includes support for VMware Horizon View™ release 5.3.

### ESXi Version Support

APEX 2800 driver release 2.3.2 includes support for the latest ESX 5.5 release.

Summary of the packages provided and ESXi version supported:

- apex2800-2.3.2-rel-esxi-4.1.0-026461.zip
  - Supports ESX 4.1 Update 1, 2 and 3
- apex2800-2.3.2-rel-esxi-5.0.0-026461.zip
  - Supports ESX 5.0 Update 1 and 2
- apex2800-2.3.2-rel-esxi-5.1.0-026461.zip
  - Supports ESX 5.1 Update 1
- apex2800-2.3.2-rel-esxi-5.5.0-026461.zip
  - Supports ESX 5.5 GA

## 2.5 Known Issues

There are no known issues for VM driver release 2.3.3. The table below summarizes the known issues for ESXi driver release 2.3.2.

Teradici Reference	Title	Description
N/A	Possible lower frame rates when using vDGA rendering.	A reduction in frame rate may be experienced when using Virtual Dedicated Graphics Acceleration (vDGA) rendering.
6622	Lower frame rates when using a VMware View software client.	Occasionally, with certain workload types, the software client output frame rate will be slightly lower when a display is being processed by APEX. Teradici PCoIP zero clients are unaffected.
10625	Occasional artifacts and display tearing on multi-monitor displays.	Occasionally when using multi-monitor PCoIP sessions, there will be some tearing while updating application windows while display activity occurs on both displays simultaneously, i.e., when dragging windows across both displays.
10520	Very occasional APEX offload cancellation.	Very occasionally, during long-term regression testing, we observed APEX offload cancellations with the following message appearing in the logs: '... Cannot allocate PDU data for VSMBUS ...' APEX offloading will resume within 30 seconds of the offload cancellation.
10664,10625	Caching not supported on multi display PCoIP session.	When more than one display is connected to a VM, the caching is not working, meaning bandwidth utilization will stay the same as with APEX 2800 drivers 2.2.

## 2.6 Resolved Issues

None.



## Glossary of Definitions

**ESX/ESXi**

VMware hypervisor (virtual machine manager)

**FPS**

Frames per second

**GPU**

Graphics Processing Unit

**MXM**

Mobile PCI Express Module

**OS**

Operating System

**PCLe**

Peripheral Component Interconnect Express

**PCoIP software**

Software implementation of the PCoIP protocol that is integrated into VMware View Agent/Client release 4.0 and later

**PCoIP zero client**

Desktop (client) side of PCoIP system; e.g., PCoIP zero client or PCoIP integrated display

**PCoIP<sup>®</sup>**

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

**PC-over-IP<sup>®</sup>**

Personal Computer over Internet Protocol

**vCPU**

Virtual CPU within a virtual machine

**vDGA**

Virtual Dedicated Graphics Acceleration

**VDI**

Virtual Desktop Infrastructure

**VIB**

VMware vSphere Installation Bundle

**VM**

Virtual Machine

**vSGA**

Virtual Shared Graphics Acceleration

**zero client**

See PCoIP zero client