

Teradici APEX™ 2800 technical datasheet

The Teradici APEX 2800 server offload card provides hardware-accelerated PCoIP® image encoding for VMware View™ virtual desktops.

Available as a standard PCIe expansion card for industry-standard servers, the APEX 2800 monitors the graphical demands of all displays and automatically offloads the image encoding of the most active 64 displays from the server CPUs.

As demands change, the card will seamlessly and dynamically shift between hardware encoding on the APEX 2800 and software encoding on the virtual desktop's vCPU(s).

KEY BENEFITS

- Protect and ensure a consistent user experience
- Improve consolidation ratio (number of virtual machines per server)
- Simple to install and set up



PRODUCT SPECIFICATIONS

PCoIP Processor	<ul style="list-style-type: none"> ● Teradici TERA2800 ● Display compression of up to 300 megapixels per second
Board	<ul style="list-style-type: none"> ● 6-layer printed circuit board (PCB) ● PCI Express x8 Gen 1.1 ● Full height, half length (FHHL) card: <ul style="list-style-type: none"> Width: 111.15 mm (4.376 inches) Length: 167.65 mm (6.600 inches) Height: 14.47 mm (0.570 inches) Weight: 260 g
Memory	<ul style="list-style-type: none"> ● 2 GB DDR3-1066 SDRAM with ECC protection for video memory ● 128 Mbit parallel flash for firmware storage
Power and thermal	<ul style="list-style-type: none"> ● Power supplied to card via PCIe interface: <ul style="list-style-type: none"> 15 W typical 20 W maximum ● Passive heat sink ● On-board card and device temperature monitoring
Power states	<ul style="list-style-type: none"> ● D0 – full power state
LED Indicators	<ul style="list-style-type: none"> ● Power LED – solid green indicates stable power ● Heartbeat LED – blinks twice per second for normal operation
Connectors	<ul style="list-style-type: none"> ● None
Environmental	<ul style="list-style-type: none"> ● Temperature range: <ul style="list-style-type: none"> Operational: 0°C to 55°C Storage: -20°C to 70°C ● Humidity: <ul style="list-style-type: none"> Relative (non-condensing): 10% to 90% Storage: 5% to 95%

SYSTEM REQUIREMENTS

- VMware View Server
- ESXi 4.1 U1/U2 (ESXi 5.0 available in Mar 2012)
 - VMware View 4.6, View 5.0 or newer
 - Virtual desktop operating system support:
 - Windows 7 32-bit/64-bit
 - Windows Vista 32-bit/64-bit
 - Windows XP
 - Server platforms supported:
 - X64 (EM64T and AMD Opteron 64)
 - Server platform with an available x8 PCI-express slot
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- Clients
- PCoIP zero clients with firmware 3.5 or later
 - VMware View 4.6 clients or newer
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REGULATORY COMPLIANCE

- ROHS-6 compliant (including EU directive compliance)
 - Product Safety Approvals:
 - UL for US
 - CSA for Canada
 - IEC 60950-1
 - EMI and EMC Approvals:
 - Federal Communications Commission (FCC) Class A for USA
 - Conformité Européenne (CE) for EU
 - Voluntary Control Council for Interference (VCCI) class A for Japan (also DENAN and MIC)
 - C TICK/CISPR Class A for Australia and New Zealand
 - BSMI/CNS for Taiwan
 - KCC for Korea
 - IC for Canada, ICES/NMB-003 Class/Classe B
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NETWORK CONSIDERATIONS

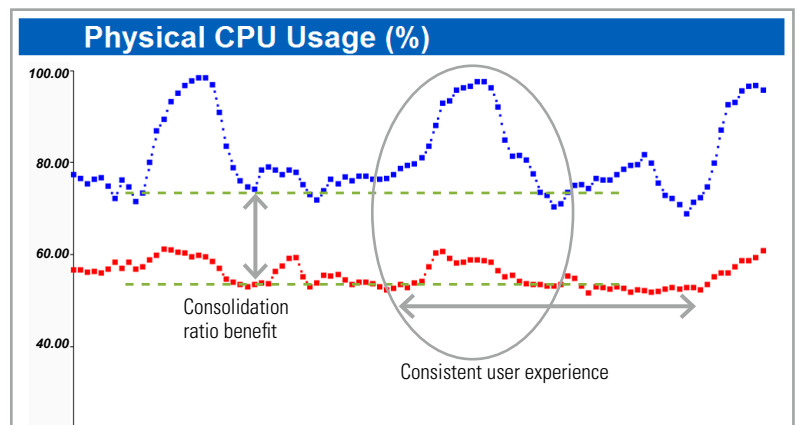
- PCoIP protocol provides real-time delivery of a rich user desktop experience. To ensure a responsive desktop, the network infrastructure must be optimized for real-time PCoIP packet delivery requirements including:
 - Sufficient network bandwidth
 - QoS for PCoIP packets
 - Connection latency
 - Minimal packet-loss
 - For more information see *PCoIP Protocol Virtual Desktop Network Design Checklist* on the Teradici support site.
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TERADICI APEX 2800 FEATURES / BENEFITS

Offload PCoIP tasks from server CPU	<ul style="list-style-type: none"> • Ensure and protect end-user experience. • Improve VM consolidation ratio.
Dynamically offload the most active 64 displays	<ul style="list-style-type: none"> • Simultaneous PCoIP protocol encode for all displays offloaded. • No limit on number of VM's on server, but the most active 64 displays (per APEX 2800) are dynamically offloaded. • Up to 2 cards per server for a total of 128 offloaded displays.
Up to 5 priority levels available	<ul style="list-style-type: none"> • Offload priority can be given to the group that needs it most. • Offloading is based first on priority level then on displays' activity.
Managed through View Administrator	<ul style="list-style-type: none"> • No need to install a new management tool. • No complex configuration required at setup. • Scalability as the system always offloads to APEX 2800 maximum capacity. • Compatible with VMware DRS and vMotion for server load balancing.
15 W typical power consumption	<ul style="list-style-type: none"> • No need for specific ventilation.
Dynamic imaging resource management	<ul style="list-style-type: none"> • Intelligent offload ensures the most active displays are offloaded. • Seamless switching between PCoIP software encoding and APEX 2800 hardware encoding – no impact to end-users' experience.
Per-pixel image encoding and decomposition	<ul style="list-style-type: none"> • Use of the right CODEC per pixel means better user experience and lower bandwidth utilization in some cases (workload dependent). • Improves overall display quality in some cases.
Full PCoIP implementation	<ul style="list-style-type: none"> • Intelligent protocol which provides the best user experience for the available bandwidth – automatic adjustment of image quality based on available network resources.

LOWER VARIANCE IN CPU LOADS RESULTS IN CONSISTENT USER EXPERIENCE

- Consolidation ratio improvement relative to an average workload
- Ensure and protect user experience by cutting CPU peaks by up to 50%

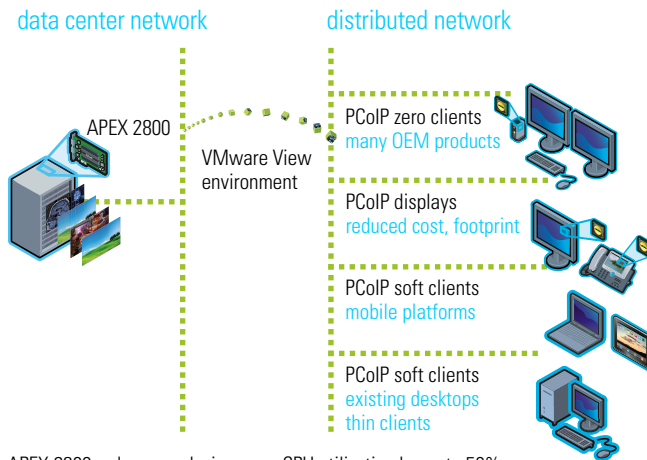


Comparison graph with and without APEX 2800

■ Soft Encoder
■ APEX Encoder

COMPLETE INTEROPERABILITY WITH ANY PCOIP CLIENTS

The APEX 2800 fits into virtual desktop environments that include a virtual desktop server and a network connecting the server to desktop clients.



APEX 2800 reduces peaks in server CPU utilization by up to 50%, freeing up valuable CPU cycles

PROTECT AND ENSURE A CONSISTENT USER EXPERIENCE

- Reduce peaks in server CPU utilization (related to PCoIP tasks) by up to 50%, freeing up valuable CPU cycles.
- Provide more CPU headroom to the VDI implementation.
- Ensure consistent application performance.
- Protect user experience so that it's reliable and consistent as loads change.

IMPROVE VDI CONSOLIDATION RATIOS

- Consolidate more users on the same server
 - up to 1.2x in typical office workload (5% video, 95% office)
 - up to 2x for heavy multimedia workload (100% video)
- Each card offloads the most active 64 displays at a resolution of up to 1920x1200.
- Up to two cards per VDI server for 128 displays offloaded.
- Decreases overall cost per user.

SIMPLE TO INSTALL AND SETUP

- No complex configuration required – insert in the server, install the drivers and click to enable hardware acceleration in VMware View Administrator.
- Compatible with all existing PCoIP zero clients and VMware View software clients.
- Fully integrated with VMware ESXi 4.1 (5.0 support in Mar 2012) and managed by VMware View 4.6 or 5.0.
- PCI Express card format for industry standard servers.