



# ALL-ZC-2140P-DP PCoIP Zero Client Overview

## TERA2140 DP PCoIP Zero Client Overview

Teradici is the developer of the PC-over-IP (PCoIP) remote desktop protocol, which is leveraged in several VDI solutions and provided with Teradici hardware solutions which are OEMéd by several vendors. PCoIP is the standard remote desktop protocol from VMware Horizon View to setup small, medium and large VDI environments.

To get access to your virtual desktop and working with it, you no longer need to have a large and power consuming PC under your desk. You can use a small zero client from ALLNET, to get the usual desktop environment and much more for your work.

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## TERA2140 DP PCoIP Zero Client Overview

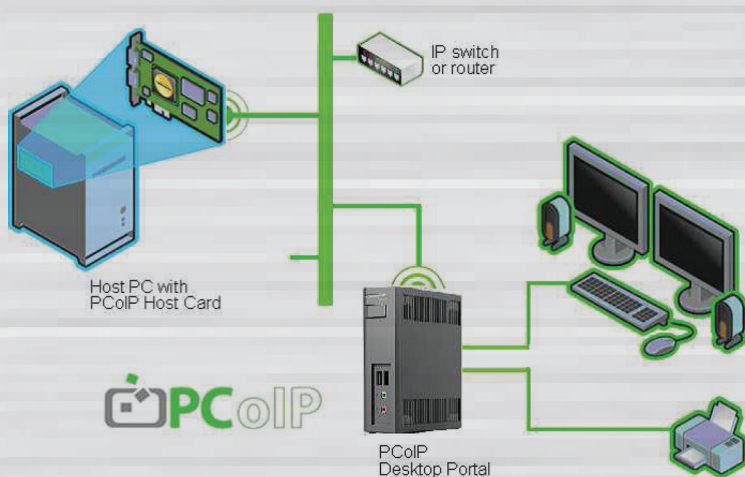
The PCoIPTM technology is designed to deliver a user's desktop from a centralized host PC with an immaculate, uncompromised end user experience across standard IP networks – including full quad/dual DVI or quad DisplayPort monitor video, complete USB compatibility, and full-duplex high-definition audio. The new TERA2140 PCoIP zero client is a portal device (7.205 x 5.217 x 1.764 inches without stand) based on the proprietary Teradici® TERA2140 Portal processor that resides in a remote client access device.

The PCoIP Host/Client system separates the user from the PC or workstation, which provides both increased security and needs minimal IT administration and support overhead for the enterprise while giving end users complete remote display and I/O functionality for personal computer (PC) or workstation graphics user interfaces. It is connected to the network via standard Ethernet using either RJ45 at 10/100/1000Mbps or Fiber at 100/1000Mbps.

The second-generation PCoIP Host/Client system provides the following benefits:

Der neue HomePlug AV2 Standard ermöglicht hocheffiziente Datenübertragung auf dem Stromkabel mit Technologien wie z.B. Efficient Notching & High Efficiency PHY Protocoll Data Unit (PPDU) Structure.

- Wide range of applications from very robust personal workstations to simple kiosks
- Support for up to four 1920x1200 high-resolution, perception-free DVI or DisplayPort video outputs and USB 2.0 peripherals allows PC or workstation relocation to the datacenter or computer room without compromising end user experience or productivity
- High cost effectiveness when integrated into PCs or workstations
- Robust PC experience delivered to the end user without the need for Terminal Services protocols
- Performance using existing enterprise networks, enabling low cost, straightforward kiosk or digital signage functionality



The TERA2140 PCoIP zero client ships with four 1 Gbit of DDR3 memory and supports four DisplayPort, four USB, a Speaker, a Microphone, a Headphone and an Ethernet connectors (with RJ45 or SFP Fiber connector). Output is driven by the DisplayPort ports for video and USB 2.0 ports for peripheral and I/O connections. The net result is a fan-less and reliable client-side device that requires minimal IT administration and support since all processing resides on the host PC or workstation. This client device is compatible with TERA22xx host cards, and VMware® View™ 4.5 or later.



## Key Features

### Processor

- Processor: TERA2140 PCoIP Portal Processor
- Process: 65nm G-process CMOS
- Package size: 896-ball FCBGA (31 x 31 mm package), 1.0 mm ball pitch

### Board

- 8 layer printed circuit board (PCB)
- PCB physical dimensions: 6.102 inches (height) X 4.724 inches (length)
- Device physical dimensions: 7.205 inches (height) x 5.217 inches (length) x 1.764 inches (thickness) without stand
- Board power: 21.96 W (with four high power consumption USB devices attached)
- Thermal: Passive heat sink

### Connectors

- Four DisplayPort connectors support
  - Two displays, each with a maximum of 2560x1600 resolution
  - Four displays, each with a maximum of 1920x1200 resolution
- Two front USB 2.0 connectors
- Two rear USB 2.0 connectors
- 3.5mm Headphone jack
- 3.5mm Microphone jack
- 3.5mm Speaker jack
- Ethernet connector (using either RJ45 at 10/100/1000Mbps or Fiber at 100/1000Mbps)
  - 10/100/1000Base-T copper interface with Link and Activity LEDs
  - 100/1000Base-X SFP interface for LC optical interface
- 12VDC Power jack

### Memory

- 4 x 1024 Mbit 16-bit DDR3 DRAM devices (512MB DDR3)
- 256 Mbit of parallel flash for high-speed system booting

### Audio

- High Definition Audio serial link. Supports a single audio codec.

### USB

- Four type-A USB 2.0 interfaces
- USB 2.0 bulk support
- USB 1.1 isochronous support
- Support up to 500mA per USB port
- Support configurable Wake-on-USB (WoUSB) for remote-wakeup capable USB devices
- Overcurrent and power down logic to complement standard power regulators



### 10/100/1000 Ethernet Media Access Controller

- Dedicated for PCoIP traffic
- Auto-negotiation of link speed and duplex mode
- Flow control using back pressure for half-duplex mode and pause frames (IEEE 802.3x) for full-duplex mode
- Support Wake-on-LAN (WoL) using magic packet
- Device Bandwidth Limit: 1 to 600 Mbps

### Security

- Wire speed AES GCM 128/256 bit encryption/decryption for network traffic
- Management communication protected by SSL

## Processor Description

The TERA2140 PCoIP zero client uses the TERA2140 PCoIP Portal Processor. The TERA2140 resides inside a small, simple, stateless access device under any usage scenario. It receives and decodes these signals from the PCoIP Host board to create standard PC interfaces for the display, USB peripherals, and audio. The PCoIP Portal processor also supports a reverse communication path for items like USB keyboards, mouse, microphone, audio, and other peripherals. The TERA2140 PCoIP client device offers functions such as:

### Perception-Free Remote GUI

- By interfacing at the physical layer, and using specialized encoding algorithms running on a high-performance multi-core processing engine, the PCoIP system provides a perception-free remote GUI that is completely independent of any operating system
- This enables all of a PC's active components to be centralized for better management and security while ensures that the user maintains a 100% full, rich PC experience.

### Image Processing Technology

- Encodes digital video input in real time and is capable of dynamically adjusting the compression to the available network bandwidth
- Image compression is achieved by first decomposing the input video image into different types of image objects. Each image object is then compressed using a set of image processing algorithms that are optimized for the specific type of object. The final stage of image processing is to encapsulate the compressed image data streams into the payload of Ethernet packets to be sent to the portal device
- Optimizes compression algorithms and quality in real time to achieve the best possible image quality for the available network bandwidth, thus allowing the PCoIP system to operate in various types of networks and data rates.

### Security and Authentication

- A TLS tunnel is used for all non-media communications between both the PCoIP Host Processors and TERA2140 Portal Processor and between the PCoIP host and portal processors and the CMS
- Mutual certificate-based device authentication occurs as part of the TLS handshake protocol. PCoIP Host Processor media traffic is encrypted using an IPSec ESP tunnel whose keying information is established securely over the TLS tunnel.



## Display Options

The TERA2140 PCoIP zero client device supports up to four DisplayPort outputs.

- Two digital flat panel displays, each with a maximum of 2560x1600 resolution
- Four digital flat panel displays, each with a maximum of 1920x1200 resolution

## Configurations

This table lists the configuration currently available for the TERA2140 PCoIP zero client device.

Specification	Description
Chip	TREA2140 Portal Processor
Chip package size	31 mm x 31 mm
Memory type	4pcs 1024 Mbit 16-bit DDR3 DRAM (512MB DDR3)
Physical dimensions	7.205 inches (height) x 5.217 inches (length) x 1.764 inches (thickness) without stand
Maximum device power	21.96 W (with four high power consumption USB devices attached)
Connectors	Four DisplayPort connectors support Two front USB 2.0 connectors Two rear USB 2.0 connectors Optional: One smart card reader port (only three USB connectors left for the sku) 3.5mm Headphone jack 3.5mm Microphone jack 3.5mm Speaker jack Ethernet connector (using either RJ45 at 10/100/1000Mbps or Fiber at 100/1000Mbps) 12VDC Power jack
LEDs on the bracket	PCoIP connect LED for PCoIP session Power LED on Portal Power Button
Button	Portal Power Button
Thermal cooling solution	Passive heat sink
Mean time between failure (MTBF)	TBD



## Mechanical Specifications

### Device

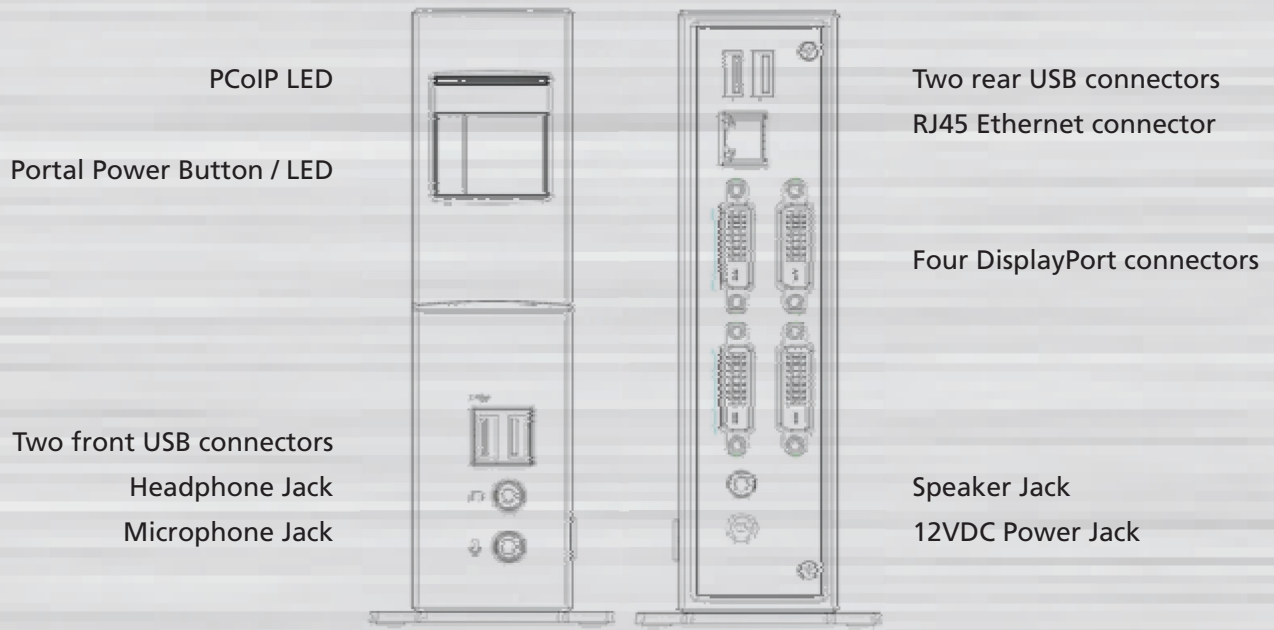
The TERA2140 PCoIP zero client conforms to the small, simple (7.205 inches by 5.217 inches) device using the TERA2140 Portal processor.



**TERA2140 PCoIP Zero Client**



## Placement of Standard I/O Connectors



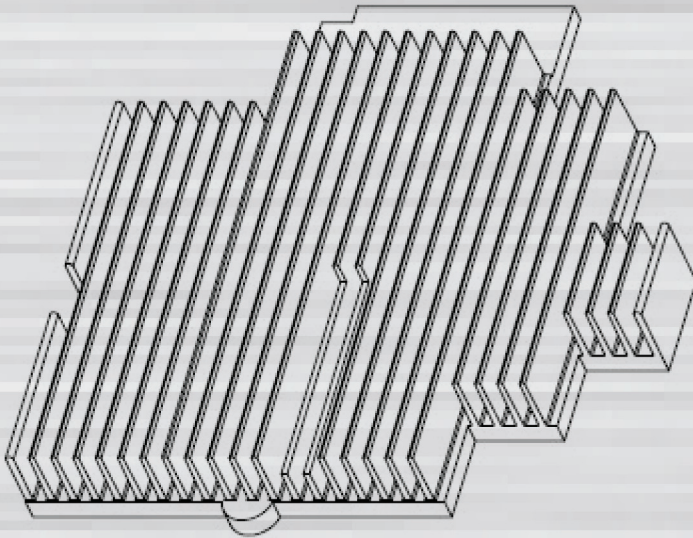
**Standard Connector Placement (RJ45 Edition)**



## Thermal Specifications

### Cooling Solution

The TERA2140 PCoIP zero client utilizes a passive heat sink over the Processor for cooling.



## Support Information

### Operating System Support

Completely operating system independent

- Windows® 2000 / XP / Vista / 7 / 8
- Linux

### System Requirements

- One, two, three or four DisplayPort or DVI compatible monitors
- USB keyboard and mouse
- Optional: PC speakers and other USB peripherals
- Ethernet LAN switch or router (10/100/1000 Mbps), or SFP Fiber switch or router
- TERA2140 PCoIP client device is compatible with TERA2 PCoIP host cards as well as software PCoIP client solutions (However, to take full advantage of the advanced features of the TERA2 family of devices, a host card based on the TERA2 host processors must be used.)





## Package Content

- TERA2140 PCoIP zero client device (with stand)
- Power adapter and power cord
- Ethernet cable for RJ45 sku (optional)
- Quick installation guide

## Certificates and Agencies

- Conformité Européenne (CE)
- Federal Communications Commission (FCC)
- Canada ICES/NMB-003 Class/Classe B
- Voluntary Control Council for Interference (VCCI)
- Underwriters Laboratories (UL)
- TUV-GS
- CCC
- C-Tick
- KCC
- GOST
- BSMI
- RoH