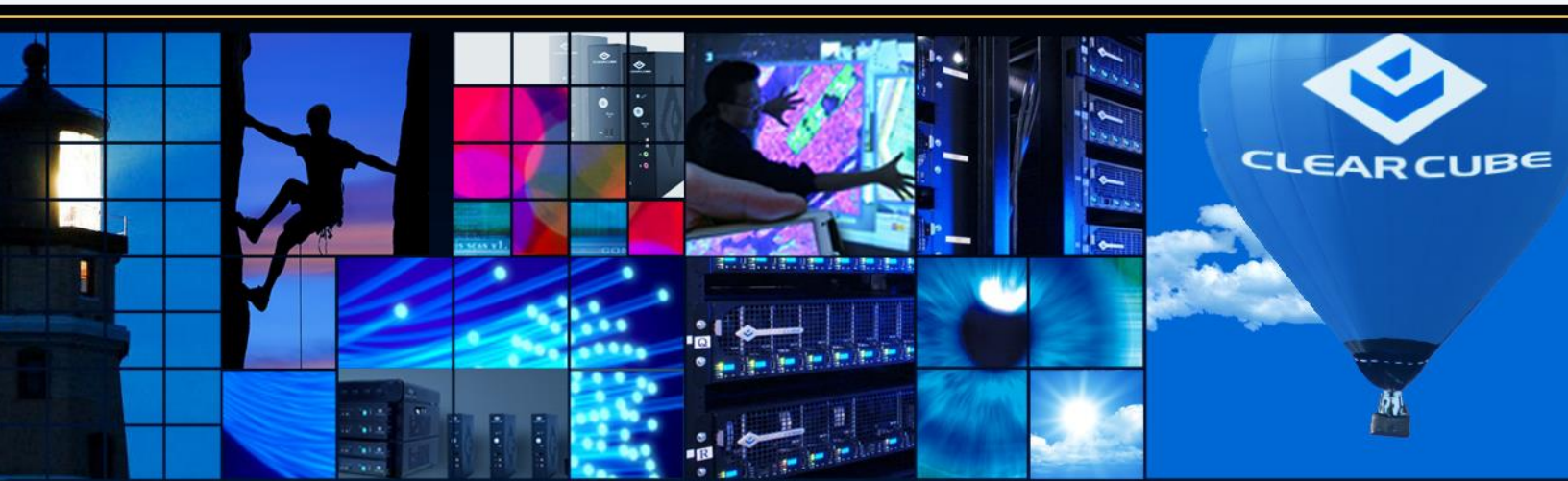


PCoIP®

Device and Firmware Compatibility Guide



CLEARCUBE®

Technical Support

See the support Web site for technical updates, additional warranty information and documentation, and software revisions:

Web <http://www.clearcube.com/support>

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Patents pending include: US S/N 09/755378, US S/N 10/279475, US S/N 10/198719, US S/N 10/198650, US S/N 10/409219, US S/N 09/728667, US S/N 09/728669, US S/N 10/411804, US S/N 10/411908, US S/N 10/458853, US S/N 10/364584, US S/N 10/301536, US S/N 60/411066, US S/N 10/662933, US S/N 10/662889, US S/N 10/662932, US S/N 10/662968, US S/N 10/301563, US S/N 10/662936, US S/N 10/301518, US S/N 10/662955 and US S/N 10/662954.

Inquiries regarding patented technology should be directed to ClearCube Corporate Headquarters.

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1 About This Document

This document details TERA firmware used in ClearCube® zero clients and host cards using PCoIP® technology. Topics include hardware and software support, interoperability with other versions, and upgrade and downgrade compatibility and requirements.

This document assumes that you are familiar with PCoIP technology and have a basic understanding of firmware and computer hardware.

NOTE: See *PC-over-IP System User's Guide* for additional information at <http://www.clearcube.com/support/>.

2 TERA 1-Based Zero Clients and Host Cards

See *Revision K* and lower of this document for information about TERA 1-based zero clients and host cards. Devices detailed include

- V53xx, V52xx, and V51xx host cards,
- I94x0, CD74xx zero clients, and
- COMM firmware for TERA 1-based quad zero clients and host cards.

See the ClearCube support site for these revisions of this documentation.

3 Product Compatibility

The sections below show the compatibility of devices using PCoIP technology.

3.1 Blade PCs, Workstations, and Host Cards

The table below shows ClearCube blades and the host cards they support.

Blade	Supported Host Cards
A6106H	V5422, V5442
A6106D	V5320*, V5340*, V5422, V5442
M1024W	V5422, V5442
M1022W	V5422, V5442
R3082D	V5420, V5430
R3040S	V5220*, V5240*, V5320*, V5340*

* See *Revision K* and lower of this document for information about TERA 1-based zero clients and host cards.

3.2 Zero Clients and Host Cards

The table below shows TERA 2 zero clients and supported TERA 2 host cards, where ✓ indicates that a host card and a zero client are compatible. (See *Revision K* and lower of this document for information about TERA 1-based zero clients and host cards.)

In the models below, *n* is a digit of the zero client model number. For example, CD76*nn* could be CD7622 or CD7624.

Host Card		V5420	V5422	V5430	V5442
Zero Client	CD75 <i>nn</i>				
	CD76 <i>nn</i>				
	CD77 <i>nn</i>				
	CD78 <i>nn</i>				
	CD79 <i>nn</i>				
	CD95 <i>nn</i>	✓	✓	✓	✓
	CD96 <i>nn</i>				
	CD97 <i>nn</i>				
	CD98 <i>nn</i>				
	CD99 <i>nn</i>				

3.3 Host Cards and Firmware

The table below shows TERA 2 host cards and the minimum firmware required. (See *Revision K* and lower of this document for information about TERA 1-based zero clients and host cards.)

Host Card	Supported TERA Firmware Version
V5442	4.0.3 to 4.7.0 (4.8.0 is for TERA 2 zero clients only)
V5430	4.1.0 to 4.7.0 (4.8.0 is for TERA 2 zero clients only)
V5422	4.0.3 to 4.7.0 (4.8.0 is for TERA 2 zero clients only)
V5420	4.1.0 to 4.7.0 (4.8.0 is for TERA 2 zero clients only)

NOTE: Always use the most recent, compatible TERA firmware versions on the host and the client.

3.4 Zero Clients and Firmware

The table below shows TERA 2 zero clients and the minimum firmware required. In the models shown below, *n* is a digit of the model number. For example, CD76*nn* could be a CD7622 or a CD7624.

Zero Client	Supported TERA Firmware Version
CD75 <i>nn</i>	4.0.3 to 4.8.0 NOTE: 4.8.0 is for TERA 2 zero clients only; if using 4.8.0 on zero clients, use 4.7.0 on host cards.
CD76 <i>nn</i>	
CD77 <i>nn</i>	
CD78 <i>nn</i>	
CD79 <i>nn</i>	
CD95 <i>nn</i>	
CD96 <i>nn</i>	
CD97 <i>nn</i>	
CD98 <i>nn</i>	
CD99 <i>nn</i>	

See [3.6 “TERA Firmware”](#) on [page 4](#) for a list of all supported TERA firmware.

3.5 TERA Firmware and VMware Horizon View

The table below shows TERA firmware releases and the versions of VMware® Horizon View™ against which each firmware was tested.

NOTE: TERA firmware is supported by the version of Horizon View (listed below) generally available at the time of the TERA firmware release. Horizon View features might not support earlier TERA firmware releases.

TERA Firmware	Tested against Horizon View
4.8.0	6.1, 6.0 and 5.3
4.7.0	6.0 and 5.3
4.6.0	6.0 and 5.3
4.5.1	6.0 and 5.3
4.5.0	5.3 and 5.2
4.2.0	5.0 to 5.2
4.1.2	5.0 to 5.2
4.1	5.0 to 5.2
4.0.3	5.0 to 5.2
4.0.2	5.0 to 5.2

TERA Firmware	Tested against Horizon View
4.0.1	5.0 to 5.2
4.0	5.0 to 5.2
3.5.1	5.0 to 5.2
3.5.0	5.0 to 5.2
3.4.1	4.6
3.3.1	4.5 and 4.6
3.2.1	4.0, 4.0.1, 4.0.2, and 4.5
3.2.0	4.0, 4.0.1 and 4.5
3.1.1	4.0 and 4.0.1
2.3	No support
1.11	No support
1.9	No support
1.7	No support
0.23	No support

3.6 TERA Firmware

The table below shows all TERA firmware releases and the compatibility of each version with other TERA firmware versions.

NOTE: Always use the most recent, compatible TERA firmware versions on the host and the client.

TERA version	Compatible with	Not compatible with	Installation Requirements	Install on Tera 2 Device?
4.8.0	4.7.x, 4.6.0, 4.5.1, 4.5.0, 4.2.0, 4.1.x, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1, 4	Yes (<i>install on Tera 2 zero clients only</i>)
4.7.0	4.6.0, 4.5.1, 4.5.0, 4.2.0, 4.1.x, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes
4.6.0	4.5.1, 4.5.0, 4.2.0, 4.1.x, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes
4.5.1	4.5.0, 4.2.0, 4.1.x, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes
4.5.0	4.2.0, 4.1.x, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes
4.2.0	4.1.2, 4.1.1, 4.1.0, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes
4.1.2	4.1.1, 4.1.0, 4.0.x, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes
4.1	4.0.3, 4.0.2, 4.0.1, 4.0, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes
4.0.3	4.0.2, 4.0.1, 4.0, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1, 3	Yes
4.0.2	4.0.1, 4.0, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes (Untested)

TERA version	Compatible with	Not compatible with	Installation Requirements	Install on Tera 2 Device?
4.0.1	4.0, 3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	Yes (Untested)
4.0	3.5.x, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	No
3.5.1	3.5.0, 3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	No
3.5.0	3.4.x, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	No
3.4.1	3.4.0, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	No
3.4.1 Beta	3.4.0, 3.3.x, 3.2.x, 3.1.x	3.0, 2.x, 1.x, 0.x	1	No
3.3.0	3.3.0, 3.3.1, 3.3.2	3.0, 2.x, 1.x, 0.x	1	No
3.2.1	3.1.x, 3.2.x	3.0, 2.x, 1.x, 0.x	1	No
3.2.0	3.1.0 through 3.1.2	3.0, 2.x, 1.x, 0.x	1	No
3.1.2	3.1.0, 3.1.1	3.0, 2.x, 1.x, 0.x	1	No
3.1.1	3.1.0	3.0, 2.x, 1.x, 0.x	1	No
3.1.0	3.1.0	3.0, 2.x, 1.x, 0.x	1	No
3.0	3.0	2.x, 1.x, 0.x	1	No
2.3	2.0 through 2.2	1.x, 0.x	1	No
2.2	2.0, 2.1	1.x, 0.x	1	No
2.1	2.0	1.x, 0.x	1	No
2.0	2.0	1.x, 0.x	1	No
1.12	1.x	0.x	2	No
1.11	1.10	0.x	2	No
1.10	1.0 through 1.9	0.x	2	No
1.9	1.0 through 1.8	0.x	2	No
1.8	1.0 through 1.7	0.x	2	No
1.7	1.0 through 1.6	0.x	2	No
1.6	1.0 through 1.5	0.x	2	No
1.5	1.0 through 1.4	0.x	2	No
1.4	1.0 through 1.3	0.x	2	No
1.3	1.0 through 1.2	0.x	2	No
1.2	1.0, 1.1	0.x	2	No
1.1	1.0	0.x	2	No
1.0	1.0	0.x	2	No
0.23	0.19 through 0.21	0.18	2	No

- 1) To install this firmware on a device, the existing firmware version must be 1.4 or higher - see [“Upgrading TERA Firmware”](#) on [page 9](#) for information about firmware level requirements when upgrading.
- 2) To install this firmware on a device, the existing firmware version must be ≥ 0.18 and the bootloader version must be ≥ 2.0 .
- 3) This release is applicable to Tera 2 zero clients and host cards only.
- 4) Install 4.8.0 on Tera 2 zero clients only. The firmware on connecting host cards should be compatible with 4.8.0 (see table above for compatible host card firmware).

4 File Details

The table below shows each TERA version and identifies each version's release date.

TERA Version	File Name	Release Date (YYYY/MM/DD)
4.8.0	tera2_4-8-0_r4_8@17399_client.all	2015/04/18
4.7.0	tera2_4-7-0_r4_7@16934.all tera1_4-7-0_r4_7@16934.all	2014/11/24
4.6.0	tera2_4-6-0_r4_6@16708.all tera1_4-6-0_r4_6@16708.all	2014/10/01
4.5.1	tera2_4-5-1_r4_5@16420.all tera1_4-5-1_r4_5@16420.all	2014/07/18
4.5.0	tera2_4-5-0_r4_5@16006.all tera1_4-5-0_r4_5@16006.all	2014/05/09
4.2.0	tera2_4-2-0_r4_2@15160.all tera1_4-2-0_r4_2@15160.all	2014/01/08
4.1.2	tera2_4-1-2_r4_1_2@14565.all tera1_4-1-2_r4_1_2@14565.all	2013/08/28
4.1.0	tera2_rel4-1-0_r4_1@14079.all tera1_rel4-1-0_r4_1@14079.all	2013/04/26
4.0.3	tera2_rel4-0-3_rc_tera_r4_0_3@13404.all	2012/11/09
4.0.2	tera2_rel4-0-2_rc_tera_r4_0_2@13079.all tera1_rel4-0-2_rc_tera_r4_0_2@13079.all	2012/08/23
4.0.1	tera2_rel4-0-1_rc_tera_r4_0@13022.all tera1_rel4-0-1_rc_tera_r4_0@13022.all	2012/08/13
4.0	tera1_rel4-0-0_rc_tera1_r3_5@12092.all	2012/05/17
3.5.1	tera1_rel3-5-1_rc_tera1_r4_0@12593.all	2012/02/17
3.5.0	tera1x00_rel3-5-0_11849.all	2011/12/02
3.4.1	tera1x00_rel3-4-1_11491.all	2011/10/03
3.3.0	tera1x00_rel3-3-0_v321.all	2011/02/08
3.1.1	tera1x00_rel3-1-1_v270.all	2010/04/16
2.3	tera1x00_rel2-3_v233.all	2009/10//08
1.11	tera1x00_rel1-11_v193.all	2009/02/25
1.9	tera1x00_rel1-9_v175.all	2008/11/18
1.7	tera1x00_rel1-7_v163.all	2008/09/05
0.23	tera1x00_rel0-23_v125.all	2008/04/10

5 Updating Firmware

Update firmware by uploading self-installing firmware files to zero clients and hosts cards. Tera firmware files use the .ALL file extension.

Update individual devices from a device's Web interface or from ClearCube's Sentral™ Element Manager (Sentral). You can also use Sentral to update multiple devices at the same time using device groups and device profiles. See *Sentral Administrator's Guide* for information about firmware updates, device groups, and more.

5.1 Identify the Firmware Version

Begin the update procedure by identifying the firmware version that is currently on the device you are updating. After updating the firmware, you can compare the old and new versions to be sure the version shown on the device is the correct version.

You can find the firmware version on a device in the following ways:

- **On-screen display**—for zero clients only. You can only access the on-screen display locally (from the displays connected to the zero client). This method is useful when you are in the same location as the zero client.
- **Web interface**—for zero client and host cards. To open a device's Web interface, enter the IP address of the device's PCoIP processor (this is different than the IP address of the device's network interface). If your devices use DHCP instead of static addresses, you can find the IP address by matching IP addresses in DHCP tables to the MAC address shown on the device label.

Note that you can use a management console, such as Sentral™ Element Manager, to update device firmware. If you are using a management console, see your product documentation for details.

Locally from a zero client's on-screen display

1. Find the IP address of the PCoIP devices you are updating (as noted in the [Web interface](#) bullet [above](#), this is different than the IP address of a device's network interface).
2. Display the zero client's OSD (on-screen display). The OSD is shown when a zero client is powered on and a PCoIP session is not established. If the zero client is off, power it on. If a PCoIP session is active (the zero client is connected to a remote host), give the power button a short press (less than three seconds) to disconnect the session.

3. From the OSD's main menu, click **Options > Information** to display the Version page.

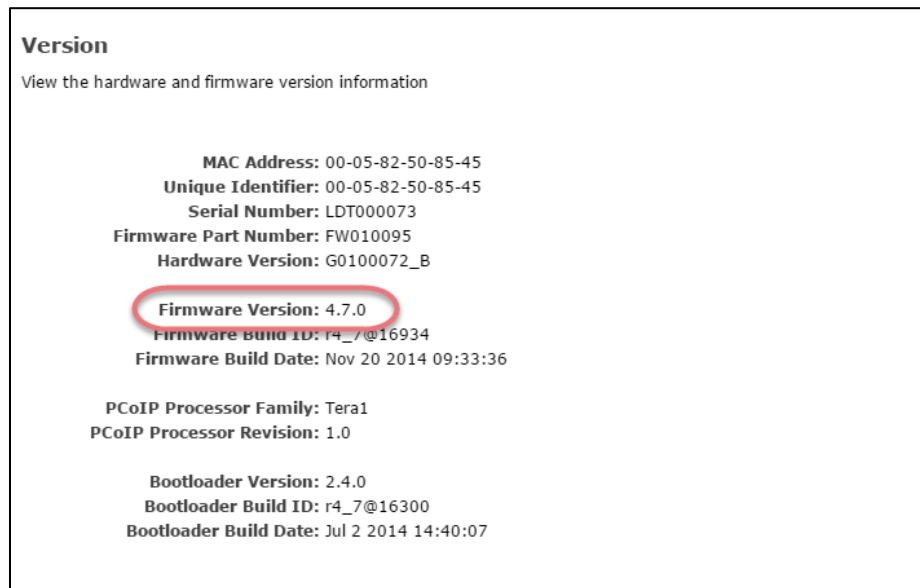


Figure 1 . The Firmware Version field on the Version page

4. Note the firmware version (see the location shown in the figure above). In the final step of this process, you will verify that the firmware version shown here matches the version you install.

From a Web interface on a remote host

1. From a computer that can access the subnet of the device you are updating, open a Web browser.
2. Enter the **IP address** of the device you are updating (see [Web interface above](#) for information about the device's IP address).
3. Log in to the Web interface (the default password is blank).
4. From the main menu, click **Info > Version**.
5. Note the firmware version (see the location shown in the figure above).

5.2 Firmware Upgrade and Downgrade Paths

The following sections detail firmware upgrade and downgrade paths for TERA firmware on zero clients and host cards.

NOTE: See *Revision K* and lower of this document for information about TERA 1-based zero clients and host cards.

5.2.1 Upgrading TERA Firmware

The table below shows the firmware upgrade paths for firmware release ranges. See [5.3 “Upgrading Devices” below](#) for instructions about how to perform firmware upgrades.

Installed Firmware Version	Upgrade Process
0.1 through 0.17	<ol style="list-style-type: none"> 1. Install firmware version 0.18. 2. Install firmware version 1.x (1.4 or greater). 3. Install firmware version 4.5.x or 4.6.0. 4. Install the new firmware.
0.18 through 1.3	<ol style="list-style-type: none"> 1. Install firmware version 1.x (1.4 or greater). 2. Install firmware version 4.5.x or 4.6.0. 3. Install the new firmware.
1.4 through 4.2.0	<ol style="list-style-type: none"> 1. Install firmware version 4.5.x or 4.6.0. 2. Install the new firmware.
4.5.0 through 4.7.0	<p>Install the new firmware (4.8.0).</p> <p>NOTE: 4.8.0 is for TERA 2 zero clients only; if using 4.8.0 on zero clients, use 4.7.0 on host cards.</p>

5.2.2 Downgrading TERA Firmware

The previous table shows ranges of TERA firmware versions. Some ranges of firmware require installing a specific version of firmware before you can upgrade or downgrade to the next range of firmware. You can use the previous table to determine if your downgrade path requires the installation of an intermediate firmware version.

NOTE: Always use the most recent, compatible TERA firmware versions on the host and the client.

5.3 Upgrading Devices

Use the Web interface to upgrade zero client or host card firmware. The steps below show how to update device firmware.

1. Be sure the firmware file you are uploading is in a location you can access.
2. From the Web interface, click **Upload > Firmware**. (See [Web interface above](#) for details about accessing the Web interface.)
3. Click **Browse** and navigate to the location of the firmware file. Select the appropriate file (TERA1 for devices with TERA1 PCoIP processors and TERA2 for devices with TERA2 processors) and click **Open**.

4. Click **Upload** and a message is displayed. Click **OK** to upload the file. When the file is uploaded to the device, a success message is displayed (this might take several minutes):

Firmware was successfully uploaded! **You must reset the device for the changes to take effect.**

Now reset the device as described in the following section.

5.4 Resetting Devices after Firmware Installation

There are minor differences in how to reset each PCoIP device. The following sections describe how to reset each device.

5.4.1 Zero Client

1. Click **Reset** to reset the device, and then click **OK**. The PCoIP session ends and the display goes blank. The zero client displays the OSD.
2. From the OSD, click **Connect** to connect to the blade.
3. Verify your firmware installation as described in [5.1 “Identify the Firmware”](#) on [page 7](#).

5.4.2 Host Card

1. Click **Reset** to reset the PCoIP processor, and then click **OK**. After several moments the device displays the message: The PCoIP processor will reset on the next host system restart; your changes will take effect then. Are you sure you want to proceed?
2. Click **OK** to continue. Note that you must restart the blade to reset the host card. Connect to the blade from a zero client, and then use the operating system to power cycle the blade. Optionally, you can use other remote protocols to connect to the blade, or you can manually power cycle the blade.
3. Verify your firmware installation as described in [5.1 “Identify the Firmware”](#) on [page 7](#).

Contacting Customer Support

Contact Customer Support as shown below.

Support site: www.clearcube.com/support

Email: support@clearcube.com

Phone: (866) 652-3400

(512) 652-3400

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