

vtServer v2.8.3 Release Notes

This document describes version 2.8.3 (release 37) of the vtServer software package. vtServer is an emulation package for legacy HP/DEC Alpha and VAX hardware platforms that runs on 64-bit x86 processors. vtServer is installed on Bare Metal: that is, on a physical processor or virtual machine (VM) with no pre-installed operating system. The vtServer package consists of the following components:

- vtAlpha – Alpha system emulation component;
- vtVAX – VAX system emulation component;
- vtServer – the common infrastructure for the emulation components;
- vtMonitor – a web browser-based management and configuration interface.

For detailed information regarding these components, see the *vtAlpha Reference Manual* or the *vtVAX for Bare Metal Reference Manual*.

Because vtServer v2.8.2 had a very limited release, we have included significant features from v2.8.2 in these release notes. Items carried over from v2.8.2 are identified with “(2.8.2)” at the end of the item.

1 Installation and Update

The vtServer software may be installed on a new host platform, installed over an existing installation, or it may be updated incrementally. These options are described in more detail below.

1.1 Installation

The installation process installs a complete version of the vtServer software package on a server with no previous vtServer installation or it will overwrite an existing vtServer installation. When overwriting an existing installation, a backup of all software configuration values and all emulation configurations may be created using the vtMonitor BACKUP command prior to the installation. After installing vtServer the configuration data may be restored using vtMonitor.

The vtServer installation kit is available in three formats: on a DVD-ROM; as an .iso format file that can be burned to a DVD or used as a virtual DVD device when installing vtServer in a virtual machine; or on a USB thumb drive for those customers who have purchased the Carry-on Alpha or Carry-on VAX options. Detailed installation instructions are provided in the *vtAlpha Reference Manual* or the *vtVAX for Bare Metal Reference Manual*.

1.2 Incremental Update

The incremental update process is the preferred method for updating existing vtServer installations. A complete set of incremental updates is provided on the distribution media (DVD, .iso file, or Carry-on Alpha/VAX USB drive); individual update kits may also be uploaded to the host or provided on external disks. When the Update function is initiated, vtServer will automatically determine which update kits are needed and apply them, if available. When supplying individual update files, be aware that the update file for each version of vtServer between the current version and the target version must be provided.

For a detailed description of the update process, please see the *vtAlpha Reference Manual* or the *vtVAX for Bare Metal Reference Manual*.

1.3 Installing Additional Display Drivers

This section describes the procedure to install the additional display drivers discussed in section 2.1. *Please refer to that section before installing these drivers.*

The display drivers may be installed using either vtMonitor or the host console using the vtServer blue screen menus.

To install using vtMonitor:

1. Insert the distribution DVD in a drive on the system vtMonitor is being run from and mount the disk.
2. In the vtMonitor browser window, click on Toolbox > Host > Product Updates.
3. A new tab or window will be opened. Click on the Choose File button in this window.
4. Navigate to the /kits directory on the vtServer distribution DVD.
5. Select the desired driver kit and click on Update.
6. Reboot the host system.
7. Login to the host console.
8. Select the menu graphics > display > monitor.
9. Review and customize the display settings, as required.

To install the drivers using the vtServer menus:

1. Login on the host console.
2. Insert the vtServer distribution media in a drive.
3. Select the menu configuration > update > optional.
4. Select the drive containing the distribution media.
5. Select the desired driver kit and click on OK.
6. Follow steps 6-9 above.

1.4 Post-update Instructions

After installing or updating vtServer, the host system must be rebooted.

The cache should be cleared on any browsers that have been used with previous versions of vtMonitor. Failure to do so may result in unpredictable behavior.

2 Host Platform

2.1 New Devices Supported

Solid State Disk (SSD) devices are now supported as a host boot device or as a data disk.

2.1.1 Display Adapters

A variety of additional ATI and NVIDIA display adapters are now supported. Please see the Host Platform Compatibility List (HPCL) for a list of supported devices.

In some special circumstances (e.g., when using 3D graphics or extended OpenGL functionality, or when more than two displays are required) non-standard display drivers are required. Kits containing these drivers for a number of ATI and NVIDIA adapters are now included on the vtServer distribution media. To determine which kit contains the drivers for your device, please do the following:

1. Insert the vtServer distribution DVD in any system (it is readable by Windows).
2. Using a file browser such as Windows Explorer, navigate to the /kits directory.
3. Search both the 'support' and 'support_legacy' text files for the vendor of your adapter for the desired device(s).
4. Install the required kit following the directions in section 1.3 of this document.

If you have requirements that are not satisfied with these kits, please contact your vtAlpha or vtVAX support contact for assistance.

2.1.1.1 Configuration Restrictions

Host configurations with multiple display adapters that require different drivers are not supported. In some situations such configurations may work; however, we strongly recommend against them, as you will have to reconfigure the hardware if problems arise.

When installing the display drivers kits described in section 2.1.1, installing drivers from different vendors may result in unpredictable behavior and is not supported.

3 Emulation

3.1 New Features

3.1.1 vtServer

3.1.1.1 Boot Options added

3.1.1.1.1 resetnet

The capability to specify vtServer boot options has been added to help cope with two device-related problems (see section 3.3.2 for information on the nature of the problems). The boot options are entered in a labeled text field near the bottom of the vtServer boot splash screen.

When vtServer is installed, it builds a list of devices present on the system and associates each with a device identifier. Each time the system is booted, this list is used to help ensure the same identifier is assigned to a given device. Generally, this is the desired behavior, as it prevents unpredictable results that would occur if the devices mapped to existing virtual Alpha or VAX configurations were to change unknown to the administrator.

The device configuration list can cause undesired results in cases where the system hardware configuration is intentionally modified (e.g., when adding new disks or network adapters) or when a portable vtServer boot device is used on a different host system. The 'resetnet' boot option is provided to delete the device-mapping list and scan all devices as is done at installation time. It is recommended that the existing configuration information be saved using the Configuration BACKUP command prior to using resetnet so that vtServer may be restored to the prior state, if necessary.

3.1.1.1.2 sortnet

Another device-related problem that can occur is that systems with similar hardware configurations but different chipsets or BIOS revisions may configure devices in different orders. This can cause undesired behavior when using a portable boot device on these systems or when sharing virtual Alpha or VAX configuration files between the systems, such as for development or disaster recovery environments.

The 'sortnet' option creates a list of available devices and sorts them in a predictable order before assigning device names.

3.1.1.2 Remote Support Link (2.8.2)

The Remote Support Link feature provides the customer with a mechanism to establish a link to the vtAlpha and vtVAX support facility that allows our engineers to provide hands-on assistance with troubleshooting problems. The connection must be established by the customer, who retains complete control to disconnect it at any time. The connection is established using SSH to provide secure encryption of all traffic. TCP ports 80, 22, or 443 are used to improve the chance that the connection can be established without requiring customized firewall rules.

The Remote Support Link is controlled from the vtMonitor Support tab or the vtServer Support menu.

3.1.1.3 SFTP and SCP connectivity (2.8.2)

vtServer now provides the capability to use the Secure FTP (SFTP) and Secure Copy (SCP) commands to transfer files to and from the host system. These features are enabled using the vtServer configuration > ssh menu: they may be enabled for use during the current system boot only and/or enabled to automatically start when the host system is booted.

3.2 Enhancements to Existing Features

This section lists enhancements that have been made to existing features.

3.2.1 vtMonitor

- The emulation status indicator, a colored circle next to the name of each emulation configuration in the vtMonitor emulation status area, will now display the letter “H” when the emulation is active and halted (i.e., waiting at the console prompt). Other status values are red, indicating the emulation is stopped, and green, which indicates the emulation is running. At the present time the new halted status indication is available only for Alpha emulations.
- The information displayed under the Storage tab for Fibre Channel devices now includes WWID, the controller ID, and the device LUN.
- When an empty hardware license key is detected, the license key number is displayed in the log file and in the vtMonitor License Info display. Previously there was no indication the hardware license key had been detected. (2.8.2)

3.2.2 vtServer

3.2.2.1 Additional DECwindows Fonts

Fonts from the following font families have been added for DECwindows use:

-adobe-interim dm-	-bitstream-terminal-
-adobe-its avant garde gothic-	-dec-present bullets-
-adobe-its lubalin graph-	-dec-terminal-
-adobe-its souvenir-	-dec-vt-
-bigelow & holmes-menu-	-dec-vt330-

3.2.2.2 Duplicate VLAN IDs

Duplicate VLAN IDs may now be defined. A given VLAN ID may be assigned only once to a given network interface.

3.2.2.3 LK-series Keyboard Support for X-windows

The X-windows keyboard selection menu now has the option LKxxx, which permits use of the extended function and keypad keys on LK-series keyboards.

3.2.2.4 vtVAX EcoMode (2.8.2)

The vtVAX feature previously known as CPU Idling has been renamed to EcoMode. EcoMode is an energy conservation option that allows the emulation CPU to idle when the virtual CPU mapped to it is idle. When EcoMode is disabled the emulation CPU runs at 100% utilization continuously. EcoMode conserves power, reduces heat generation, and extends the CPU lifetime.

3.2.2.5 vtAlpha Discontinuous LUN numbering (2.8.2)

Storage device LUN numbers are no longer required to be configured in a continuous sequence. For example, devices DKA100 and DKA102 may be configured without configuring DKA101.

3.2.2.6 SMTP Server (2.8.2)

The vtServer SMTP server now has the capability to send a test email message and to authenticate users.

3.3 Bug Fixes and Workarounds

The following bugs have been fixed in this version of vtServer:

3.3.1 vtMonitor

- The embedded console window was created one line in height when using Google Chrome v32.
- The embedded console window could not be opened when using Microsoft Internet Explorer 11.
- USB sticks with a blank vendor ID would not be shown in the Storage display.
- A trailing "/" may now be included in NFS mount point specifications.
- Logical disk display scrolling issues when using Google Chrome. (2.8.2)

3.3.2 vtServer

- Device name bindings not preserved in vtMonitor configuration backup.
- When using a portable vtServer installation on multiple systems, some network devices may not be configured – see 'resetnet' in the new features list.
- Similar hardware configurations with different chipsets or BIOS versions might assign Ethernet and DVD device names differently – see 'sortnet' in the new features list.
- Unpredictable behavior occurs when Ethernet interfaces with a device IP address assignment are used for virtual interfaces in the emulations – see Restrictions below.
- DNS server definition changes after host name is changed. (2.8.2)

3.3.3 vtVAX

- Occasional Host Unavailable errors occurred with VAX 4200 and 7000 emulations. (2.8.2)
- Excessive CPU utilization by the I/O CPU. (2.8.2)
- Emulator crashes with a virtual memory exhausted error. (2.8.2)
- vtMonitor Halt not functioning properly when Autostart was enabled.

3.3.4 vtAlpha

- Reserved instruction errors reported in the emulator log file when OpenVMS V8.4 was shut down.
- Performance degradation occurred when the virtual memory size of the Alpha emulation was not a power of 2.

3.4 Restrictions

The following permanent restrictions have been imposed:

- Physical Ethernet interfaces that are assigned an IP address in the device configuration may not be configured as a virtual interface for an emulation instance. These interfaces will not be presented in the Ethernet device configuration menus. Existing vtAlpha configurations with such devices assigned will ignore the IP address assignment in the device configuration. A similar change will be made for vtVAX in a future release; in the meantime, unpredictable results will occur when these interfaces are configured as virtual interfaces for a VAX emulation. (2.8.3)
- vtVAX filters all Ethernet packets with a frame size larger than 1518 bytes (jumbo packets). These packets will never be delivered to the emulated VAX system's OpenVMS device driver. (2.8.2)
- SCSI device identifiers larger than 32767 are not permitted. (2.8.2)
- The vtServer boot device or partition and any mounted partition may not be configured as a physical device for virtual Alpha or VAX configurations. These devices or partitions may be used to store logical disk container files. (2.8.2)