

vtServer v3.0.0 Release Notes

Version 3.0.0 Release Highlights

V3.0.0 is a major release of the vtServer Bare Metal platform that includes a significant number of new and enhanced features as well as bug fixes. *Please be sure to read the Installation and Update Procedures below before attempting to update vtServer.*

Among the most significant changes are:

- The new vtAlpha-GS product provides emulation of ES80, GS80, GS160, and GS320 servers.
- OpenVMS 6.2-1H3 (and later) and Tru64 3.0C (and later) are now supported on AlphaServer 2x00 and 4x00 emulations. Previously, the earliest versions supported were OpenVMS V7.1-2 and Tru64 4.0F.
- vtServer and vtLicense now use a common code base.
- The DEGXA Gigabit Ethernet adapter is now supported by vtAlpha.
- vtAlpha performance improvements.

Security Updates

- User and console password encryption has been upgraded from MD5 to SHA-512 with salt for increased security.
- A new webserver certificate that uses SHA-256 encryption is provided to improve the security of HTTPS vtMonitor sessions. To activate the new certificate after updating an existing installation, see the procedure under the heading *Post-Update Instructions* at the end of this document.

vtAlpha

- The new vtAlpha-GS product adds support for AlphaServer ES80, GS80, GS160 and GS320 to the vtAlpha portfolio. These models use the Wildfire QBB (Quad Building Block) architecture. Each QBB can be configured with up to 4 CPUs, 32 GB of memory, and 32 virtual PCI slots. Initially a new GS configuration starts with 1 QBB; additional QBBs can be added up to the maximum for the system model.
- The vtAlpha-CS product (AlphaServer 2x00 and 4x00 systems) has been changed to use the same backplane that was used in the physical servers. This change was made to allow these systems to run earlier versions of both OpenVMS (6.2-1H3 and later) and Tru64 (3.2C and later) which do not support the previous backplane. A restriction of the new backplane is that it can be configured with only 5 virtual PCI slots, compared to the 10 slots available in the previous backplane.

When upgrading a vtAlpha installation with virtual AlphaServer 2x00 and 4x00 systems with the 10 slot backplane to version 3, these configurations need to be re-configured in order to make them match with the new license content. Configurations that already use the 5-slot CS-backplane via a custom installation require no changes. See the note under Installation and Update Procedures below for more information.

- When it is determined at boot time that the system clock is set incorrectly, warning messages are suppressed and the operator is prompted to set the correct time. A boot parameter (*forcedate*) has been added to allow the operator to change the host systems time when booting.
- Added the 'show hwrpb' and 'show gct' commands to the SRM console.

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- Multiple JIT (CPU acceleration) threads may now be run in parallel to improve performance when the CPU utilization is very high. The default number of JIT threads is 1 for all non-vtAlpha-GS systems and 1 thread per QBB for vtAlpha-GS systems.

NOTE: each JIT-thread beyond the default requires one additional host CPU core. The formula to compute the CPU requirements is:

$$\# \text{ host cores} = (\# \text{ virtual Alpha CPUs} * 1.5) + (\# \text{ JIT threads} - 1)$$

When the parameter "JIT processors" in the configuration is set to 0(default), the emulator will use the defaults above, if it is set to a different value this value will overrule the defaults.

vtMonitor displays added statistics and provides 'on the fly' configuration options to analyze and improve CPU performance of demanding configurations.

vtVAX

- Update vtSID utility for vtVAX7000 usage.
- Solved memory corruption issue in vtVAX7000 configurations

vtServer

- Raised the minimum and default system partition sizes for new installations to 4 GB and 40 GB, respectively. The increased space is needed due to the enhanced logging capabilities that have been added to the product. Current installations will continue to work with the existing partition size.
- Add device info for a partition when doing upgrade/repair from the installation media.
- Ignore bad alignment of partitions created on disks smaller than 1 GB.
- Added alternative X-keyboard mapping for F13-F20 function keys (right-alt + F3 - F10 for F13-F20).
- Generate an alert when the vtServer host system disk is read-only.
- The username that alert emails are sent from is now configurable.
- Suppress active CPUs by default in the TOP display.

vtLicense

- The vtLicense and vtServer products now use a single code base and both are shipped in the same software distribution. The user selects which to install from the installation options menu.
- Both products use the same browser based management interface with the appropriate set of functions enabled.
- Documentation for vtLicense is located in the vtServer Reference Manual.

vtMonitor

- The vtMonitor “skin” has been changed for v3. This is strictly a cosmetic change.
- A function to copy data between physical and logical disks has been added in the Storage section. The physical to logical copy option is located in the device list context menu: right click on a physical disk (not a partition); the logical to physical option is located in the device details panel context menu.
- Several new emulator status indicators have been added to the configuration list for vtAlpha:
 -  Emulator is writing a crash dump. Wait until it has completed.
 -  Emulator is running on a Disaster Recovery License. Restore access to the primary license ASAP.
 -  Emulator is using a license that will expire within 10 days. Arrange to have it extended.
 -  Emulator lost license access. The emulation will stop if the problem is not corrected within 16 hours.
- Hovering over an indicator will display a description explaining the status.
- Corrected time zone administration in the toolbox/host section.
- Added support for the OpenVMS special storage parameters ‘hostname’ and ‘allocation class’ for the VTDSK virtual disk controller.
- Added the parameter JIT-processors to the virtual Alpha configuration to set the number of JIT threads.

Bug Fixes, summary

The following problems have been corrected in this release:

- Sporadic boot-time crashes on HPE ProLiant host systems when booting in UEFI mode
- DE500 transmit timeouts
- OpenVMS crash on a heavily loaded system when the KGPSA is being reset
- Allow LUN 0 to be configured as a disk on KGPSA FibreChannel controllers
- Allow FibreChannel disk exclusion by WWID in addition to LUN to prevent system disk access

Installation and Update Procedure

Important v3.0.0.0 Update Notes

Note 1: v3.0.0 requires a new license key (except for DRL licenses), which should be installed prior to the upgrade to v3.0.0. When updating via the web interface (vtMonitor), the update procedure will verify that the license key is valid for v3 prior to performing the update. This will prevent users from accidentally rendering the emulators inoperable by updating to v3 without a compatible license. This check is not performed when booting/upgrading from DVD or USB.

Note 2: vtAlpha-CS users who are using the 10-slot backplane in V2 must re-create all AlphaServer 2x00 and 4x00 configurations after updating to v3. Before beginning the update process, it is important that you: (a) verify that your configuration(s) require no more than 5 slots; (b) have the details needed to re-create all affected configurations; and (c) that you allow sufficient time to re-create the configurations. If you are already using the 5-slot backplane no further changes are required.

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.

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 should be created using the vtMonitor BACKUP command prior to the installation. After installing vtServer, the configuration data can 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. Detailed installation instructions are provided in the *vtServer vtAlpha/vtVAX Bare Metal Reference Manual*.

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 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 *vtServer vtAlpha/vtVAX Bare Metal Reference Manual*.

Post-Update Instructions

After completing the installation or update of vtServer, the host system should be rebooted.

The cache should be cleared on any browsers that were last used with vtServer versions 2.9.1 or earlier. Failure to do so may result in unpredictable behavior.

If you wish to utilize the new website certificate (see above under heading *Security Updates*, perform the following steps in vtMonitor:

1. Select the Toolbox and Host tabs.
2. In the right-hand panel, click inside the text box where the host name appears.
3. Change the host name, if desired.
4. Click on the Update button that appears after clicking in the box and wait for the operation to complete (occasionally, there may be a short delay before the button appears).