



Advanced Virtualization Technologies

vtAlpha-GS (GS-series) Product Description



vtAlpha allows the owners of Alpha computer systems to move their entire Alpha software installation to a more modern environment (X86 computer, Virtual Machine or Cloud) without changes.

No software migration is required, saving enormous amounts of effort, time and money.

6 vtAlpha variants are available to cover the whole range of Alpha systems that were manufactured during its lifetime.

vtAlpha-GS (GS-systems) is developed to replace one of the following Alpha computer systems:

- AlphaServer ES80, GS80
- AlphaServer GS160, GS320
- AlphaServer GS1280 *)

Emulated GS-models

vtAlpha-GS can virtualize the AlphaServer ES80, GS80, GS160 and GS320 models. It also can replace GS1280 models with up to 32 Alpha CPU's.

*) Support for 128 CPU Alpha's is not necessary since these larger systems were hard-partitioned into smaller logical machines with maximum 32 CPUs.

Just specify the characteristics of the Alpha computer to replace and vtAlpha will build an exact image of the Alpha hardware your software is used to seeing. This ensures that you don't need to change your software.

vtAlpha includes a straight-forward management tool that helps to configure and maintain virtual Alphas.

Backplane Architecture

The AlphaServer GS system architecture consisted of QBBs, each of which supporting up to 4 Alpha CPU's, 32 GB memory and 32 PCI slots. Depending on the GS-model it can contain two, four or eight QBBs. This architecture is emulated in vtAlpha-GS.

Supported Alpha Operating Systems

vtAlpha supports both OpenVMS and Tru64 as guest operating systems. Minimum releases:

- OpenVMS 7.2-1h1
- Tru64 4.0G

Clustering is supported (both OpenVMS and Tru64).

Storage Subsystem

vtAlpha presents the virtualized Alpha all the hardware interfaces it expects (e.g., KZPBA SCSI and KGPSA FibreChannel) and the storage devices it is used to work with.

The vtAlpha host system can use more modern storage elements, like SAS, SATA, modern SAN or other network-based storage, like iSCSI and NFS.

This is all transparent for the Alpha software, which still 'sees' the old device types. vtAlpha seamlessly connects the old Alpha world to the modern storage equipment.

Supported Storage Devices:

- Physical and logical disks
- Physical and logical tapes
- CD-ROM (logical and physical)
- Direct SCSI-attached devices of unknown origin

All original Alpha disk types and sizes are supported by vtAlpha.

Logical Disks and Tapes

To the virtual Alpha these appear as regular disks or tapes, attached to one of the virtual storage adapters configured in the virtual Alpha. On the host system these will be files in directories on the host-attached storage.

This allows combining multiple virtual Alpha disks on a single host disk. Or making really fast backups to logical tapes and then including these logical tape files (after dismount) in a regular backup process that is used in your organization.

Physical Disks and Tapes

Direct access to physical disks and tapes is supported, by assigning a physical disk or partition to a virtual disk in vtAlpha. Or by connecting a physical tape/disk drive to a virtual Alpha tape/disk.

CD-ROM

Physical DVD/CD-ROMs as Virtual DVD/CD-ROMs (ISO images) are supported, which can be connected as CD-ROM to vtAlpha.

Direct SCSI Device

This allows connecting generic SCSI devices for which a custom peripheral driver is present in the Alpha Operating System. vtAlpha only processes the SCSI communication.

Network Subsystem

vtAlpha offers support for the following Ethernet adapters:

- DEGXA, EI1000
- DE600, DE500
- DE450, DE435

Virtual network switch support enables sharing the host Ethernet links with multiple virtual Alphas.

All Alpha guest OS supported protocols will run on vtAlpha.

Virtual LAN (VLAN) infrastructure is supported.

The actual speed of the vtAlpha supported network connections may be better than what the original Alpha Ethernet adapters could deliver, given the higher capacity of the modern network adapters in the host.

Serial Lines

vtAlpha includes support for the two COM ports that are available on every Alpha system: OPA0 and COM2. These virtual devices can be mapped to:

- A physical VT-like device connected to the host
- Any VT-terminal emulator via telnet/ssh
- Pseudo terminal on the host's console

vtAlpha also includes support for the PBXDA serial lines adapter, that can add 8 serial lines to the two that are already available.

Up to 7 PBXDA adapters are supported.

License Protection

vtAlpha is a software product available under End-User License. The licenses are stored on a Smart Card device with USB connector for maximum compatibility/flexibility. This license key is only 3 mm high, limiting the risk of damage or accidental removal when in use.

The License Protection Mechanism can control multiple instances of vtAlpha inside one host computer or in a company network, providing maximum flexibility and fail-over capabilities allowing a low-cost disaster-tolerant installation.

System Management

The product includes the vtMonitor management tool that helps manage and control the virtual Alpha environment from any location that has network access to the vtAlpha host.

It is an easy to use and intuitive user interface that facilitates the management of the virtual Alpha systems as well as the host environment they run on.

Secure Environment

vtAlpha creates a secure environment that can be configured by the system manager to meet the security needs of your company.

Security Highlights:

- Access roles and configurable security levels
- Secure communication protocols
- Encrypted environment in the Cloud
- Event logging and alerts (configurable)

Host Computer Environment

vtAlpha installs directly on the host (x86 hardware, Virtual Machine or Cloud) without the need for a pre-installed operating system like Windows or Linux.

This not only assures the security and availability of your virtual Alpha installation, it also saves you the cost and effort to purchase and maintain such additional operating systems.

Everything that is required to run your virtual Alphas and control the host environment is included in the vtAlpha product. It is often referred to as Bare Metal installation.

Host recommendations: www.avtware.com/vtalpha-x86

CPU and Memory

Depending on the virtualized GS-model:

- Up to 32 Alpha CPUs
- Up to 256 GB virtual Alpha memory

Storage

For host-based storage you can select any type of device: FibreChannel, SCSI, iSCSI, SATA, SAS, NAS, SAN or NFS. vtAlpha translates between the storage that the Alpha software expects and what the host has to offer.

Orderable Items

Base License to run one virtual Alpha system. This base license includes one virtual Alpha CPU.

Additional CPU license for one additional virtual Alpha CPU. Maximum 31 additional CPUs supported.

Annual Software Support Service providing free access to the vtAlpha support group as well as the right to obtain and install newer product versions during the term of the support agreement.

Disaster Recovery License offers 720 hours of vtAlpha-GS usage that can be consumed in 10-minute intervals to survive a host hardware break-down.

Product Origin

vtAlpha is developed, maintained and owned by Advanced Virtualization Technologies, The Netherlands (www.avtware.com) It is distributed in The Americas by Vere Technologies LLC.

