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

- *AlphaServer 2000*
- *AlphaServer 2100*
- *AlphaServer 4000*
- *AlphaServer 4100*

vtAlpha-CS runs directly on a general purpose computer with Intel or AMD processor (X86-64 architecture). It does not require the installation of a host operating system.

It runs on both physical and virtual machines.

How does it work?

Since Alpha based software does not run as-is on modern X86 systems, vtAlpha (running on X86) offers the existing Alpha software (Operating System and applications) the Alpha hardware interface it is used to work in. This way the Alpha software can be continued without making changes to it. vtAlpha translates in real-time between the old and the new world. It also allows to connect with peripherals that were never supported by the Alphas.

Simply specify the characteristics of the Alpha computer to replace and vtAlpha will build a virtual equivalent of that Alpha hardware to run your existing applications in.

After creating a virtual Alpha, images copies of the original Alpha disks can be transferred to the virtual Alpha host, so you can boot from these copied disks and resume the operation as usual, without changing the Alpha software.

System Performance

The vtAlpha-CS solution is designed to replace most of the single CPU Alpha systems, as listed above.

When run on a host with 3.0 GHz system Intel/AMD processor of recent generation its speed is at the level of the Alpha EV6 processor.

Virtual Alpha Memory

vtAlpha-CS supports up to 8 GB of virtual Alpha memory.

Supported Alpha Operating Systems

vtAlpha-CS supports both OpenVMS and Tru64 as guest operating systems. Current minimum releases:

- OpenVMS 6.2-1h3
- Digital UNIX / Tru64 3.2C

Clustering is supported (both OpenVMS and Tru64).

Storage Subsystem

vtAlpha offers the virtualized Alpha the hardware interface it expects (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, the company SAN or network based storage (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 disks (direct-attached hardware)
- Logical disks (container files on the host storage)
- Physical tapes
- Logical tapes
- CD-ROM (logical and physical)
- Direct SCSI-attached devices of unknown origin

All Alpha disk types and sizes are supported by vtAlpha.

Logical Disks and Tapes

For 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 the directories in the host attached storage.

This allows to combine multiple virtual Alpha disks on a single host disk. Or make really fast backups to logical tapes and include 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 also supported, as-signing a physical disk or partition to a virtual disk in vtAlpha. Or to connect a physical tape drive to a virtual Alpha tape. Reconnecting physical Alpha disks to your virtual Alpha is also an option.

CD-ROM

This is in fact a physical or logical disk in a prepared setting, already matching CD-ROM specifications.

Direct SCSI device

This allows to connect generic SCSI devices for which a custom peripheral driver is present in the Alpha Operating System. vtAlpha only processes the line traffic.

Network Subsystem

vtAlpha offers support for the following Ethernet adapters:

- DE600, DE500
- DE450, DE435

In addition vtAlpha includes virtual network switch support, enabling sharing of physical Ethernet adapters by multiple virtual Alphas.

All Alpha 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. Actual network speed may be better than from the original Alpha.

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 VT-like device connected to the host
- Any VT-terminal emulator via Ethernet
- Pseudo terminal on the host system

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

License Protection

vtAlpha is a software product, under End-User License Agreement. The licenses are stored on a license container equipped with USB connecter to maximum compatibility. The vtAlpha 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 to setup 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 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 in.

Host Computer Recommendations

vtAlpha requires a host system that supports 64-bit operation, since the Alpha was a 64-bit system. A regular computer of the x86-x64 architecture will be sufficient to run vtAlpha.

Host System Advisory

Current computer hardware with Intel Xeon, i5/i7 or AMD multi-core processors, 3.0 GHz or better provide adequate performance.

Physical and Virtual Systems Supported.

vtAlpha applies the *Bare Metal* approach and will run directly on the host system you assign to it. This host can be real hardware or a Virtual Machine as you may use these in your organization.

CPU and memory

vtAlpha-CS supports:

- Up to 4 Alpha CPUs
- Up to 8 GB virtual Alpha memory

Host computer sizing recommendations can be found on:

www.avtware.com/vtalpha-x86

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 component 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 3 extra 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-CDS 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 (www.avtware.com).