vtVAX is a cost-effective replacement for almost any DEC VAX server or workstation, from the MicroVAX II to the 6 CPU VAX 7660. This affordable VAX virtualization software runs on modern commodity hardware, reducing maintenance and operating cost and yielding 'green' benefits for both the datacenter and the bottom-line.

*The OpenVMS operating system, user interface and applications run unmodified on **vtVAX**. No conversion of VAX source code is required. No retraining is required. <u>Your investment is protected</u>.*

vtVAX runs on x86-compatible processors either as an application under Microsoft Windows or installed on Bare Metal (no pre-installed operating system). You are no longer locked in; you can now easily move to a more common platform and integrate your VAX systems in the IT infrastructure of your organization.

vtVAX is hardware-compatible with the original VAX **with significantly increased CPU and disk performance,** improving both boot and response times; often these are the only changes users will notice. Programmer productivity is enhanced through faster build times. The **vtVAX** Instruction Caching option dramatically improves the performance of CPU-intensive applications such as floating point, statistical analysis, and data warehouse business analytics.

The compatibility of **vtVAX** with VAX hardware has been tested using the DEC VAX diagnostics and architecture verification tools. Compatibility with legacy DEC physical devices including SCSI disks and tapes, serial ports (including full modem control) and Ethernet cards preserves real-time process control applications in industrial environments. Costly re-certification of systems can thus be avoided.

vtVAX brings OpenVMS Clusters' well-deserved reputation for high-availability and reliability into the modern datacenter, providing flexible, cost-effective disaster recovery options for small businesses and global enterprises alike.

vtVAX is very easy to use. Using the graphical configuration interface, you specify the characteristics and configuration of your existing VAX computer. **vtVAX** then builds an exact image of the VAX hardware your software is used to seeing. This ensures that you don't need to change your software or your processes.

After your virtual VAX is up and running, vtVAX provides the capability to start, stop, and maintain your installed base of virtual VAX systems from a single management interface.

System Performance

The **vtVAX** solution will easily meet or exceed the performance of almost every VAX computer it replaces. With the Instruction Caching option, it scales nicely against even multi-CPU high-end VAX servers.

Storage Subsystem

Logical Disks and Tapes

vtVAX logical disk and tape devices are implemented using container files: a single host file that contains the entire contents of a single OpenVMS disk or tape volume. Container files reside on storage devices that are mounted as part of the host PC file system. They may reside on disks directly attached to the PC host (including solid state, USB, CD or DVD drives), or on remote storage (NAS, SAN, iSCSI, or cloud-based storage). Logical devices can be backed up using the OpenVMS BACKUP utility, as on the VAX system being replaced, or the container files can be backed up using host-based backup or file copy utilities.

Using logical disks, multiple small VAX disks may be consolidated using a single larger host disk to streamline the disk configuration. Logical disks also provide the option to expand the number of drives configured on the virtualized VAX system. This opens up possibilities for load-balancing and performance tuning that may not exist for you today.

The use of logical tape devices allows existing OpenVMS disk-to-tape backup and restore procedures to run many times faster, at disk-to-disk speeds, with much higher reliability. After the backup operation is complete the container file may be copied using PC-based utilities for data archival purposes.

Physical Disks and Tapes

VAX SCSI disk and tape drives may be connected to SCSI adapters on the PC host system and accessed directly, as when they were connected to the existing VAX system.

We recommend that, whenever possible, legacy devices not be used for daily operations, since modern disks are significantly faster and more reliable than tapes and older disks.

VAX SCSI tape devices connected to the host PC can be used to read previously recorded tapes, eliminating the need to convert tape libraries as part of the migration process.

Supported VMS Configurations

vtVAX 7000 for Windows can emulate 1-4 CPU VAX 7600 systems (VAX 7610-7640) configured with up to 1 GB of memory. OpenVMS version 5.5-2 or later is required.

The OPA0 VAX Console can be configured using a COM port or Telnet connections. VT-series terminals are supported using a variety of popular third-party X-terminal emulation packages. Console ports may be password-protected for security.

OpenVMS Clusters

vtVAX supports VMS clustering using the Ethernet (NI) interconnect. The Maintenance Operations Protocol (MOP) is supported for VMS system administration functions and remote booting.

Storage Subsystem

The **vtVAX 7000** emulated DSSI subsystem supports up to 448 virtual disk and tape devices.

Network Subsystem

vtVAX 7000 supports up to four (4) DEMNA (EX) Ethernet adapters. Network throughput is determined by the host adapter speed, not the speed limitations of the emulated device. Using Fast Ethernet (100Mbit/sec) or Gigabit adapters, throughputs well in excess of those of the original VAX system may be obtained.

vtVAX supports all network protocols used on VAX systems (TCP/IP, DECnet, SCS (clustering), LAT, MOP, etc.)

Each virtual network adapter requires a dedicated physical network interface; one additional network interface is required for host management/Windows use.

Serial Lines

VAX 7000 systems provide only one serial interface: the system console (OPA0). **vtVAX** allows the user to connect to the console using a serial interface on the host or via Telnet. Additional serial connections may be provided using the Local Area Terminal (LAT) protocol in conjunction with network terminal servers.

VAX System Consolidation

Multiple instances of **vtVAX for Windows** may execute concurrently on the same host server. The hardware requirements are the sum of the requirements for each instance that will be executing simultaneously.

Software License Protection

vtVAX is a software product available under a perpetual use or annually renewable end-user license.

The OpenVMS operating system and all DEC/Compaq/HP layered software products require a transfer license in addition to the original software product licenses before the products may be used in a virtualized environment. One transfer license is required for the operating system and one transfer license is required for all layered products (combined). These transfer licenses may be acquired from your **vtVAX** reseller or directly from HP.

The DEC/Compaq/HP operating system and layered software product license requirements are the same running under **vtVAX** as running on the native processor being emulated. In general, your existing OpenVMS-based and third-party software licenses will transfer to **vtVAX** 'as is'. Contact your **vtVAX** reseller for information regarding the use of third-party software applications in a virtualized environment.

Host Computer Requirements

vtVAX for Windows runs on multi-core 32 or 64-bit Intel or AMD x86 architecture processors, either physical or virtualized, and installs as an application under Microsoft Windows 7, Windows Server 2012, or Windows Server 2008 operating systems. A minimum CPU clock speed of 3.0 GHz with a 1333 MHz Front Side Bus (FSB) is required to achieve performance comparable with a VAX 7000 system; faster CPUs will deliver better performance. Systems with the latest Intel Xeon or AMD Opteron multi-core processors will provide adequate performance. Intel i7 and AMD Phenom-based computers or other less powerful CPUs provide reduced CPU and I/O subsystem performance.

vtVAX 7000 for Windows requires an amount of memory equal to that configured on the virtualized VAX systems plus an additional 2 GB.

Contact Us

More information about **vtVAX** may be obtained from our web site: www.vax-alpha-emulation.com/vtvax

For a list of **vtVAX** resellers, see:
www.vax-alpha-emulation.com/contact

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