



PRODUCT OVERVIEW · VAX VIRTUALIZATION

vtVAX Bare Metal

Virtual VAX Emulation Software

A cost-effective replacement for almost any DEC VAX server or workstation. vtVAX runs on **modern x86-64 hardware, virtual machines, or in the cloud**, and your OpenVMS operating system, user interface, and layered applications run on it unmodified.

FIGURE 1 · MIGRATING VAX OR ALPHA DISKS



No code changes

No source conversion, recompiling, relinking, or end-user retraining.



Verified compatibility

Tested against DEC VAX diagnostics and architecture verification tools.



Real-time control preserved

Works with legacy DEC SCSI disks and tapes, serial ports with full modem control, and Ethernet cards.



Faster than the original

Better CPU, disk, and network performance for quicker user response times.

Product Variants

Product	CPUs	Memory	Supported VAX Models
vtVAXStation VMS 4.3–7.3	1	128 MB	MicroVAX II · VAX Server 3600/3900
vtVAX VMS 4.3–7.3	1	128–512 MB	MicroVAX II · VAX 3100-90/95 · VAX 4000-90 · VAX 4000-100/105/200 · VAX Server 3600/3900
vtVAX IC VMS 4.3–7.3	1	128–512 MB	MicroVAX II · VAX 3100-90/95 · VAX 4000-90 · VAX 4000-100/105/200 · VAX Server 3600/3900
vtVAX 76X0 VMS 5.5-2–7.3	1–6	3.5 GB	VAX 66X0/76X0

The **vtVAX IC (Instruction Caching)** option dramatically improves CPU-intensive workloads such as floating point, statistical analysis, and data warehouse business analytics.

Storage

vtVAX supports virtual disks, CD-ROM drives, and tape devices, mapped to physical storage or to container files on the host. Container files can live on any host-attached storage: SCSI, SATA, SAS, USB, SSD, CD/DVD, iSCSI, NAS, NFS, or SAN.

Store multiple container files on one host drive to consolidate storage without changing the OpenVMS file system. Logical tape drives transfer data at disk speeds and avoid the media errors common with physical tape.

SCSI & DSSI controllers

Each SCSI bus provides eight targets and seven LUNs (1–7); vtVAX uses Target ID 6 or 7 for itself. SCSI Passthru connects special devices such as robotic tape libraries and GPIB interfaces.

56

usable devices per SCSI bus

112

on two buses (VMS V5.5-2H4+)

256

on 8 DSSI controllers (76X0)



Networking

Ethernet adapters

Virtual DELQA, DEQNA, SGEC, and DEMNA interfaces, depending on the processor model emulated:

- Up to four DELQA/DEQNA adapters or one SGEC adapter (all five when emulating a vtVAX 4000)
- Up to four virtual DEMNA adapters (vtVAX 76X0)

Each virtual adapter maps to a dedicated physical Ethernet interface on the host. All VAX-supported protocols run on vtVAX:

TCP/IP DECnet LAT MOP and more

Virtual switches

On Bare Metal, virtual switches share physical interfaces, provide redundant connectivity, or link multiple virtual VAX and Alpha systems on the same host without touching the physical network. They support VLANs and Spanning Tree Protocol.

Performance

No more 10 Mbps, half-duplex limits. Physical interfaces run in any mode the host supports, typically 1 or 10 Gbps, so in most cases throughput far exceeds the VAX being replaced.

Note: Avoid saturating lower-speed physical interfaces shared by multiple virtual adapters.

System Management

An intuitive, browser-based interface lets authorized administrators manage all bare metal virtual VAXes and Alphas from any PC on the network, quickly creating and modifying vtVAX or vtAlpha configurations and managing the host environment.

>_ Serial Lines

vtVAX emulates DHQ11, DHV11, CXA16, CXB16, and CXY08 serial interfaces, with up to 32 ports. Only the ports in use need to be configured.

- Each port uses a dedicated host connection: a serial COM port (on-board or PCI) or a Telnet connection, presented as a virtual device
- Physical serial devices connect through PCIe controllers or USB-to-serial adapters
- Virtual serial ports work with Ethernet-to-serial converters, creating an IP tunnel to remote PLCs and other serial equipment

Graphics

When emulating a Qbus-based system, a single virtual VCB02 graphics controller lets the host monitor serve as the virtual VAX display.

Clustering

Bring the high availability and reliability OpenVMS Clusters are known for into the modern data center, with flexible, cost-effective disaster recovery for organizations of all sizes.

Configure vtVAX as a VAXcluster or OpenVMS Cluster member over Ethernet (NI) or emulated DSSI (shared disk) interconnects. MOP is supported for maintenance operations and remote booting.

Security

vtVAX ships with only three open ports: HTTP, HTTPS, and the license key port. The system manager can configure the environment to meet organizational requirements.

- Access roles and configurable security levels
- Secure communication protocols
- Encrypted environment in cloud deployments
- Configurable event logging and alerts

Ready to retire your VAX hardware?

Talk with Salem Automation about moving your OpenVMS applications to vtVAX, with no code changes and no retraining.

sales@salemautomation.com +1 336-661-0890

