



CHARON VAX/XM Plus for Windows

SALEM AUTOMATION INCORPORATED

1598 Westbrook Plaza Drive
Suite 102
Winston-Salem, NC 27103

Phone: 336-661-0890
Fax: 336-661-9575

CharonSales@salemautomation.com
www.CHARONVAX.com

Functionality

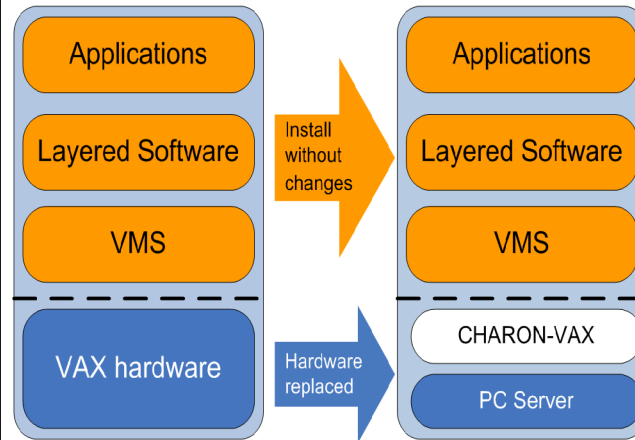
CHARON-VAX/XM Plus is designed to prolong the use of the VAX/VMS operating system, layered products and user applications. The hardware components emulated by CHARON-VAX/XM Plus are designed to operate like their hardware equivalents.

CHARON-VAX/XM Plus can in principle execute any VAX operating system or binary application that runs on its equivalent hardware VAX configuration. It is designed to replace single CPU VAX machines in administrative environments with terminals connected via terminal servers. The emulated functionality does not include diagnostic or maintenance modes or delays to simulate mechanical device behavior.

For a list of emulated components please see the Features Matrix.



Salem Automation
Legacy Systems Virtualization



CHARON-VAX/XM Plus for Windows is a third generation VAX system emulator. By emulating a variety of VAX CPUs with different features, CHARON-VAX/XM Plus can replace a wide range of VAX server hardware with modern Windows servers running CHARON-VAX/XM Plus as a Windows application. CHARON-VAX/XM Plus provides an exact model

of the emulated CPU, on which VAX/VMS, layered software and user applications execute unmodified. No conversion of binary VAX code is required. The Plus option for the CHARON-VAX/XM emulator provides a 2 to 3 times improvement of VAX CPU emulation by means of Advanced CPU Emulation mode (ACE). The compatibility of the emulator with VAX hardware is tested with the original VAX hardware design tools and diagnostics.

Features

- ◆ Provides VAX CPU emulations for: VAXserver 4000-106, MicroVAX 3100-96, MicroVAX 3600/3900, VAXserver 3600/3900, MicroVAX II. Only one of these CPUs can execute at a given time.
- ◆ Does not require VAX application code conversion nor application sources. VMS, layered software and applications can be directly installed on CHARON-VAX/XM Plus and do not require any modifications. The application binaries, user interface and functionality remain unchanged.
- ◆ Each emulated VAX model follows the characteristics of the VAX hardware it is derived from, requires the corresponding level of VAX/VMS license units and supports the peripherals particular to that VAX model. See the Features Matrix on the next page.
- ◆ Installs and runs the standard VAX/VMS and other standard VAX OS's.
- ◆ CHARON-VAX/XM Plus can operate as an unattended Windows service.
- ◆ VMS and layered product transfer licenses from an existing VAX system to CHARONVAX/XM Plus are available from HP.
- ◆ Passes HP's AXE architecture test for VAX instruction compatibility.
- ◆ Depending on the emulated CPU, CHARON-VAX/XM Plus emulates 16 to 128 MB VAX memory.
- ◆ The Ethernet adapter(s) emulator supports 10 or 100 (*) Mbps network connections to other systems, NI clusters, terminal servers and X-terminal (emulators). Emulation is transparent to DECnet and/or TCP/IP network protocols.
- ◆ CHARON-VAX/XM Plus can be configured as a VMS NI-cluster member or as a cluster member with shared disk clustering.
- ◆ Upgrading to a faster host system provides an immediate emulator performance increase.
- ◆ Choice between one year (extendable) or perpetual usage licenses.
- ◆ Two levels of optional software support service.

Advanced CPU Emulation

ACE dynamically optimizes the VAX instruction interpretation. This does not require code preprocessing and provides its full capability instantly. As the optimization takes place below the emulated hardware level, the emulator remains fully VAX hardware compatible and is completely transparent to VAX operating systems and applications.

Host system requirements

A dedicated XP or higher or 2003 /2008 Server Standard Edition host system with a dual CPU of at least 1 GHz, a CD-ROM, minimum one (1) dedicated Ethernet adapter, a USB port for the license key and enough storage space for the VAX disks. The minimum host memory requirement depends on the CPU emulated and whether ACE is used. For a list of emulated components please see the Features Matrix.

Recommended tools

HP Pathworks 32:

- VT525 terminal emulator
- X-terminal emulator
- Windows file copy

Product contents

User manual
Distribution CD
License key

License key

The CHARON hardware license key is permanently connected to the host system running the emulator. It preserves the customer specific license parameters, allows remote electronic updates and enables rapid change of host systems as the CHARON executable itself can be installed on multiple systems.

The MTBF of the key is more than 100 years. For mission critical applications a backup key containing 720 hours execution time can be ordered to meet any disaster recovery plan that requires replacement hardware.

Warranty

The three months standard warranty for this product is for the readability of the distribution media. Software Support (Gold or Platinum level) must be purchased as part of the initial purchase. Support Renewal beyond the



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Typical applications

- ◆ Replacing any VAX platform requiring up to 128 MB of VAX memory with a Windows host system while using unmodified VAX application software.
- ◆ With the Plus version, improving VAX system performance for CPU- or I/O-intensive workloads, while replacing the hardware with a Windows platform (up to 133 VUPs).
- ◆ Replacing departmental or corporate VAX computers by modern host systems to reduce maintenance, space and operating costs.

Features Matrix

	VAX 4000-106	VAX 3100-96	VAX 3600/3900	MicroVAX II
Emulated VAX CPU	KA54-A	KA56-A	KA650-A, KA650-B / KA655-A, KA655-B	KA630-A
Earliest VMS version supported	5.5	5.5	4.6	4.6
Maximum VAX memory emulated	128 MB	128 MB	64 MB	16 MB
(T)MSCP Device Controller	Yes ¹ ²	n/a	Yes ¹	Yes ¹
SCSI Subsystem	Two controllers, each supporting seven addresses; using LUNs each address supports eight similar devices		n/a	n/a
VAX SCSI disks	VAX SCSI disks can be represented by physical SCSI disks or disk image files		n/a	n/a
VAX SCSI tapes	SCSI tape drives connect via a host SCSI port		n/a	n/a
Ethernet	Up to five Ethernet adapters in total, including one SGEC. Connections to 100 Mbps possible with the Plus option, giving an aggregate throughput ~20 Mbps. ³ Non-Plus option connects to 10 Mbps.	One SGEC adapter. Connection to 100 Mbps possible with the Plus option, giving an effective throughput ~20 Mbps. ³ Non-Plus option connects to 10 Mbps.	Up to four Ethernet adapters. Connections to 100 Mbps possible with the Plus option, giving an aggregate throughput ~20 Mbps. ³ Non-Plus option connects to 10 Mbps.	One adapter max. Connection to 100 Mbps possible with the Plus option, giving an effective throughput ~20 Mbps. ³ Non-Plus option connects to 10 Mbps.
VAX/VMS clustering	NI Cluster or Shared Disk Clustering with simulated MSCP controllers	NI Cluster	NI Cluster or Shared Disk Clustering with simulated MSCP controllers	n/a
Asynchronous serial line emulation	CXA16, CXB16, CXY08, DHQ11, DHV11, DHW42-AA, DHW42-BA, DHW42-CA	DHW42-AA, DHW42-BA, DHW42-CA	CXA16, CXB16, CXY08, DHQ11, DHV11	CXA16, CXB16, CXY08, DHQ11, DHV11
Qbus subsystem	Yes ¹	n/a	Yes ¹	Yes ¹
Host memory requirement	512 MB (1 GB with ACE)	512 MB (1 GB with ACE)	128 MB (256 MB with ACE)	64 MB (128 MB with ACE)

¹ Configurable Qbus components are the MSCP disk controller RQDX3, the TMSCP tape controller TQK50, the serial line controllers as above, and the Ethernet controllers DEQNA, DELQA and DESQA.

² MSCP disk emulation is the preferred storage device emulation in the case of heavy disk I/O.

³ The Plus option, running on a 2.8 GHz dual CPU Xeon, Windows XP, SP1.

Ordering information CHARON-VAX/XM Plus for Windows

- Unlimited run time license
- Initial (one year) license
- License extension for one year
- GOLD Support 8-5 Monday - Friday
- PLATINUM Support 24 x 7

For Sales Information, Please Contact:

Stacy Griffith
Southeast Regional
Sales Assistant
Winston-Salem, NC
336-661-0890, ext 102

Bob Gyles
Northeast Regional
Sales Manager
Boston, MA
978-425-2582

John Mercier
Western Regional
Sales Manager
Phoenix, AZ
480-633-5739

E-mail: charon_sales@salemautomation.com