

# SOFTWARE PRODUCT DESCRIPTION

## CHARON-TB for Windows

Product version: 4.0; Build 122-02

### Description

CHARON-TB is an accurate virtualization layer for both VAX and PDP-11 hardware on Windows host systems. CHARON-TB is a “Toolbox” designed to replace legacy systems that are based on PDP-11 or VAX CPUs and that may include legacy parts or non-standard hardware and peripherals, such as embedded systems or industrial process control systems or military systems. It includes a CHARON Application Program Interface (CHAPI) that allows creating custom emulated QBUS devices.

**CHARON-TB for Windows** is designed to replace VAXstation 4000-90, VAX 4000-106, VAX 3100-96, VAX 3600, VAX 3900, VAX 6310, or MicroVAX II systems by its virtual equivalent running on a Windows host platform. Most VAX hardware is virtualized, allowing the VAX/VMS operating system and all software that is running in that environment to remain working as always. No changes to the original software (operating system, layered products or applications), its procedures or handling have to be applied.

### Network

CHARON-VAX virtualizes the Ethernet controllers as included in the original VAX hardware that is replaced. Any protocol that ran on these controllers (DECnet, TCP/IP, LAT) will run over this virtualized link.

### Storage

CHARON-VAX/XM (PLUS) provides support for the following VAX storage device types: (T)MSCP, DSSI and SCSI. CHARON translates all these VAX types to any modern technology (SCSI, IDE, SATA, SAS or SAN) by means of logical files in a Windows directory, physical Windows disks or physical SCSI devices.

### Host system requirements

A dedicated Windows XP Professional or Windows 7 Professional 32 bit host system, with a dual CPU of at least 2 GHz, a CD-ROM, minimum one dedicated Ethernet adapter, a USB port for the license key and enough disk space for the VAX/PDP11 disks. The minimum host memory requirement is 1 GB.

### CHAPI

For designing and implementing additional peripheral device virtualizations, CHARON-TB includes a library of callable software modules and examples of how to map peripheral functionality to host system functions. The source code of some typical examples is available on request.

Once developed with CHARON-TB for Windows, CHAPI-based peripheral modules can be used with other CHARON-VAX products of the same architecture. They can be made to lock on a specific CHARON license key number.



Interfacing with bespoke hardware or virtual bus adapters is also possible via a specific set of callable software modules that provide full access to the virtual QBUS or UNibus.

Please refer to CHARON-TB systems design manual for the details.

### Product license key

The CHARON HASP-HL USB-type 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.

HASP-HL allows running multiple CHARON-VAX and CHARON-AXP instances on a single host computer.

### Documentation

- System design manual, on the installation CD and on the web.
- Release notes, on the installation CD and the web.
- SPD, on the installation CD and the web.

### Additional utilities

**Program Launcher:** start/stop/manage CHARON-VAX

**Service Manager:** manage CHARON-VAX as a service

**MKdisk:** Create empty VAX disk images

**DECtray:** Taskbar icon for network activity display

**Network Control Center:** Manage CHARON network components

**Idle:** Suspends host CPU usage when the VAX OS is idle (energy save mode). Applicable to single CPU CHARON systems only.

## User environment

After installation the system will behave like the VAX it replaces and should be treated like that VAX. Operating procedures will be the same and we advise not to treat it as a Windows system, despite the fact it runs on a Windows kernel. The product documentation includes an advisory for switching off unused Windows services and the Windows kernel can be disconnected from the network after installation.

## Virtualized hardware

	VAX4000-106	VAX3100-96	VAX4000-90	VAX3600/3900	MicroVAX II
<b>Virtualized VAX CPU</b>	KA54-A	KA56-A	KA49-A	KA650-A/B KA655-A/B	KA630-A
<b>Earliest VMS version</b>	5.5-2H4	5.5-2H4	5.5-2H4	4.6	4.6
<b>Max. virtual VAX memory</b>	128 MB	128 MB	128 MB	128 MB	16 MB
<b>(T)MSCP device controller</b>	Yes <sup>1) 2)</sup>	No	No	Yes <sup>1)</sup>	Yes <sup>1)</sup>
<b>SCSI subsystem</b>	2 Controllers, each supporting 7 addresses. Using LUN's each address supports 8 similar devices	2 Controllers, each supporting 7 addresses. Using LUN's each address supports 8 similar devices	1 Controller, supporting 7 addresses. Using LUN's each address supports 8 similar devices	No	No
<b>VAX SCSI disks</b>	Physical SCSI disks or image files	Physical SCSI disks or image files	Physical SCSI disks or image files	No	No
<b>VAX SCSI tapes</b>	SCSI tape drives via a SCSI port	SCSI tape drives via a SCSI port	SCSI tape drives via a SCSI port	No	No
<b>Ethernet</b>	Up to 5 Ethernet controllers in total. Connections up to 100 Mbps with the PLUS version. The Standard version supports 10 Mbps	1 Ethernet controller. Connections up to 100 Mbps with the PLUS version. The Standard version supports 10 Mbps	1 Ethernet controller. Connections up to 100 Mbps with the PLUS version. The Standard version supports 10 Mbps	Up to 4 Ethernet controllers in total. Connections up to 100 Mbps with the PLUS version. The Standard version supports 10 Mbps	1 Ethernet controller. Connections up to 100 Mbps with the PLUS version. The Standard version supports 10 Mbps
<b>VAX/VMS clustering</b>	NI cluster or Shared Disk Cluster with DSSI or MSCP controllers	NI Cluster	NI Cluster	NI cluster or Shared Disk Cluster with simulated MSCP controllers	No
<b>Asynchronous Serial Lines</b>	CXA16, CXB16, CXY08, DHQ11, DHV11, DHW42	DHW42	QUART (4 lines)	CXA16, CXB16, CXY08, DHQ11, DHV11	CXA16, CXB16, CXY08, DHQ11, DHV11
<b>QBUS subsystem</b>	Yes <sup>2)</sup>	No	No	Yes <sup>2)</sup>	Yes <sup>2)</sup>
<b>DSSI subsystem</b>	HSD50 controller	No	No	No	No
<b>Graphics subsystem</b>	Dummy, use commercial Xterminal emulator	Dummy, use commercial Xterminal emulator	Dummy, use commercial Xterminal emulator	Dummy, use commercial Xterminal emulator	No

<sup>1)</sup> 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.

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

## Ordering information

### CHARON-TB

Unlimited Run time license	CHTB-010-PX-WI
One year license	CHTB-010-YX-WI
720 hours disaster recovery license	CHTB-010-KX-WI
GOLD-support (9x5)	CHTB-010-UX-WI
Platinum support (24x7)	CHTB-010-TX-WI

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