CHARON-VAX/66x0 PLUS for Linux
Product version 4.7
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DESCRIPTION

CHARON-VAX/66x0 PLUS represents 4 products that are designed to replace XMI-based 6000 and 7000 series multi CPU VAX systems. They are members of the CHARON cross-platform hardware virtualization family.

VAX hardware		Virtual VAX 66x0 product
VAX6610, VAX7610	⇨	CHARON-VAX/6610 PLUS
VAX6620, VAX7620	⇨	CHARON-VAX/6620 PLUS
VAX6630, VAX7630	⇨	CHARON-VAX/6630 PLUS
VAX6660, VAX7660	⇨	CHARON-VAX/6660 PLUS

CHARON-VAX/66x0 PLUS for Linux family is designed to emulate a VAX6000-610, -620, -630 or -660 system by its virtual equivalent running on a standard host platform. It will run the VAX operating system and application software in their existing, binary form. It can also be used to replace any XMI based multi CPU VAX system from 6000, 7000, 8000, and 10000 series. Most VAX hardware is virtualized, allowing the VAX/VMS operating system and software that is running in that environment to remain working as always. Almost no changes to the VAX operating system, layered products or applications, its procedures or handling have to be applied.

NETWORK

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

STORAGE

CHARON-VAX/66x0 PLUS provides support for (T)MSCP and CI storage devices. CHARON translates it into any modern technology (SCSI, SATA, SAS) by means of logical files in a file system directory or physical LUNs attached locally or remotely by iSCSI, SAN, or NAS.

HOST SYSTEM REQUIREMENTS

A physical system or virtual VMware appliance with a with N+1 CPU cores (where N is the number of emulated VAX CPUs), with a minimum of 3 GB host memory, one dedicated Ethernet adapter, an optional USB port for the license key, and enough disk space for the VAX disks. Intel Xeon v3 E3, E5, and E7 CPUs with a clock frequency of 3GHz and higher are recommended

OPERATING SYSTEM REQUIREMENTS

Linux Red Hat Enterprise 7.0 and 7.1, 64bit, Linux Fedora Core 20, 21, and 22, 64bit on top of a physical host or on VMware ESXi 5.x or 6.0

LICENSE PROTECTION

A valid license should be permanently available to CHARON. It can be represented by a local or network attached USB HASP license key, or a Software License. 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. License technically allows combining multiple instances of CHARON-VAX and CHARON-AXP on a single multi-core host system..

PERFORMANCE

	Hardware VAX	CHARON-VAX *)
VAX6610	32 VUPS	125 VUPS
VAX6620	50 VUPS	225 VUPS
VAX6630	75 VUPS	338 VUPS
VAX6660	150 VUPS	675 VUPS

*) When run on an Intel i7 965 (3.2 GHz) based system

DISTRIBUTION

CHARON Installation kits, Release notes, User manuals, Software Product Descriptions, and Patches are available for download through partner and direct customer login from Stromasys fileserver.

CHARON UTILITIES

- **CHARON Linux toolkit** simplifies CHARON operational management (start/stop/upgrade tasks) as well as license update and monitoring tasks.
- **mkdskcmd** creates empty disk images. It is also used to transfer disk images of one type to a disk image of another type.
- **mtd** is used to create a CHARON tape image from a physical tape and to write a tape image to a physical tape.
- **hasp_srm_view** displays content of CHARON-VAX license. Also used to transfer licenses from one host to another host.
- **ncu** ("Network Control Utility") is used to dedicate a host interface to CHARON-VAX, to release it back to the host and to manage CHARON virtual interfaces (TAPs).

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 Linux system, despite the fact it runs on a Linux kernel. The Linux kernel can be disconnected from the network after installation.

VIRTUALIZED HARDWARE

	CHARON-VAX/6610 PLUS	CHARON-VAX/6610 PLUS	CHARON-VAX/6630 PLUS	CHARON-VAX/6660 PLUS
Virtualized VAX model	VAX6000-610	VAX6000-620	VAX6000-630	VAX6000-660
Virtualized VAX CPU	KA66-A 1 VAX CPU	KA66-A 2 VAX CPU's	KA66-A 3 VAX CPU's	KA66-A 4, 5, or 6 VAX CPU's
Earliest VMS version	5.5-2			
Max. virtual VAX memory	1 GB	2 GB	3 GB	3.5 GB
Internal bus	XMI			
SCSI and QBUS buses	N/A			
Emulated VAX disks	Virtual disk images (container files) and physical SCSI disks and partitions on KDM70 XMI disk/tape controllers; CIXCD CI disk controllers; HSJ50 storage controllers			
Emulated VAX tapes	KDM70 XMI disk/tape controller with container files (boot from tape not supported)			
Ethernet	Multiple emulated DEMNA Ethernet adapters up to the available maximum slots on the emulated XMI bus. Connection speed on the emulated VAX level is 10, 100 Mbps, and 1Gbps [1]			
VAX/VMS clustering	NI clusters; Shared Disk Clusters with emulated CIXCD and HSJ50 controllers			
Host memory requirements	3 GB	4 GB	6 GB	6 GB

[1] The effective aggregate throughput depends on the host system performance.

Each virtual VAX model follows the characteristics of its VAX hardware equivalent, requiring the corresponding level of license units and supports the peripherals particular to that VAX model. The virtual VAX does not include diagnostic and maintenance modes or delays to simulate mechanical device behavior.

Ordering information	CHARON-VAX/6610 PLUS	CHARON-VAX/6620 PLUS	CHARON-VAX/6630 PLUS	CHARON-VAX/6660 PLUS
Unlimited runtime license	CHVX-261-PG-LI	CHVX-262-PH-LI	CHVX-263-PH-LI	CHVX-260-PH-LI
One year license	CHVX-261-YG-LI	CHVX-262-YH-LI	CHVX-263-YH-LI	CHVX-260-YH-LI
Backup license (720 hours)	CHVX-261-KG-LI	CHVX-262-KH-LI	CHVX-263-KH-LI	CHVX-260-KH-LI
GOLD support (9x5)	CHVX-261-UG-LI	CHVX-262-UH-LI	CHVX-263-UH-LI	CHVX-260-UH-LI
PLATINUM support (24x7)	CHVX-261-TG-LI	CHVX-262-TH-LI	CHVX-263-TH-LI	CHVX-260-TH-LI

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