



CHARON-AXP 4100 Plus for Windows

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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-AXP/4100 is a member of the CHARON cross platform hardware virtualization product-family by Stromasys. CHARON-AXP creates the virtual replica of the original Alpha hardware interface inside a standard computer system. It will run the Alpha operating systems OpenVMS, including the layered products and application software in their existing, binary form. It quickly moves your Alpha software and data to a general purpose computer.

CHARON-AXP/4100 for Windows is designed to replace the AlphaServer 2000, 2100, 4000 or 4100 computer systems by its virtual equivalent running on a Windows XP/2003/Vista/2008 64bit host platform. Most of the original Alpha-hardware is virtualized, allowing the OpenVM 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-AXP/4100 virtualizes the 10/100 Mbps Ethernet controller DE500, warranting support of even the earliest installation. Any protocol that ran over this Ethernet link (DECnet, TCP/IP, LAT) will run over this virtualized link.

The virtual DE500 is recognized by the operating system which assumes it will run at 10/100Mbps. Since the DE500 is virtualized it may exceed that speed when connected to a faster adapter in the host system. It also supports FDDI network adapter DEPFA in pass through mode.

Storage

CHARON-AXP/4100 provides support for Alpha storage devices: disk and tape via virtual KZPBA SCSI and KGPSA FibreChannel adapters. CHARON-AXP/4100 allows connecting Alpha SCSI devices to logical disks or tapes that appear as container files in the host operating system, connections to Windows physical devices and direct SCSI addressing. When emulating the KGPSA FibreChannel adapter an Emulex FibreChannel adapter in the host system is required (see page 2 for details)

Host System Requirements

CHARON-AXP is designed to run on Windows 2003 and 2008 (x64), which is supported by AMD/Intel systems. CHARON-AXP/4100 can virtualize a 2 or 4 CPU Alpha Server system and therefore claims one of the CPU's on the host system for every virtual Alpha CPU. Additional host CPU capacity is required for I/O handling and other virtualization support tasks. CHARON-AXP/4100 licensing allows combining multiple licenses on one multi-core host system, when the rule of reserving 1 support CPU for every 2 virtual Alpha CPU's is observed.

Performance

CHARON-AXP/4100 benefits from the newer, faster hardware models, offering owners of most Alpha hardware systems equal or better performance at installation. With the rapid pace at which new hardware is introduced and the additional improvements Stromasys makes to the CHARON products will further shift the balance in favor of cross-platform virtualization.

Host system requirements

A dedicated Windows 2003 /2008 Server Standard Edition or 2008 Server 64-Bit Edition host system with two (2) or more hardware CPUs of at least 2 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 is reflected in the Features Matrix. For a list of emulated components please see the Features Matrix.

Recommended tools

- HP Pathworks 32:
- *VT525 terminal emulator*
 - *X-terminal emulator*

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.

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 of the distribution media.

VIRTUALIZED HARDWARE	2000	2100	4000	4100
Number of Alpha CPU's in base license	2	2	2	2
Additional Alpha CPU's	No	Yes	No	Yes
Maximum number of Alpha CPU's supported	2	4	2	4
Maximum supported Alpha memory	2 GB	2 GB	8 GB	8 GB
Ethernet (DE500) support	Yes (1 fixed)	Yes (1 fixed)	Yes	Yes
SCSI adapter (KZPBA) support	Yes (1 fixed)	Yes (1 fixed)	Yes (1 fixed)	Yes (1 fixed)
FibreChannel adapter (KGPSA) support	Yes	Yes	Yes	Yes
Maximum number of adapters supported (Ethernet, SCSI and FibreChannel)	4	4	17	9
IDE support	-	-	-	-
FDDI support ⁽²⁾	Yes	Yes	Yes	Yes
Earliest OpenVMS version	6.2-1h3	6.2-1h3	6.2-1h3	6.2-1h3

SALEM AUTOMATION CUSTOMERS' TESTIMONIALS:

LARGE MID-WEST MUNICIPALITY SENT APRIL 16, 2009

Salem Automation Incorporated provided excellent value, and that the expertise of the engineer who helped us was amazing. I would not want to do another migration without their support. By implementing this solution I'm convinced we avoided significant downtime of key systems (courts and police records) for which no other effective solution was available.

MANUFACTURING FACILITY: EMAIL SENT FEBRUARY 17, 2009

I wanted to take this opportunity to express my gratitude for Salem's considerable effort in making the Alpha System swap-over a success. Your extensive knowledge allowed for a smooth transition to the virtual server, and provided us with the correct way to backup our system in the event a restore should be required. It was a pleasure working with you.

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