



# SOFTWARE PRODUCT DESCRIPTION

## CHARON-AXP/4100 for Windows

Product version: 2.4; Build 118

### Description

CHARON-AXP/4100 is a member of the CHARON cross-platform hardware virtualization product family. 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 and Tru64 UNIX 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 400, 2000, 2100, 4000 or 4100 computer systems by its virtual equivalent running on a Windows host platform.

Most of the original Alpha-hardware is virtualized, allowing the **OpenVMS** or **Tru64** 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/DS10 virtualizes the 10/100 Mbps Ethernet controllers from DEC 21x4x family, warranting support of even the earliest DS10 installation. Any protocol that ran over this Ethernet link (DECnet, TCP/IP, and LAT) will run over this virtualized link. The virtual network adapter is recognized by the operating system which assumes it will run at 10/100Mbps, but since it's virtualized it may exceed that speed when connected to a 1 Gbps adapter in the host system. It also supports FDDI network in Pass Through mode with physical DEPPA adapter.

### Storage

CHARON-AXP/DS10 provides support for Alpha storage devices: disk and tape via virtual KZPBA SCSI and KGPSA FibreChannel adapters. CHARON-AXP/DS10 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)

### Performance

CHARON-AXP/DS10 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.

This table shows performance measurements of the original Alpha hardware, comparing it with the CHARON solution, using the standard SPEC2000 benchmark.



(results are per CPU)	SPEC2000	
	INT	FP
AlphaServer 4100 5/533	176	176
AlphaServer DS10 6/500	300	383
AlphaServer DS20 6/667	425	455
AlphaServer ES40 6/500	299	382
AlphaServer GS80 6/731	352	405
AlphaServer GS160 68/1001	561	581

*CHARON-AXP delivers 388 SPEC2000 INT and 379 SPEC2000 FP when run on an Intel Core i7 965 (3.2 GHz) host system.*

The CHARON-AXP/4100 base license includes 1 virtual Alpha CPU for AlphaServer 400; 2 virtual Alpha CPUs for AlphaServer 2000, 2100, 4000, and 4100; a 2 CPU option can be added (for models 2100 and 4100).

### Host System Requirements

CHARON-AXP is designed to run on Windows 64 bit system. The following versions are supported: Windows 7, XP, Server 2003, 2008 (R2), which are run on AMD and Intel processor systems.

CHARON-AXP/4100 virtualizes a 1 - 4 CPU AlphaServer 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 additional CPU for every virtual Alpha CPU.

### Product license key

The CHARON 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. The MTBF of the key is more than 100 years.



### User environment

After installation the system will behave like the Alpha it replaces and should be treated like that Alpha. 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	400	2000	2100	4000	4100
Number of Alpha CPUs in base license	1	2	2	2	2
Additional Alpha CPUs	No	No	Yes	No	Yes
Maximum number of Alpha CPUs supported	1	2	4	2	4
Maximum supported Alpha memory	1 GB	2 GB	2 GB	8 GB	8 GB
DEC 21x4x Ethernet adapters family (DEC Chip 21040, DE435, DE450, DE500AA, and DE500BA) support	Yes	Yes (1 pre-loaded)	Yes (1 pre-loaded)	Yes	Yes
SCSI adapter (KZPBA) support	Yes (1 pre-loaded)	Yes (1 pre-loaded)	Yes (1 pre-loaded)	Yes (1 pre-loaded)	Yes ((1 pre-loaded)
FibreChannel adapter (KGPSA) support <sup>1)</sup>	Yes	Yes	Yes	Yes	Yes
Maximum number of adapters supported (Ethernet, SCSI and Fibre-Channel)	3	3	3	16	8
IDE support	-	-	-	-	-
FDDI support <sup>2)</sup>	Yes	Yes	Yes	Yes	Yes
Earliest OpenVMS version	6.2-1H3	6.2-1H3	6.2-1H3	6.2-1H3	6.2-1H3
Earliest Tru64 version	3.0	4.0B	4.0B	4.0B	4.0B

<sup>1)</sup> For FibreChannel support the installation of an Emulex FibreChannel adapter is required (LPe1105, LPe11002, or similar)

<sup>2)</sup> For FDDI support the installation of the DEFPA adapter is required

### Additional utilities

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

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

**MKdisk:** Create empty AXP disk images

**SCSIcheck:** Locate CHARON names for disks, tapes, CD's floppy disks and other SCSI devices

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

**HASP\_HL\_VIEW:** License content viewer

**HASPRUS:** License update utility

### Ordering information

#### CHARON-AXP/4100

Unlimited run time license

One year license

720 hour disaster recovery license

GOLD-support (9x5)

Platinum support (24-7)

Additional Alpha CPU (depends on the model, max. 2 allowed)

Additional 4 GB memory option (depends on the model)

#### License

CHAXP-806IP-WI

CHAXP-806IB-WI

CHAXP-806IK-WI

CHAXP-806IT-WI

CHAXP-806IU-WI

CHAXP-CPUIP-WI

CHAXP-04GBP-WI

## PRESERVING YOUR SOFTWARE INVESTMENT ACROSS HARDWARE GENERATIONS !

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