



SOFTWARE PRODUCT DESCRIPTION

CHARON-AXP/GS320 for Windows

Product version: 2.4; Build 118

Description

CHARON-AXP/GS320 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/GS320 for Windows is designed to replace the AlphaServer GS320 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 systems and all software that runs in that environment to remain working as always. Almost no changes to the original software (operating system, layered products or applications), its procedures or handling have to be applied.

Network

CHARON-AXP/GS320 virtualizes the 10/100 Mbps Ethernet controllers from DEC 21x4x family, warranting support of even the earliest GS320 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 DEPCA adapter.

Storage

CHARON-AXP/GS320 provides support for Alpha storage devices: disk and tape via virtual KZPBA SCSI and KGPSA FibreChannel adapters. CHARON-AXP/GS320 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/GS320 benefits from the newer, faster hardware models, offering owners of most Alpha hardware systems similar 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/GS320 base license includes 16 virtual Alpha CPUs; 16 additional CPU options can be added.

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/GS320 virtualizes a 1 - 32 CPU GS320 Alpha 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/GS320 licensing allows combining multiple licenses on one multi-core host system, when the rule of reserving 1 additional hosting CPU core 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	GS320
Number of Alpha CPUs in base license	16
Additional Alpha CPUs	Yes
Maximum number of Alpha CPUs supported	32
Alpha memory in base license	4 GB
Maximum supported Alpha memory	32 GB
DEC 21x4x Ethernet adapters family (DEC Chip 21040, DE435, DE450, DE500AA, and DE500BA) support	Yes
SCSI adapter (KZPBA) support	Yes (1 preloaded)
FibreChannel adapter (KGPSA) support ¹⁾	Yes
Maximum number of adapters supported (Ethernet, SCSI and FibreChannel)	28
IDE support	CD-ROM
FDDI support	Yes
Earliest OpenVMS version	7.2-1h1
Earliest Tru64 version	4.0G

¹⁾ For FibreChannel and FDDI support the installation of a particular Emulex FibreChannel or FDDI adapter is required (LPe1105, LPe11002, or similar Emulex HBA for FibreChannel support; DEPFA adapter for FDDI support)

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/GS320

License

Unlimited run time license	CHAXP-909IP-WI
One year license	CHAXP-909IB-WI
720 hour disaster recovery license	CHAXP-909IK-WI
GOLD-support (9x5)	CHAXP-909IT-WI
Platinum support (24x7)	CHAXP-909IU-WI
Additional 28 GB memory option	CHAXP-28GBP-WI
Additional Alpha CPU (16 allowed)	CHAXP-CPUIP-WI

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