



SOFTWARE PRODUCT DESCRIPTION

CHARON-AXP/SMA, /SMA PLUS, and /Station for Windows

Product version: 2.2 Build 39

Description

CHARON-AXP/SMA, /SMA PLUS, and /Station (where SMA stands for Small and Medium Alpha) represent a family of the CHARON cross-platform hardware virtualization products by Stromasys. It will run the Alpha operating systems OpenVMS and Tru64 UNIX including the layered products and application software in their existing, binary form. It allows you to quickly move your Alpha software and data to a general purpose computer.

CHARON-AXP/SMA, /SMA PLUS, and /Station for Windows family is designed to replace a wide range of small and medium sized Alpha systems with up to 1 (/Station), 2 (/SMA), or 4 (/SMA PLUS) emulated AXP CPUs. Please refer to the second page for the details.

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 or minimal changes to the original software (operating system, layered products or applications), its procedures or handling have to be applied.

Network

CHARON-AXP virtualizes the Ethernet controllers as included in the original AlphaServer hardware that is replaced (DE435, DE450 and DE500BA). Any protocol that ran on these controllers (DECnet, TCP/IP, LAT) will run over this virtualized link.

Storage

CHARON-AXP provides support for Alpha storage devices: disk, tape and generic SCSI via virtual KZPBA SCSI adapters. CHARON-AXP 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. In the latter case the nature of the connected device is not important; the Alpha Operating system already included the drivers for these devices.

The storage support is based on SCSI, however CHARON-AXP includes a special OpenVMS driver that allows presenting OpenVMS with other device types: IDE (DQ), FibreChannel (DG), DSSI (DI), RAIDarray (DR) and MSCP (DU), next to SCSI (DK/MK/GK devices).

The nature of the storage technology on the host computer is hidden the Alpha Operating system, allowing to store emulated SCSI or IDE disk on a FibreChannel SAN.



Performance

CHARON-AXP performance scales almost linearly with the host physical CPU (per core) performance. When run on a HP Proliant with latest multi-core 3.6 GHz processor CHARON-AXP provides approximately similar performance than the Alpha hardware it replaces. Please refer to the Performance Measurements provided with the product kit for details.

Host system requirements

CHARON-AXP is designed to run on 64 bit Windows Server 2003 R2 or Server 2008 R2, which is supported by AMD and Intel processor systems, or on a VMware ESXi 4.1 Update 1 and ESXi 5.x virtual appliance.

CHARON-AXP virtualizes a single or multiple (up to 4) CPUs 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 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 Sentinel HASP license key must be permanently connected to the host system. 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.

Licensing

The CHARON-AXP/SMA, /SMA PLUS, and /Station base license includes 1 virtual Alpha CPU. An additional CPU option can be purchased separately. Amount of emulated RAM is set to maximum supported by model.

CHARON-AXP licensing allows combining multiple instances of CHARON-VAX and CHARON-AXP on a single multi-core host system.



CHARON-AXP Products

CHARON-AXP/Station

CHARON-AXP/SMA

CHARON-AXP/SMA PLUS

Virtualized Alpha hardware details

- Emulated hardware models. Base license includes single CPU (in brackets: maximum possible amount of CPUs)
- Emulated RAM / available virtual PCI slots
- Storage adapter support
- Disk storage support
- Tape storage support
- CDROM/Floppy disk support
- Ethernet Network support
- Fiber Channel/RAID support
- Console / Serial lines / on-board Parallel port
- Supported VMS versions
- Supported Tru64 versions
- Additional CHARON utilities
- Host operating system
- Host CPU/RAM
- Recommended Hardware
- Unlimited/Annual license
- Annual GOLD/PLAT Support
- Backup license / Add a CPU

CHARON-AXP/Station	CHARON-AXP/SMA	CHARON-AXP/SMA PLUS
AlphaStation 200, 250 (1 CPU)	DEC3000 (1 CPU) AlphaServer 300, 400, 1000 (1 CPU) AlphaServer 2000, 4000 (2 CPUs)	DMCC, Flexor OEM systems (1 CPU) AlphaStation 500, 600, DPW, XP900, XP1000 AlphaServer 800, 1200, DS10 (1 CPU) AlphaServer DS20, DS25 (2 CPUs) AlphaServer 2100, 4100, ES40 (4 CPUs)
Up to 4 GB / up to 10 emulated PCI controllers	Up to 8 GB (up to 1GB for DEC3000) / up to 20 emulated PCI controllers	Up to 8 GB (Up to 16 GB for ES40) / up to 20 emulated PCI controllers
Emulated SCSI adapter KZPBA; up to 120 storage units (disks, tapes, and CD/DVD) supported simultaneously For VMS only: VMS Bypass driver enabling emulated FC (DG), MSCP (DU), IDE (DQ), DSSI (DI), and RAID (DR) disks	Emulated SCSI adapter KZPBA; up to 120 storage units (disks, tapes, and CD/DVD) supported simultaneously For VMS only: VMS Bypass driver enabling emulated FC (DG), MSCP (DU), IDE (DQ), DSSI (DI), and RAID (DR) disks	Emulated SCSI adapter KZPBA; up to 120 storage units (disks, tapes, and CD/DVD) supported simultaneously For VMS only: VMS Bypass driver enabling emulated FC (DG), MSCP (DU), IDE (DQ), DSSI (DI), and RAID (DR) disks
Virtual disk images on a local and remote Windows file system (.vdisk container files), physical SCSI disks and partitions; iSCSI disks; SAN attached storage volumes (\\PhysicalDriveX or \\SCSI devices)	Virtual disk images on a local and remote Windows file system (.vdisk container files), physical SCSI disks and partitions; iSCSI disks; SAN attached storage volumes (\\PhysicalDriveX or \\SCSI devices)	Virtual disk images on a local and remote Windows file system (.vdisk container files), physical SCSI disks and partitions; iSCSI disks; SAN attached storage volumes (\\PhysicalDriveX or \\SCSI devices)
Virtual tape images on a local and remote Windows file system (.vtape container files), physical SCSI tape drives (\\Tapex or \\SCSI devices)	Virtual CD/DVDs images (.iso container files); physical CD/DVD drives (\\CDRomX devices) / Physical floppy drive 1.44 MB (\\A: device)	Virtual CD/DVDs images (.iso container files); physical CD/DVD drives (\\CDRomX devices) / Physical floppy drive 1.44 MB (\\A: device)
Emulated PCI DEC 21x4x adapter family: DE435, DE450, DE500BA	Emulated DG and DR devices	Emulated DG and DR devices
OPA0 console attached to a Windows terminal emulator, a physical serial port (COMxx: device) or a TCP/IP socket / emulated 8 serial lines PBXDA controller / pass through to the hosting server parallel port	OPA0 console attached to a Windows terminal emulator, a physical serial port (COMxx: device) or a TCP/IP socket / emulated 8 serial lines PBXDA controller / pass through to the hosting server parallel port	OPA0 console attached to a Windows terminal emulator, a physical serial port (COMxx: device) or a TCP/IP socket / emulated 8 serial lines PBXDA controller / pass through to the hosting server parallel port
For single AXP CPU configurations: OpenVMS 6.2-1H3 – OpenVMS 8.4 (For DEC3000 the earliest VMS version is 6.1) For multiple AXP CPU configurations: OpenVMS 7.1-2 – OpenVMS 8.4	For single AXP CPU configurations: OpenVMS 6.2-1H3 – OpenVMS 8.4 (For DEC3000 the earliest Tru64 version is 3.2) For multiple AXP CPU configurations: Tru64 UNIX 4.0F – 5.1B (also known as: Compaq or HP Tru64 UNIX)	For single AXP CPU configurations: OpenVMS 6.2-1H3 – OpenVMS 8.4 (For DEC3000 the earliest Tru64 version is 3.2) For multiple AXP CPU configurations: Tru64 UNIX 4.0F – 5.1B (also known as: Compaq or HP Tru64 UNIX)
CHARON-AXP taskbar menu: IDLE (supported for single AXP CPU configurations only); HASP_VIEW; HASPRUS; mklisk; SCSScheck; CHARON Network Control Center	CHARON-AXP taskbar menu: IDLE (supported for single AXP CPU configurations only); HASP_VIEW; HASPRUS; mklisk; SCSScheck; CHARON Network Control Center	CHARON-AXP taskbar menu: IDLE (supported for single AXP CPU configurations only); HASP_VIEW; HASPRUS; mklisk; SCSScheck; CHARON Network Control Center
Host system requirements		
Microsoft Windows Server 2012, Microsoft Windows 8 (64-bit), Microsoft Windows Server 2008 R2 (64-bit), Server 2003 R2 (Standard and Enterprise editions), Windows 7 (64-bit), and Windows XP (64-bit), Windows Vista(64-bit) (Professional and Ultimate editions) on top of a physical host or on VMware ESX 4.1 update 1 or ESXi 5.x Amount of host system CPU cores ≥ 2 *(amount of emulated AXP CPU cores); Host RAM ≥ 2 GB + (amount of emulated AXP RAM) HP Proliant servers; Intel Xeon E7, E5, 5600 CPU family, or Intel Core i7 G2 and G3 CPU family, frequency at least 3 GHz		
Ordering information		
CHAXP-805IP-WI / CHAXP-805IY-WI	CHAXP-800IP-WI / CHAXP-800IY-WI	CHAXP-807IP-WI / CHAXP-807IY-WI
CHAXP-805IU-WI / CHAXP-805IT-WI	CHAXP-800IU-WI / CHAXP-800IT-WI	CHAXP-807IU-WI / CHAXP-807IT-WI
CHAXP-805IK-WI / -	CHAXP-800IK-WI / CHAXP-CPUIP-WI	CHAXP-807IK-WI / CHAXP-CPUIP-WI



PRESERVING YOUR SOFTWARE INVESTMENT ACROSS HARDWARE GENERATIONS !

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