SOFTWARE PRODUCT DESCRIPTION

CHARON-AXP/SMA for Windows

Product version: 2.1 Build 32

Description

CHARON-AXP/SMA (Small and Medium Alpha) is a member of the CHARON cross-platform hardware virtualization product-family 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 quickly moves your Alpha software and data to a general purpose computer.

CHARON-AXP/SMA for Windows is designed to replace the following Alpha computer systems by its virtual equivalent running on a 64 bit Intel/AMD Windows Server 2003 R2 and Server 2008 R2 host platform:

- AlphaServer 300 and 400
- AlphaServer 1000, 2000 (1 CPU), 4000 (1 CPU)
- DEC3000

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 virtualizes the Ethernet controllers as included in the original AlphaServer hardware that is replaced (DE435, DE450 and DE500). Any protocol that ran on these controllers (DECnet, TCP/IP, LAT) will run over this virtualized link.

Storage

CHARON-AXP/SMA provides support for Alpha storage devices: disk, tape and generic SCSI (pass through) via virtual KZPBA SCSI adapters. CHARON-AXP/SMA 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/SMA includes a special OpenVMS driver that allows to present OpenVMS with other device types: IDE (DQA), FibreChannel (DGA), DSSI (DIA), RAIDarray (DRA) and MSCP (DUA), next to SCSI (DKA/MKA/GKA).

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

Performance

When run on a HP Proliant with multi-core 3 GHz processor CHARON-AXP/SMA provides better performance than the Alpha hardware it replaces.

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 virtual appliance.

CHARON-AXP/SMA virtualizes a single CPU Alpha system and therefore claims one of the CPU's on the host system for that task. Additional CPU capacity is required for I/O handling and other virtualization support tasks. CHARON-AXP/SMA licensing allows combining multiple licenses on one multi-core host system, when the rule of reserving 1 additional CPU for every virtual Alpha CPU's is respected.

Product license key

The CHARON USB-type license key is permanently connected to the host system running CHARON-AXP. 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.

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.

Distribution kit

Installation kit, SPDs, User manual, Release notes, and Performance Measurements are available from an ftp site.

Additional utilities

Taskbar menu: Manage the active virtual Alpha's

MKdisk: Create empty VAX disk images

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

I/O bypass driver: Flexible device definition and more efficient I/O (OpenVMS only)

Idle: Suspends host CPU usage when the operating system is idle (energy save mode). Valid for OpenVMS only.

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 Alpha System	AlphaServer 300 or 400 AlphaServer 1000, 2000, 4000 (single CPU) DEC3000
Earliest OpenVMS Version	6.1 for DEC3000; 6.2-1h3 for AlphaServers
Earliest Tru64 Version	3.2 for DEC3000; 3.2C for AlphaServers
Max virtual Memory	1 GB for DEC3000; 8 GB for AlphaServers
SCSI subsystem	KZPBA adapter (can also replace KZPAA, KZPSA, KZPAC, KZPSC, PZPCM)
FibreChannel support	OpenVMS only [1]
MSCP support	OpenVMS only [1]
IDE support	OpenVMS only [1]
DSSI support	OpenVMS only [1]
RAID array support	OpenVMS only [1]
Ethernet adapter	DE435, DE450, DE500 utilizing the line speed of the host adapter (max 1Gbps)
Serial Lines Adapter	PBXDA (max 8)
COM port support	Yes
Max number of adapters supported	20 (any combination)
Disk support	Container files on Windows file systems, Windows physical disks, direct SCSI devices.
Tape support	Container files on Windows file systems, Windows physical disks, direct SCSI devices, USB tape device support
Generic SCSI device (type unknown)	Yes
Clustering support	NI clusters, shared disk clusters
Host operating system	Microsoft Windows Server 2008 R2, Server 2003 (R2), Windows 7, and Windows XP (64 bit) on top of a physical host or on VMware ESXi 4.1 update 1
Host CPU/RAM	Amount of host system CPU cores ≥ 2 *(amount of emulated AXP CPU cores); Host RAM ≥ 2 GB + (amount of emulated AXP RAM)
Recommended Hardware	HP Proliant servers; Intel Xeon 5600 family, frequency at least 2.8 GHz

[1] Requires a special driver, offering the right device name, which is available for OpenVMS only

Ordering information

CHARON-AXP/SMA	Part Number
Unlimited run time license	CHAXP-800IP-WI
One year license	CHAXP-800IY-WI
720 hour disaster recovery license	CHAXP-800IK-WI
GOLD-support (9x5)	CHAXP-800IU-WI
Platinum support (24-7)	CHAXP-800IT-WI

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