CHARON-SSP FOR LINUX 64 BITS

Version 1.4

CHARON-SSP is a CHARON cross-platform hardware virtualization product family that creates a virtual replica of sun4m and sun4u SPARC family members on a standard x86 64-bit computer running a Linux 64-bit operating system. CHARON-SSP lets users of end of life SPARC servers/stations continue using their applications without any changes while lowering operational costs and energy consumption.

Multiple instances can run on a single X86 standard host or existing virtualization infrastructure, providing the benefits of consolidation, easy management and maintenance of these legacy systems.

CHARON-SSP provides three virtualized SPARC models:

- CHARON-SSP/4M, based on SPARC-V8 32-bit processor specification, MBUS for processors/memory interconnection and SBUS for IO peripherals
- CHARON-SSP/4U, based on SPARC-V9 64-bit processor specification, UPA bus for processor/memory interconnection and PCI bus for IO peripherals
- CHARON-SSP/4U+: same as /4U using Intel VT-x / EPT to offload SPARC MMU operations onto hardware. This requires running on a dedicated Intel host

NETWORK

CHARON-SSP maps one (1) host physical Ethernet adapter for each emulated NIC or can bridge a physical Ethernet adapter with a number of tap devices to allow communication between CHARON-SSP instances and the Linux host while multiplexing the physical Ethernet adapter for external communication.

All Solaris network protocols are supported transparently as well as Solaris IP multipathing and Solaris VNICs. Network booting and JumpStart installation is supported for Solaris 2.4 to Solaris 10.

GRAPHIC ENVIRONMENTS

Solaris CDE, Openwin desktop and Java Desktop graphics environment are supported on CHARON-SSP by Xephyr nested X11 server running on the Linux Host. Native graphics are implemented via emulated CGTHREE and CGSIX framebuffers with resolutions ranging from 800x600 to 1920x1280 pixels. Dual monitor configurations supported on these framebuffers for larger virtual desktops. Remote graphics client supported on Linux and Windows.

AUDIO

DBRI2 + CS4215 mmcodec virtualized components provide 8-bit/16-bit mono/stereo sound u-Law, a-Law, linear formats. Remote audio supported on Linux / PulseAudio server.

STORAGE

CHARON-SSP provides virtualization for SCSI controllers and peripherals as follows:

- Virtual disks as container files residing on Linux file systems
- Linux raw partitions
- Physical disks / tapes
- iSCSI targets

POWER SAVING

CHARON-SSP provides a feature to reduce CPU power consumption on the Intel host when Solaris O.S. is idle. This feature can be enabled using the following options:

- **Balanced**
  Uses Intel power saving instructions to disable pipeline and reduce energy consumption
- **Power save**
  This option uses CPU thread suspension on Solaris IDLE condition to reduce host CPU usage.

MANAGEMENT

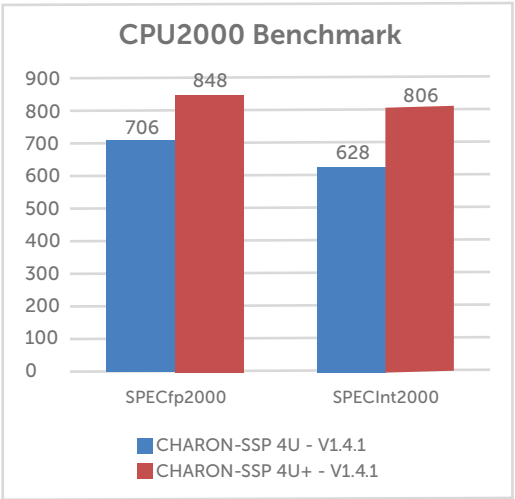
CHARON Manager for CHARON-SSP is a graphical user interface for creating, configuring and starting instances of virtual SPARC systems.

It also provides access to the virtual consoles and log files as well as the following tools:

- Create Virtual Disk/Tape/Floppy
- License viewer/update
- Host information
- Virtual network create/delete
- X11 server start/stop
- Console configuration

PERFORMANCE

Single CPU test run on CHARON-SSP/4U(+) with Solaris 10 on Intel 6 th gen CORE I7-6700 @ 4.0GHz Processor.



DISTRIBUTION

CHARON-SSP is distributed in RPM packages for Oracle Linux, Red Hat, CentOS..

A “barebone” version is distributed as an ISO image containing a customized Linux environment and GUI interface for easy deployment on VMs or Hardware Hosts. Distribution kits are available from Partners or direct download from Stromasys ftp site.

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TECHNICAL FEATURES

• VIRTUALIZED HARDWARE

	CHARON-SSP/4M	CHARON-SSP/4U(+)
Number of SPARC CPUs (Type Min/Max)	SPARC V8 1/4	SPARC V9 1/24
Emulated RAM	64 MB to 512 MB	1 GB to 128 GB
Bus type : Slots	SBUS: 12 slots	PCI : 16 slots
SCSI controllers	1	2
Maximum SCSI devices	7	30
Disks supported	physical/partition/vdisk	physical/partition/vdisk
CD/DVD support	physical/ISO image	physical/ISO image
Tape support	physical/vtape	physical/vtape
Ethernet controllers	2	16
Serial ports	10	34
Graphics support	CGTHREE, CGSIX, X11 nested server	CGTHREE, CGSIX, X11 nested server
O.S. support	SunOS 4.1.3/4.1.4 Solaris 2.3 to Solaris 9	Solaris 2.5.1 to Solaris 10
Audio	DBRIe+CS4215 codec	DBRIe+CS4215 codec

• HOST REQUIREMENTS

Operating system (LINUX)	Oracle Linux, RHEL 6.x / 7, CentOS on Barebone distribution
Number of cores	2 + Number of emulated processors per instance
Memory size	2GB + emulated memory per instance
Recommended hardware	Intel Server based on Haswell v3 processors or Desktop Core I7 (CPU frequency at least 3.0GHz)

• ORDERING INFORMATION

License Type	Part Number
Unlimited License	CHSSP-*- LI-LIC- UN
1-year License	CHSSP-*- LI-LIC- 01
3-year License	CHSSP-*- LI-LIC- 03
USB Backup key	CHSSP-*- LI-IK
Annual Platinum Support	CHSPP-*- LI-IT- (UN/01/03)

* License level (L10, L20, L30, L40, L50) based on the number of emulated CPUs and RAM

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