Product Datasheet: CHORUS® SIMULATOR v3 r4

- ❖**CHORUS Nucleus ported to SunOS/SOLARIS**
- ❖**Binary or source evaluation platform**
- ❖**Tool for application and actor development and prototyping**

The CHORUS Simulator v3 r4 is a CHORUS Nucleus and accompanying support running as a user process (UNIX executable) file on a Sun-4 under SunOS/Solaris.

Users can write, debug, and test applications in the Sun 4 environment. This is particularly useful to a developer evaluating CHORUS and becoming familiar with CHORUS' architecture and operation. It is also a convenient method for developing and testing actors (including supervisor actors) and CHORUS applications before transferring to a target machine.

Key Benefits

- Fast, efficient tool for functional evaluation of the CHORUS Nucleus
- Able to develop applications before actual implementation of the CHORUS Nucleus on a target machine
- Tool for separating the task of application prototyping from porting applications to new hardware

CHORUS Simulator Deliverables

CHORUS Simulator, including the following major components:

- Virtual Memory (VM)
- Inter-Process Communication (IPC)
- Supervisor
- Networking protocols, Ethernet CHORUS Network Protocol (using SunOS device /dev/nit)

Documentation Deliverables

- CHORUS Simulator v3 User's Guide
- CHORUS Simulator v3 Source and Binary Installation Guide

For all other topics, the regular CHORUS Nucleus v3 documentation applies.

Build Environment Deliverables

- Sample application: A name server.
- cs actor which allows display of Kernel information
- Makedepend (determines file dependencies)
- Uu (encode/decode tools) (source licenses only)

Prerequisites

Binary product based development:

- standard SunOS "C" development environment
- a machine capable of reading QIC-24 streamer tapes

Source product based development:

- compilers: Sun C++ 2.0
- a machine capable of reading QIC-24 streamer tapes

Media

- Binary products: QIC-24 streamer tape
- Source-code products: Sun QIC-24 streamer tape

Reference Machines

- Sun 4, Sun 3, Sun 3/X
  (All these machines must run SunOS 4.1 or Solaris 2.2)

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CHORUS Simulator Calls

These CHORUS Simulator calls have the same behavior as in the Nucleus Programmer's manual:

actorPi	mpReceive	svCheckUserSpace	threadResume
actorPriority	mpSend	svExcHandler	threadScheduler
actorSelf	mutexGet	svLock	threadSelf
actorStart	mutexInit	svLockInit	threatCreate
actorStop	mutexRel	svMaskAll	uiBuild
chorusCtx	mutexTry	svMaskedLockGet	uiClear
chorusSite	portCreate	svMaskedLockRel	uiCreate
chorusTime	portDeclare	svMsgHandler	uiDeclare
chorusTimeL	portDelete	svMsgHdlReply	uiForget
grpAllocate	portDisable	svSpinLockGet	uiIsLocal
grpPortInsert	portEnable	svSpinLockRel	uiSite
grpPortRemove	portLi	svSpinLockTry	uiValid
ipcCall	portMigrate	svTimeOut	vmCopy
ipcGetData	portPi	svTimeOutL	vmFlush
ipcReceive	portUi	svTrapConnect	vmFree
ipcReply	semInit	svTrapDisConnect	vmLock
ipcRestore	semP	svUnCTimeOut	vmPageSize
ipcSave	semPnAbort	svUnMaskAll	vmPhysAddr
ipcSend	semV	svUnTimeOut	vmSetPar
ipcSysInfo	sgFlush	threadAbort	vmStat
ipcTarget	sgWrite	threadAborted	vmUnLock
lcFlush	svAbortHandler	threadContext	
lcSetRights	svCallConnect	threadDelay	
mpInit	svCallDisConnect	threadPriority	

Memory Mapper Calls

MpPullIn	MpPushOut	MpRelease

These CHORUS Simulator calls have a special behavior:

actorCreate	rgnFree	rgnSetPaging	svItDisConnect
chorusPTimer	rgnInit	rgnSetProtect	threadLoadR
chorusTod	rgnInitFromActor	rgnStat	threadStoreR
rgnMap	rgnMapFromActor	svCopyIn	threadTimes
rgnAllocate	rgnSetInherit	svCopyOut	
rgnDup	rgnSetOpaque	svItConnect	