CINT2000 Result

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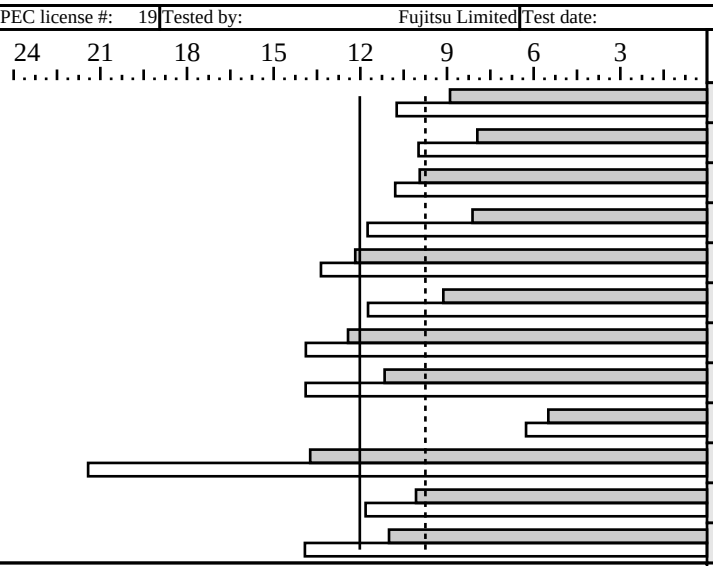
Fujitsu Limited
PRIMEPOWER400 (700MHz)

SPECint_rate2000 = 12.0

SPECint_rate_base2000 = 9.75

SPEC license #: 19 | Tested by: Fujitsu Limited | Test date: Aug-2002 | Hardware Avail: Aug-2002 | Software Avail: May-2002



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	365	8.90	2	302	10.7
175.vpr	2	409	7.95	2	325	9.98
176.gcc	2	257	9.94	2	236	10.8
181.mcf	2	515	8.12	2	355	11.7
186.crafty	2	191	12.2	2	174	13.4
197.parser	2	458	9.13	2	356	11.7
252.eon	2	243	12.4	2	217	13.9
253.perlbmk	2	374	11.2	2	301	13.9
254.gap	2	465	5.49	2	407	6.26
255.vortex	2	321	13.7	2	206	21.4
256.bzip2	2	346	10.1	2	294	11.8
300.twolf	2	632	11.0	2	500	13.9

Hardware

CPU:	SPARC64 GP
CPU MHz:	700
FPU:	Integrated
CPU(s) enabled:	2 cores, 2 chips, 1 core/chip
CPU(s) orderable:	1 to 4
Parallel:	None
Primary Cache:	128KBI+128KBD on chip
Secondary Cache:	8MB(I+D) off chip, per CPU
L3 Cache:	None
Other Cache:	None
Memory:	8GB
Disk Subsystem:	1 x 36.4GB SCSI (10000rpm)
Other Hardware:	Ethernet

Software

Operating System:	Solaris 8 2/02 with patches 108434-08 and 108435-08.
Compiler:	Fujitsu Parallelnavi 1.0.2 with patches 911403-01 and 911746-01. Sun ONE Studio 7 with current patches (see notes) Sun Performance Library 7
File System:	ufs
System State:	single user

Notes/Tuning Information

```
Portability:
 176.gcc: -Dalloca=__builtin_alloca -DHOST_WORDS_BIG_ENDIAN
 186.crafty: -DSUN
 252.eon: -library=iostream
 253.perlbmk: -DSPEC_CPU2000_SOLARIS
 254.gap: -DSYS_IS_USG -DSYS_HAS_TIME_PROTO -DSYS_HAS_SIGNAL_PROTO
          -DSYS_HAS_CALLOC_PROTO -DSYS_HAS_IOCTL_PROTO

Base Flags:
 (for Sun ONE Studio 7)
 Baseline: -fast -xcrossfile -xtarget=ultra3
 fdo_pre0=rm -rf `pwd`/../feedback.profile `pwd`/SunWS_cache
 PASS2=-xprofile=use:`pwd`/../feedback

Peak Flags:
(for Sun ONE Studio 7)
 fdo_pre0=rm -rf `pwd`/../feedback.profile `pwd`/SunWS_cache
 PASS1=-xprofile=collect:`pwd`/../feedback
 PASS2=-xprofile=use:`pwd`/../feedback
```

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Notes/Tuning Information (Continued)

```
 164.gzip: -xO5 -xtarget=ultra3cu -xalias_level=std -W2,-whole -xcrossfile
          -W2,-Ainline -xprefetch -Wc,-Qgsched-trace_late=1,-Qgsched-spec_load=1 -ll2amm
176.gcc: -fast -xtarget=ultra3 -xcrossfile -W2,-whole -Wc,-Qgsched-trace_late=1,-Qgsched-T4 -ll2amm
 186.crafty: -fast -xtarget=ultra3 -xarch=v8plus -xF -xinline= -xcrossfile
             -Wc,-Qgsched-spec_load=1,-Qiselect-funcalign=64 -xalias_level=strong
            -xregs=syst -W2,-Ashort_ldst,-Aivel:duplicate_loops -xprefetch=auto,latx:8.0
 197.parser: -fast -xarch=v8plusb -xdepend -xprefetch=no%auto
             -xcrossfile -xregs=syst -Wc,-Qgsched-trace_late=1,-Qgsched-T4
             -xalias_level=strong -Wc,-Qipa:valueprediction -W2,-Ashort_ldst,-Mt5000
             -Wc,-Qiselect-funcalign=32 -lprism32
 252.eon: -fast -xtarget=ultra3cu -xcrossfile -xalias_level=compatible
          -xsafe=mem -Qoption iropt -Mt2000,-xrestrict -Qoption cg
          -Qgsched-trace_spec_load=1,-Qgsched-trace_late=1
 253.perlbmk: -xO5 -xtarget=ultra3 -xarch=v8plusb -xcrossfile -xalias_level=strong
              -xsafe=mem -Wc,-Qgsched-trace_late=1,-Qgsched-T4,-Qgsched-trace_spec_load=1
               -Wc,-Qinline_memcpy=32 -Wc,-Qiselect-funcalign=32,-Qicache-chbab=1
               -Wc,-Qiselect-sw_pf_tbl_th=20 -W2,-Adata_access
               -xprefetch=auto,latx:5.0 -ll2amm -dn
255.vortex: -fast -xtarget=ultra3 -xcrossfile -W2,-Aheap,-reroll=1,-Aunroll,-Ms1,-Mt600,-Mr13000,-crit
             -Wc,-Qdepgraph-early_cross_call=1 -Wc,-Qiselect-funcalign=32
             -Wc,-Qpeep-Sh0 -xrestrict -xdepend -W2,-Amemopt -ll2amm -lprism32
 256.bzip2: -fast -xtarget=ultra3 -W2,-whole,-crit -xcrossfile -xalias_level=strong
            -Wc,-Qiselect-funcalign=32 -xdepend -xregs=syst -xsfpconst
            -Wc,-Qgsched-trace_spec_load=1 -xsafe=mem -ll2amm -lprism32

(for Parallelnavi 1.0.2):
 fdo_pre0=rm -rf `pwd`/*.fbk
 PASS1=-Kpg
 PASS2=-Kpu=$(EXEBASE).fbk
175.vpr: -Kfast_GP=4,staticclump,eval,preex,popt,switchopt,cond,GREG,nounroll,largepage,NOFLTLD=5,fconst,xi=30
 181.mcf: Kfast_GP=5,GREG,eval,preex,popt,unroll=2,prefetch=4,largepage,preload
 254.gap: Kfast_GP=3,popt,eval,cfunc,largepage,xi=10
300.twolf: -Kfast_GP=5,eval,GREG,popt,cfunc,staticclump,use_rodata,xi=10,largepage,bcopy,nounroll,prefetch=4

Note:
 System Tunables:
 (for /etc/system)
  consistent_coloring=1, tune_t_fsflushr=86400, autoup=86400,
  shmsys:shminfo_shmmax=1477846784, shmsys:shminfo_shmmni=1024,
  shmsys:shminfo_shmseg=1024,shminfo_shmmin=1

 (for /etc/opt/FJSVpnrm/lpg.conf)
  TSS=4G, SHMSEGSIZE=256M

 Shell Environments:
   LD_LIBRARY_PATH="/usr/lib:/opt/SUNWspro/lib/v8plusb:/opt/SUNWspro/prod/lib/v8plusb:/opt/FSUNf90/lib"
    LD_LIBRARY_PATH_64="/usr/lib/64:/opt/SUNWspro/lib/v9:/opt/SUNWspro/prod/lib/v9"
    PRISM_HEAP=268435456
    PRISM_MODE=2

    Stack size set to unlimited via "ulimit -s unlimited"

  ONESTEP=yes was set for all baseline and peak benchmarks.
  Feedback directed optimization was used for all baseline and peak benchmarks.
 All patches of Sun ONE Studio 7 posted at URL http://access1.sun.com/sundev/s1s7-patches.html
     as of date 2002/8/2 were applied: 111704-03, 111705-02, 111706-01,
```

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Notes/Tuning Information (Continued)

111708-01, 111709-01, 111715-01,
111716-02.