CINT2000 Result

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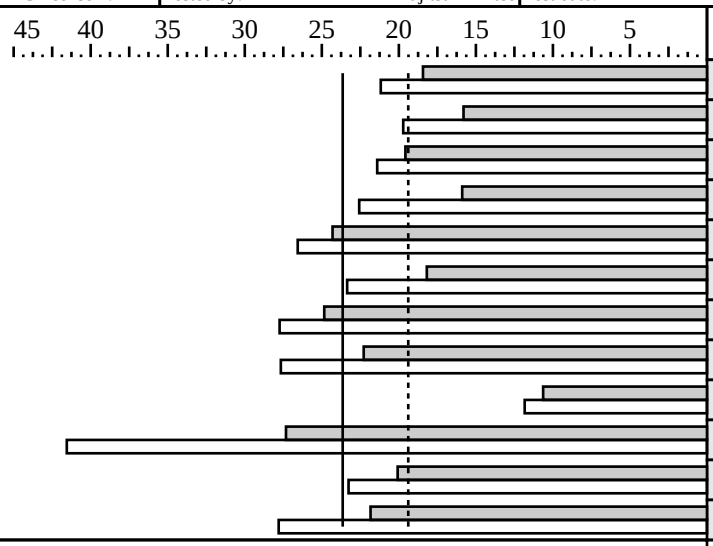
Fujitsu Siemens Computers PRIMEPOWER400 (700MHz)

SPECint_rate2000 = 23.6

SPECint_rate_base2000 = 19.4

SPEC license #: 22 | Tested by: Fujitsu Limited | Test date: Aug-2002 | Hardware Avail: Sep-2002 | Software Avail: May-2002



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	352	18.4	4	307	21.2
175.vpr	4	411	15.8	4	329	19.7
176.gcc	4	261	19.6	4	238	21.4
181.mcf	4	526	15.9	4	370	22.6
186.crafty	4	191	24.3	4	175	26.6
197.parser	4	459	18.2	4	358	23.4
252.eon	4	243	24.8	4	217	27.7
253.perlbmk	4	375	22.3	4	302	27.7
254.gap	4	480	10.6	4	431	11.8
255.vortex	4	323	27.3	4	212	41.6
256.bzip2	4	347	20.1	4	299	23.3
300.twolf	4	637	21.8	4	501	27.8

Hardware

CPU:	SPARC64 GP
CPU MHz:	700
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 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:	16GB
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=8G, 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.