# CINT2000 Result

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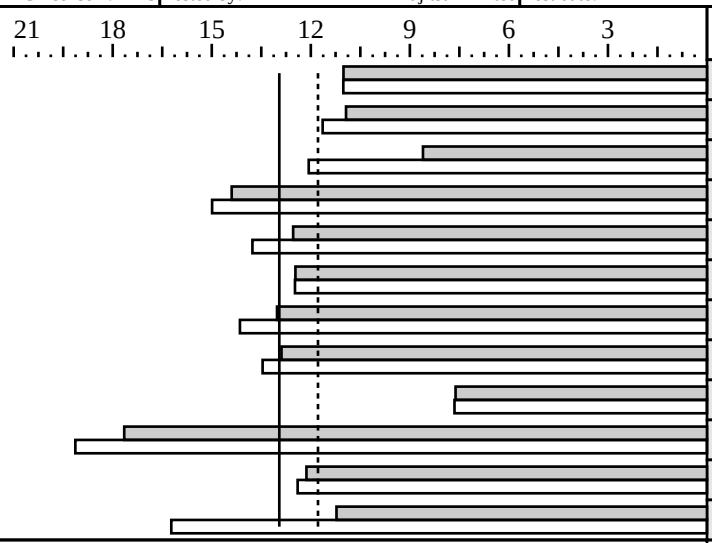
## Fujitsu Limited
## PRIMEPOWER600 (400MHz)

SPECint_rate2000 = 13.0

SPECint_rate_base2000 = 11.8

SPEC license #: 19 | Tested by: Fujitsu Limited | Test date: Feb-2001 | Hardware Avail: Feb-2001 | Software Avail: Apr-2001




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 164.gzip | 4 | 590 | 11.0 | 4 | 590 | 11.0 |
| 175.vpr | 4 | 594 | 10.9 | 4 | 558 | 11.6 |
| 176.gcc | 4 | 593 | 8.60 | 4 | 423 | 12.1 |
| 181.mcf | 4 | 580 | 14.4 | 4 | 557 | 15.0 |
| 186.crafty | 4 | 370 | 12.5 | 4 | 337 | 13.8 |
| 197.parser | 4 | 670 | 12.5 | 4 | 669 | 12.5 |
| 252.eon | 4 | 463 | 13.0 | 4 | 426 | 14.1 |
| 253.perlbmk | 4 | 648 | 12.9 | 4 | 621 | 13.5 |
| 254.gap | 4 | 670 | 7.62 | 4 | 667 | 7.65 |
| 255.vortex | 4 | 499 | 17.7 | 4 | 461 | 19.1 |
| 256.bzip2 | 4 | 574 | 12.1 | 4 | 561 | 12.4 |
| 300.twolf | 4 | 1240 | 11.2 | 4 | 858 | 16.2 |

### Hardware

| | |
|---|---|
| CPU: | SPARC64 GP |
| CPU MHz: | 400 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 4 chips, 1 core/chip |
| CPU(s) orderable: | 2 to 8 |
| Parallel: | None |
| Primary Cache: | 128KBI+128KBD on chip |
| Secondary Cache: | 8MB(I+D) off chip, per CPU |
| L3 Cache: | None |
| Other Cache: | None |
| Memory: | 4096MB |
| Disk Subsystem: | 1 x 36.4GB SCSI (10025rpm) |
| Other Hardware: | Ethernet |

### Software

| | |
|---|---|
| Operating System: | Solaris 8 |
| Compiler: | Fujitsu Parallelnavi 1.0.1<br>Sun Forte Developer 6 update 1 |
| File System: | ufs |
| System State: | single user |

## Notes/Tuning Information

```
Baseline (except 252.eon, for Parallelnavi 1.0.1): -Kfast_GP=3,largepage
 fdo_pre0=rm -rf ‘pwd‘/*.fbk
 PASS1=-Kpg
 PASS2=-Kpu=$(EXEBASE).fbk
(252.eon, for Forte Developer 6 update 1): -fast -xcrossfile -xarch=v8plus
 fdo_pre0=rm -rf ‘pwd‘/../feedback.profile ‘pwd‘/SunWS_cache
 PASS1=-xprofile=collect:‘pwd‘/../feedback
 PASS2=-xprofile=use:‘pwd‘/../feedback

Peak (for Parallelnavi 1.0.1):
 fdo_pre0=rm -rf ‘pwd‘/*.fbk
 PASS1=-Kpg
 PASS2=-Kpu=$(EXEBASE).fbk
 164.gzip: -Kfast_GP=3,largepage
 175.vpr: -Kfast_GP=4,staticclump,memalias,switchopt,cond,GREG,nounroll,largepage,onefile,NOFLTLD=3,xi=30
 181.mcf: -Kfast_GP=2,nounroll,memalias,restp,prefetch=4,largepage -x-
 186.crafty: -Kfast_GP=3,switchopt,cond,noiopt,staticclump,xi=6,memalias,largepage
 197.parser: -Kfast_GP=3,switchopt,cond,staticclump,use_rodata,largepage,funcalign=128
 253.perlbmk: -Kfast_GP=3,memalias,switchopt,largepage,bcopy
 254.gap: -Kfast_GP=3,largepage
```

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## Notes/Tuning Information (Continued)

256.bzip2: Kfast_GP=3,NOFLTLD=1,use_rodata,staticclump,xi=8,cfunc,memalias,restp,largepage,funcalign=128
300.twolf: -Kfast_GP=5,GREG,popt,cfunc,staticclump,use_rodata,xi=10,nounroll,largepage,bcopy
(for Forte Developer 6 update 1)
fdo_pre0=rm -rf ‘pwd‘/../feedback.profile ‘pwd‘/SunWS_cache
PASS1=-xprofile=collect:‘pwd‘/../feedback
PASS2=-xprofile=use:‘pwd‘/../feedback
176.gcc: -fast -xcrossfile -W2,-whole -Wc,-Qgsched-trace_late=1,-Qgsched-T4,-Qiselect-funcalign=64
-xarch=v8plus -xprefetch
252.eon: -fast -xcrossfile -xregs=syst -xsafe=mem -Qoption iropt -Mt500,-restrict_g,-restrict
-Qoption cg -Qgsched-trace_late=1,-Qgsched-trace_spec_load=1,-Qgsched-T4 -xarch=v8plus
-lmopt
255.vortex: -fast -xsafe=mem -xcrossfile -W2,-Aheap,-reroll=1,-Aunroll,-Ms1,-Mt500,-Mr6000,-crit
-Wc,-Qdepgraph-early_cross_call=1 -Wc,-Qiselect-funcalign=32 -Wc,-Qpeep-Sh0
-xrestrict -xdepend -Wc,-Qgsched-trace_late=1,-Qgsched-T4 -xarch=v8plus

Portability:
176.gcc: -Dalloca=__builtin_alloca -DHOST_WORDS_BIG_ENDIAN
186.crafty: -DSUN
252.eon: -library=iostream,no%Cstd
253.perlbmk: -DSPEC_CPU2000_SOLARIS -lnsl -lsocket
254.gap: -DSYS_IS_USG -DSYS_HAS_TIME_PROTO -DSYS_HAS_SIGNAL_PROTO
-DSYS_HAS_CALLOC_PROTO -DSYS_HAS_IOCTL_PROTO

Note:
System Tunables: (for /etc/system)
consistent_coloring=1, tune_t_fsflushr=86400, autoup=86400,
shmsys:shminfo_shmmax=268435456, shmsys:shminfo_shmmni=1024, shmsys:shminfo_shmseg=1024
(for /etc/opt/FJSVpnrm/lpg.conf)
TSS=512M, SHMSEGSIZE=256M
ONESTEP=yes was set for all baseline and peak benchmarks.
Feedback directed optimization was used for all baseline and peak benchmarks.

Also used:
-Xa (base and peak, except where noted) for 176.gcc (base only), 181.mcf, 186.crafty, 197.parser (peak only), 254.gap
-dy (base) for all benchmarks except 252.eon, -dy (peak) for all except 176.gcc, 252.eon, 255. vortex
-DWANT_STD_PROTO for 181.mcf (base and peak), -DCPU2000 for 186.crafty (base and peak),
-DSUN -DCPU2000 for 197.parser (peak)
The flags listed above as "also used" were used for the actual compilation,
but they had no effect (-D flags), were the compiler’s default (-Xa), or the compiler’s
default when -Klargepage is used (-dy).
They are not necessary for result reproduction and can be omitted.