# CINT2000 Result

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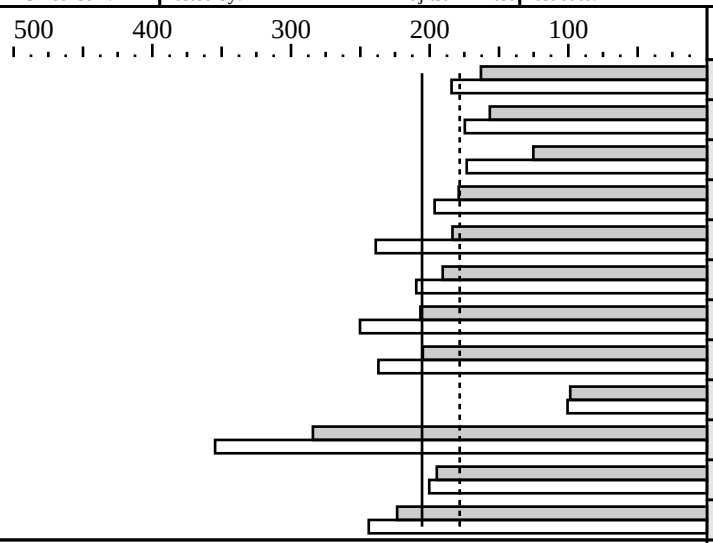
## Fujitsu Siemens Computers
## PRIMEPOWER800/1000/2000 (788MHz)

SPECint_rate2000 = 205

SPECint_rate_base2000 = 178

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 | 32 | 319 | 163 | 32 | 282 | 184 |
| 175.vpr | 32 | 332 | 157 | 32 | 298 | 175 |
| 176.gcc | 32 | 326 | 125 | 32 | 236 | 173 |
| 181.mcf | 32 | 373 | 179 | 32 | 340 | 196 |
| 186.crafty | 32 | 202 | 184 | 32 | 155 | 239 |
| 197.parser | 32 | 351 | 191 | 32 | 319 | 210 |
| 252.eon | 32 | 234 | 207 | 32 | 193 | 250 |
| 253.perlbmk | 32 | 326 | 205 | 32 | 282 | 237 |
| 254.gap | 32 | 414 | 98.6 | 32 | 406 | 101 |
| 255.vortex | 32 | 248 | 284 | 32 | 199 | 355 |
| 256.bzip2 | 32 | 286 | 195 | 32 | 278 | 200 |
| 300.twolf | 32 | 498 | 223 | 32 | 457 | 244 |

### Hardware

| | |
|---|---|
| CPU: | SPARC64 GP |
| CPU MHz: | 788 |
| FPU: | Integrated |
| CPU(s) enabled: | 32 cores, 32 chips, 1 core/chip |
| CPU(s) orderable: | 4 to 16/4 to 32/8 to 128 |
| 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 36GB, 1 x 18GB SCSI (10000rpm) |
| Other Hardware: | Ethernet |

### Software

| | |
|---|---|
| Operating System: | Solaris 8 2/02 with patches 108434-07 and 108435-07. |
| 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: | multi user |

## Notes/Tuning Information

```
Baseline (except 252.eon, for Parallelnavi 1.0.2): -Kfast_GP=3,largepage
fdo_pre0=rm -rf ‘pwd‘/*.fbk
PASS1=-Kpg
PASS2=-Kpu=$(EXEBASE).fbk
(252.eon, for Sun ONE Studio 7): -fast -xcrossfile
fdo_pre0=rm -rf ‘pwd‘/../feedback.profile ‘pwd‘/SunWS_cache
PASS1=-xprofile=collect:‘pwd‘/../feedback
PASS2=-xprofile=use:‘pwd‘/../feedback

Peak
(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
164.gzip: -xO5 -xtarget=ultra3 -xalias_level=std -W2,-whole -xcrossfile
    -W2,-Ainline -xprefetch -Wc,-Qgsched-trace_late=1,-Qgsched-spec_load=1 -ll2amm
175.vpr: -fast -xarch=v8plusb -xalias_level=std -xcrossfile -xsfpconst
    -xdepend -W2,-whole,-Mt600,-Mr4000 -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1,-Qeps:rp_filtering_margin=100
    -xregs=syst -xprefetch=auto,latx:5.0 -lprism32 -lmopt -lm
176.gcc: -fast -xtarget=ultra3 -xcrossfile -W2,-whole -Wc,-Qgsched-trace_late=1,-Qgsched-T4 -ll2amm
```

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## Notes/Tuning Information (Continued)

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:5.0
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=ultra3 -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
181.mcf: -Kfast_GP=2,GREG,eval,preex,popt,unroll=2,prefetch=4,largepage,preload -x-
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

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

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=16384M, 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
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 2002/6/4 were applied: 111704-01, 111705-01, 111706-01,
111708-01, 111709-01, 111715-01, 111716-01.