



# CINT2000 Result

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Fujitsu Siemens Computers  
PRIMEPOWER400 (400MHz)

SPECint\_rate2000 = 6.67  
SPECint\_rate\_base2000 = 6.12

SPEC license #: 22 | Tested by: Fujitsu Limited | Test date: Feb-2001 | Hardware Avail: Apr-2001 | Software Avail: Apr-2001

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	567	5.73	2	564	5.75
175.vpr	2	584	5.56	2	544	5.97
176.gcc	2	537	4.76	2	416	6.13
181.mcf	2	543	7.70	2	524	7.97
186.crafty	2	366	6.34	2	330	7.02
197.parser	2	667	6.26	2	664	6.29
252.eon	2	461	6.55	2	426	7.08
253.perlbnk	2	623	6.70	2	594	7.03
254.gap	2	618	4.13	2	618	4.13
255.vortex	2	466	9.47	2	447	9.86
256.bzip2	2	566	6.15	2	549	6.34
300.twolf	2	1239	5.62	2	857	8.12

### Hardware

CPU: SPARC64 GP  
 CPU MHz: 400  
 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: 2048MB  
 Disk Subsystem: 1 x 36.4GB SCSI (10025rpm)  
 Other Hardware: Ethernet

### Software

Operating System: Solaris 8  
 Compiler: Fujitsu Parallelnavi 1.0.1  
 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,NOFLTLTD=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.perlbnk: -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,NOFLTLTD=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,-Msl,-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.perlbnk: -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/FJSVpnm/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.