



# CINT2000 Result

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Fujitsu Limited  
PRIMEPOWER200 (400MHz)

SPECint\_rate2000 = 3.23  
SPECint\_rate\_base2000 = 2.94

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	1	561	2.90	1	561	2.90
175.vpr	1	601	2.70	1	563	2.89
176.gcc	1	561	2.28	1	427	2.99
181.mcf	1	711	2.94	1	596	3.50
186.crafty	1	370	3.14	1	338	3.44
197.parser	1	692	3.02	1	692	3.02
252.eon	1	461	3.27	1	427	3.54
253.perlbnk	1	631	3.31	1	597	3.50
254.gap	1	617	2.07	1	620	2.06
255.vortex	1	480	4.59	1	465	4.74
256.bzip2	1	590	2.95	1	574	3.03
300.twolf	1	1240	2.81	1	884	3.94

### Hardware

CPU: SPARC64 GP  
CPU MHz: 400  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1 to 2  
Parallel: None  
Primary Cache: 128KBI+128KBD on chip  
Secondary Cache: 4MB(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/FJSVpnrml/pg.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.