



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Fujitsu Limited  
PRIMEPOWER400 (500MHz)

SPECint\_rate2000 = 16.2  
SPECint\_rate\_base2000 = 14.8

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	471	13.8	4	470	13.8
175.vpr	4	476	13.6	4	445	14.6
176.gcc	4	486	10.5	4	345	14.8
181.mcf	4	464	18.0	4	446	18.7
186.crafty	4	294	15.8	4	266	17.4
197.parser	4	535	15.6	4	532	15.7
252.eon	4	368	16.4	4	340	17.8
253.perlbnk	4	520	16.1	4	495	16.9
254.gap	4	535	9.53	4	536	9.53
255.vortex	4	387	22.8	4	366	24.1
256.bzip2	4	457	15.2	4	447	15.6
300.twolf	4	989	14.1	4	696	20.0

### Hardware

CPU: SPARC64 GP  
CPU MHz: 501  
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: 4096MB  
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

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Fujitsu Limited  
PRIMEPOWER400 (500MHz)

SPECint\_rate2000 = 16.2  
SPECint\_rate\_base2000 = 14.8

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

## 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.