



# CINT2000 Result

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

**SPECint\_rate2000 = 368**  
**SPECint\_rate\_base2000 = 335**

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.zip	64	331	314	64	306	340
175.vpr	64	346	300	64	337	308
176.gcc	64	458	178	64	384	213
181.mcf	64	405	330	64	365	366
186.crafty	64	206	361	64	157	472
197.parser	64	358	373	64	348	384
252.eon	64	239	404	64	196	493
253.perlbnk	64	332	402	64	288	464
254.gap	64	455	179	64	448	182
255.vortex	64	256	551	64	256	551
256.bzip2	64	291	383	64	291	383
300.twolf	64	513	435	64	469	474

**Hardware**

CPU: SPARC64 GP  
CPU MHz: 788  
FPU: Integrated  
CPU(s) enabled: 64 cores, 64 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.zip: -x05 -xtarget=ultra3 -xalias\_level=std -W2,-whole -xcrossfile

-W2,-Ainline -xprefetch -Wc,-Qgsched-trace\_late=1,-Qgsched-spec\_load=1 -l12amm

176.gcc: -fast -xtarget=ultra3 -xcrossfile -W2,-whole -Wc,-Qgsched-trace\_late=1,-Qgsched-T4 -l12amm

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

252.eon: -fast -xtarget=ultra3 -xcrossfile -xalias\_level=compatible -xsafe=mem -Qoption iropt

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http://www.spec.org



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## Notes/Tuning Information (Continued)

```
-Mt2000, -xrestrict -Qoption cg -Qgsched-trace_spec_load=1, -Qgsched-trace_late=1
253.perlbnk: -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 -l12amm -dn
```

(for Parallelnavi 1.0.2):

```
fdo_pre0=rm -rf `pwd`/*.fbk
```

```
PASS1=-Kpg
```

```
PASS2=-Kpu=$(EXEBASE).fbk
```

```
175.vpr: -Kfast_GP=4, staticclump, eval, preex, popt, switchopt, cond, GREG, nounroll, largepage, NOFLTLD=5, fconst, xi=30
```

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

```
197.parser: -Kfast_GP=4, switchopt, cond, staticclump, use_rodata, largepage
```

```
254.gap: -Kfast_GP=3, popt, eval, cfunc, largepage, xi=10
```

```
255.vortex: -Kfast_GP=3, GREG, popt, staticclump, use_rodata, cond, cfunc, switchopt, largepage
```

```
256.bzip2: -Kfast_GP=3, largepage
```

```
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.perlbnk: -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_shmni=1024, shmsys:shminfo_shmseg=1024, shminfo_shmmin=1
```

(for /etc/opt/FJSVpnm/lpg.conf)

```
TSS=32768M, 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/sls7-patches.html>

as of date 2002/6/4 were applied: 111704-01, 111705-01, 111706-01,

111708-01, 111709-01, 111715-01, 111716-01.