



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Fujitsu Limited  
PRIMEPOWER650 (1350MHz)

SPECint\_rate2000 = 78.5  
SPECint\_rate\_base2000 = 67.5

SPEC license #: 19 Tested by: Fujitsu Limited Test date: Jun-2003 Hardware Avail: Aug-2003 Software Avail: May-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	8	226	57.5	8	204	63.7
175.vpr	8	217	59.8	8	201	64.5
176.gcc	8	183	55.8	8	125	81.6
181.mcf	8	357	46.8	8	266	62.7
186.crafty	8	117	79.1	8	114	81.5
197.parser	8	272	61.5	8	249	67.1
252.eon	8	223	54.0	8	147	82.0
253.perlbnk	8	208	80.3	8	206	81.2
254.gap	8	167	61.1	8	156	65.5
255.vortex	8	147	120	8	115	153
256.bzip2	8	199	69.9	8	189	73.6
300.twolf	8	304	91.5	8	289	96.3

**Hardware**

CPU: SPARC64 V  
CPU MHz: 1350  
FPU: Integrated  
CPU(s) enabled: 8 cores, 8 chips, 1 core/chip  
CPU(s) orderable: 1 to 8 (increments of 1)  
Parallel: None  
Primary Cache: 128KBI+128KBD on chip  
Secondary Cache: 2MB(I+D) on chip  
L3 Cache: None  
Other Cache: None  
Memory: 32768MB  
Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)  
Other Hardware: None

**Software**

Operating System: Solaris8 2/02 with current patches (see notes)  
Compiler: Fujitsu Parallelnavi 1.0.2  
Sun ONE Studio 8  
Sun Performance Library 8  
File System: ufs  
System State: multi user

## Notes/Tuning Information

Baseline (except 252.eon, for Sun ONE Studio 8):

```
-fast -xtarget=ultra3cu -xipo=2 ONESTEP=yes
fdo_pre0=rm -rf ./feedback.profile ./SunWS_cache
PASS1=-xprofile=collect:./feedback
PASS2=-xprofile=use:./feedback
```

Baseline (252.eon, for Sun ONE Studio 8):

```
-fast -xchip=ultra3cu -xarch=v8plusb -xipo=2 ONESTEP=yes
```

Peak

(for Sun ONE Studio 8)

```
fdo_pre0=rm -rf ./feedback.profile ./SunWS_cache
PASS1=-xprofile=collect:./feedback
PASS2=-xprofile=use:./feedback
```

```
164.gzip: -x05 -xchip=ultra2 -xcache=128/64/2:2048/64/4 -xarch=v8plusb
-xalias_level=std -xipo=2 -xprefetch
-W2,-whole,-Ainline ONESTEP=yes
```

```
175.vpr: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
-xchip=ultra2 -xalias_level=std -xipo=2 -xsfpcnst -xdepend -W2,-whole
-Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1,-Qeps:rp_filtering_margin=100
-lmopt -lm ONESTEP=yes
```



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Fujitsu Limited  
PRIMEPOWER650 (1350MHz)

SPECint\_rate2000 = 78.5  
SPECint\_rate\_base2000 = 67.5

SPEC license #: 19 | Tested by: Fujitsu Limited | Test date: Jun-2003 | Hardware Avail: Aug-2003 | Software Avail: May-2003

## Notes/Tuning Information (Continued)

```

176.gcc: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
        -xchip=ultra3 -xipo=2 -xprefetch=latx:2.0 -W2,whole
        -Wc,-Qgsched-trace_late=1,-Qgsched-T4 -l12amm ONESTEP=yes
181.mcf: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
        -xchip=ultra2 -xipo=2 -xdepend -Wc,-Qms_pipe-pref,-Qeps:enabled=1
        -xprefetch_level=3 -W2,-Apf:l1list=3:notinl1list -lprism32 ONESTEP=yes
186.crafty: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
        -xipo=2 -xalias_level=strong
        -W2,-Ashort_ldst ONESTEP=yes
197.parser: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
        -xipo=2 -xalias_level=strong -xdepend -xregs=syst
        -Wc,-Qgsched-trace_late=1,-Qgsched-T6,-Qipa:valueprediction -lprism32 ONESTEP=yes
252.eon: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
        -xchip=ultra3 -xipo=2 -xregs=syst -xalias_level=compatible -noex -xunroll=3
        -xprefetch=latx:0.8 -Qoption iropt -Mt2000
        -Qoption cg -Qgsched-trace_late=1,-Qgsched-T4,-Qeps:enabled=1,-Qeps:ws=32
        -lmopt ONESTEP=yes
253.perlbnk: -dn -x05 -xchip=ultra3 -xcache=128/64/2:2048/64/4
        -xarch=v8plus -xipo=2 ONESTEP=yes
254.gap: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
        -xchip=ultra3 -xipo=2 -xalias_level=strong -xvector -xprefetch_level=3
        -W2,-whole,-Abcopy -Wc,-Qgsched-trace_late=1,-Qgsched-T4 ONESTEP=yes
255.vortex: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
        -xchip=ultra2 -xrestrict -xipo=2 -xdepend -xprefetch=latx:2.4
        -W2,-crit,-Ainline:recursion=1:cs=500:irs=6000,-Aheap,-reroll=1,-Aunroll,-Ms15,-Mt300,-Mr6000
        -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1,-Qdepgraph-early_cross_call=1
        -Wc,-Qiselect-funcalign=32,-Qpeep-Sh0 -l12amm -lprism32 ONESTEP=yes
256.bzip2: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
        -xchip=ultra3 -xipo -xalias_level=strong -xdepend -xregs=syst
        -xrestrict -xprefetch=latx:1.6 -W2,-Abopt
        -Wc,-Qiselect-funcalign=64,-Qeps:enabled ONESTEP=yes

```

(for Parallelnavi 1.0.2)

```

300.twolf: -Kfast_GP=5,GREG,popt,cfunc,staticclump,use_rodatta,
        xi=10,nounroll,largepage,bcopy,prefetch=4 -dy
        PASS1=-Kpg PASS2=-Kpu=$(EXEBASE).fbk
        ONESTEP=yes

```

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 -DSYS_HAS_IOCTL_PROTO

```

Note:

```

System Tunables: (for /etc/system)
set consistent_coloring=1,
set shmsys:shminfo_shmmax=4294967296,set shmsys:shminfo_shmmni=256,
set shmsys:shminfo_shmseg=400,set shmsys:shminfo_shmmmin=1
set tune_t_fsflushr = 86400
set autoup = 86400

```

```

System Tunables: (for /etc/opt/FJSVpnm/lpg.conf)
TSS=2048M, SHMSEGSIZE=256M

```

Shell Environments:



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Fujitsu Limited  
PRIMEPOWER650 (1350MHz)

SPECint\_rate2000 = 78.5  
SPECint\_rate\_base2000 = 67.5

SPEC license #: 19 Tested by: Fujitsu Limited Test date: Jun-2003 Hardware Avail: Aug-2003 Software Avail: May-2003

## Notes/Tuning Information (Continued)

```
LD_LIBRARY_PATH="/opt3/SUNWspro/prod/lib/v8plusb"  
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 except 252.eon(base).

Stack size set to unlimited via "ulimit -s unlimited".

Sun ONE Studio 8, posted at URL <http://www.sun.com/software/sundev/suncc/> was used for this submission.

All patches for Solaris8 posted at

[http://access1.sun.com/patch.public/cgi-bin/show\\_list.cgi/wrk/Sun\\_ONE\\_Studio\\_7\\_SPARC\\_SunOS\\_5.8](http://access1.sun.com/patch.public/cgi-bin/show_list.cgi/wrk/Sun_ONE_Studio_7_SPARC_SunOS_5.8) as of date 2003/04/21 were applied: 108434-12, 108435-12, 111697-04, 111721-03.