



# CINT2000 Result

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**Fujitsu Limited**  
**PRIMEPOWER250 (1320MHz)**

SPECint2000 = **881**  
SPECint\_base2000 = **764**

SPEC license #: 19 Tested by: Fujitsu Limited Test date: Dec-2003 Hardware Avail: Feb-2004 Software Avail: Dec-2003

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	223	628	201	697	
175.vpr	1400	215	652	189	742	
176.gcc	1100	129	851	124	888	
181.mcf	1800	292	617	206	875	
186.crafty	1000	120	837	116	865	
197.parser	1800	273	660	249	724	
252.eon	1300	227	574	145	898	
253.perlbnk	1800	209	861	208	866	
254.gap	1100	160	688	148	743	
255.vortex	1900	144	1321	109	1739	
256.bzip2	1500	197	760	187	801	
300.twolf	3000	309	971	278	1079	

### Hardware

CPU: SPARC64 V  
 CPU MHz: 1320  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
 CPU(s) orderable: 1 to 2 (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: 4096MB (512MB x 8)  
 Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)  
 Other Hardware: None

### Software

Operating System: Solaris 8 2/02 with current patches (see notes)  
 Compiler: Fujitsu Parallelnavi 2.3  
 Sun ONE Studio 8  
 Sun Performance Library 8  
 File System: ufs  
 System State: multi user

## Notes/Tuning Information

```
FDO: (for Parallelnavi 2.3)
fdo_pre0=rm -rf `pwd`/*.f.d
PASS1=-Kpg
PASS2=-Kpu=$(EXEBASE).fbk
FDO: (for Sun ONE Studio 8)
fdo_pre0=rm -rf ./feedback.profile ./SunWS_cache
PASS1=-xprofile=collect:./feedback
PASS2=-xprofile=use:./feedback

Integer base flags:
(using C compiler of Sun ONE Studio 8)
-fast -xtarget=ultra3cu -xipo=2 ONESTEP=yes FDO
(using C++ compiler of Sun ONE Studio 8)
-fast -xchip=ultra3cu -xarch=v8plusb -xipo=2 ONESTEP=yes

Integer peak flags:
(using C compiler of Parallelnavi 2.3)
300.twolf: -Kfast_GP2=3 -O5 -KGREG,largepage,memalias,cfunc,
use_rodaxi=20 ONESTEP=yes FDO
```



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(using C compiler of Sun ONE Studio 8)

```

164.gzip: -xO5 -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
          -xalias_level=std -xipo=2 -xprefetch -W2,-whole,-Ainline
          -Wc,-Qiselect-funcalign=64 ONESTEP=yes FDO
175.vpr: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
          -xarch=v8plus -xchip=ultra -xalias_level=std -xdepend -xipo=2
          -xprefetch=latx:1.6 -xsfpcnst -W2,-whole -Wc,-Qeps:do_spec_load=1
          -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100,
          -Qiselect-funcalign=64 -lprism32 ONESTEP=yes FDO
176.gcc: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
          -xipo=2 -xprefetch=latx:1.6 -W2,-whole
          -Wc,-Qgsched-T4,-Qgsched-trace_late=1,-Qiselect-funcalign=64
          -ll2amm ONESTEP=yes FDO
181.mcf: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
          -xchip=ultra2 -xdepend -xipo=2 -W2,-Apf:l1list=3:noinnerl1list
          -Wc,-Qeps:enabled=1,-Qms_pipe-pref -lprism32 ONESTEP=yes FDO
186.crafty: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
            -xarch=v8plusa -xalias_level=strong -xipo=2
            -xprefetch=latx:0.8 -W2,-Ashort_ldst -Wc,-Qiselect-funcalign=64
            ONESTEP=yes FDO
197.parser: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
            -xalias_level=strong -xdepend -xipo=2 -xprefetch=latx:0.8
            -xregs=syst -Wc,-Qgsched-T6,-Qgsched-trace_late=1,
            -Qipa:valueprediction,-Qiselect-funcalign=64
            -lprism32 ONESTEP=yes FDO
253.perlbnk: -dn -xO5 -xarch=v8plus -xchip=ultra3 -xcache=128/64/2:2048/64/4
            -xipo=2 -Wc,-Qiselect-funcalign=64
            ONESTEP=yes FDO
254.gap: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
          -xalias_level=strong -xipo=2 -xprefetch_level=3 -xprefetch=latx:2.0
          -xvector -W2,-Abcopy,-whole -Wc,-Qgsched-T4,-Qgsched-trace_late=1,
          -Qiselect-funcalign=64 ONESTEP=yes FDO
255.vortex: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
            -xchip=ultra -xdepend -xipo=2 -xrestrict -xprefetch=latx:1.6
            -W2,-Aheap,-Ainline:recursion=1:cs=500:irs=6000,-Aunroll,-crit
            -W2,-Ms15,-Mt300,-Mr6000,-reroll=1 -Wc,-Qdepgraph-early_cross_call=1
            -Wc,-Qeps:do_spec_load=1,-Qeps:enabled=1,-Qiselect-funcalign=64
            -Wc,-Qpeep-Sh0 -ll2amm -lprism32 ONESTEP=yes FDO
256.bzip2: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
            -xipo -xalias_level=strong -xdepend -xregs=syst -xrestrict
            -xprefetch=latx:0.8 -W2,-Abopt -Wc,-Qiselect-funcalign=64
            -Wc,-Qeps:enabled ONESTEP=yes FDO

```

(using C++ compiler of Sun ONE Studio 8)

```

252.eon: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
         -noex -xalias_level=compatible -xipo=2
         -xprefetch=latx:0.8 -xregs=syst -xunroll=3
         -Qoption cg -Qeps:enabled=1,-Qeps:ws=32,-Qgsched-T4,
         -Qgsched-trace_late=1,-Qiselect-funcalign=64
         -Qoption iropt -Mt2000 -lmopt ONESTEP=yes FDO

```

Portability:

```

176.gcc: -Dalloca=__builtin_alloca -DHOST_WORDS_BIG_ENDIAN
186.crafty: -DSUN
252.eon: -library=iostream

```



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## Notes/Tuning Information (Continued)

```
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
```

### System Tunables:

```
(for /etc/system)
set consistent_coloring=1
set shmsys:shminfo_shmmax=2147483648, set shmsys:shmmni=256,
set shmsys:shminfo_shmseg=400, set shmsys:shmmmin=1
set tune_t_fsflushr = 86400
set autoup = 86400
```

```
(for /etc/opt/FJSVpnm/lpg.conf)
TSS=1024M, SHMSEGSIZE=256M
```

### Shell Environments:

```
Stack size set to unlimited via "ulimit -s unlimited"
LD_LIBRARY_PATH="/opt/SUNWspro/prod/lib/v8plusb"
PRISM_HEAP=268435456
PRISM_MODE=2
```

System board used with only on CPU present.

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

All patches for Solaris 8 posted at

[http://access1.sun.com/patch.public/cgi-bin/show\\_list.cgi/wrk/Sun\\_ONE\\_Studio\\_8\\_SPARC\\_SunOS\\_5.8](http://access1.sun.com/patch.public/cgi-bin/show_list.cgi/wrk/Sun_ONE_Studio_8_SPARC_SunOS_5.8) as of date 2003/12/17 were applied: 108434-13, 108435-13, 111697-04, 111721-04.