



CINT2000 Result

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Fujitsu Limited
PRIMEPOWER450 (1870MHz)

SPECint2000 = 1344
SPECint_base2000 = 1256

SPEC license #: 19 Tested by: Fujitsu Limited Test date: Feb-2005 Hardware Avail: Feb-2005 Software Avail: Sep-2004

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|-------------|----------------|--------------|------------|---------|-------|
| 164.gzip | 1400 | 145 | 966 | 138 | 1013 |
| 175.vpr | 1400 | 127 | 1101 | 125 | 1124 |
| 176.gcc | 1100 | 92.4 | 1190 | 78.4 | 1402 |
| 181.mcf | 1800 | 151 | 1196 | 127 | 1420 |
| 186.crafty | 1000 | 82.6 | 1211 | 76.8 | 1303 |
| 197.parser | 1800 | 166 | 1082 | 154 | 1170 |
| 252.eon | 1300 | 92.2 | 1410 | 90.8 | 1432 |
| 253.perlbnk | 1800 | 139 | 1300 | 138 | 1306 |
| 254.gap | 1100 | 99.6 | 1105 | 93.1 | 1182 |
| 255.vortex | 1900 | 79.4 | 2391 | 77.0 | 2467 |
| 256.bzip2 | 1500 | 130 | 1156 | 125 | 1202 |
| 300.twolf | 3000 | 216 | 1389 | 196 | 1528 |

Hardware

CPU: SPARC64 V
CPU MHz: 1870
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 1 core/chip
CPU(s) orderable: 1 to 4 (increments of 1)
Parallel: None
Primary Cache: 128KBI + 128KBD on chip
Secondary Cache: 3MB(I+D) on chip
L3 Cache: None
Other Cache: None
Memory: 16384MB
Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)
Other Hardware: None

Software

Operating System: Solaris 9 9/04
Compiler: (C/C++)
Fujitsu Parallelnavi 2.3 with patch 913287-01
Sun Studio 9
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 Studio 9)
fdo_pre0=rm -rf ./feedback.profile ./SunWS_cache
PASS1=-xprofile=collect:./feedback
PASS2=-xprofile=use:./feedback
```

```
Integer base flags:
(using C compiler of Sun Studio 9)
-fast -xtarget=ultra3cu -xipo=2 ONESTEP=yes FDO
(using C++ compiler of Sun Studio 9)
-fast -xipo=2 ONESTEP=yes FDO
```

```
Integer peak flags:
(using C compiler of Parallelnavi 2.3)
300.twolf: -Kfast_GP2=3,GREG,eval,preex,cfunc -O3 ONESTEP=yes FDO
```



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Notes/Tuning Information (Continued)

(using C compiler of Sun Studio 9)

```

164.gzip: -xarch=v8plusb -xchip=ultra2 -xcache=128/64/2:4096/64/4
          -xalias_level=std -xipo=2 -W2,-whole -xO5 ONESTEP=yes FDO
175.vpr: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
          -xalias_level=std -xchip=ultra2 -xipo=2 -lmopt -lm ONESTEP=yes FDO
176.gcc: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
          -xipo=2 -ll2amm ONESTEP=yes FDO
181.mcf: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
          -xipo=2 -xprefetch_level=3 -W2,-Apf:l1list=3:noinnerl1list
          ONESTEP=yes FDO
186.crafty: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -xalias_level=strong -xipo=2 -xpagesize=512K -W2,-Ashort_ldst
            ONESTEP=yes FDO
197.parser: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -xalias_level=strong -xipo=2 -xregs=syst -Wc,-Qgsched-T6,
            -Qgsched-trace_late=1,-Qipa:valueprediction ONESTEP=yes FDO
253.perlbnk: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -xipo=2 -xalias_level=std ONESTEP=yes FDO
254.gap: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
          -xalias_level=strong -xipo=2 -xprefetch_level=3 -xvector
          -W2,-Abcopy ONESTEP=yes FDO
255.vortex: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -xipo=2 -xrestrict -W2,-crit,-Ainline:recursion=1:cs=500:irs=6000
            -Wc,-Qdepgraph-early_cross_call=1 -ll2amm ONESTEP=yes FDO
256.bzip2: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -xipo=2 -xalias_level=strong -xrestrict ONESTEP=yes FDO

```

(using C++ compiler of Sun Studio 9)

```

252.eon: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
         -noex -xalias_level=compatible -xipo=2 -xregs=syst
         -Qoption cg -Qeps:enabled=1,-Qeps:ws=32 -lmopt ONESTEP=yes FDO

```

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

```

System Tunables:

(for /etc/system)

```

set consistent_coloring=1
set tune_t_fsflushr=86400
set autoup=86400

```

Shell Environments:

```

Stack size set to unlimited via "ulimit -s unlimited"
MPSSHEAP=4M
MPSSSTACK=4M
LD_PRELOAD=mpss.so.1

```

System board used with only ONE CPU present.

Sun Studio 9, posted at URL <http://www.sun.com/software/products/studio/previous/9/index.xml> was used for this submission.



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