



CINT2000 Result

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Fujitsu Limited
PRIMEPOWER850 (1890MHz)

SPECint_rate2000 = 118
SPECint_rate_base2000 = 102

SPEC license #: 19 Tested by: Fujitsu Limited Test date: May-2004 Hardware Avail: Aug-2004 Software Avail: Apr-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	8	163	79.7	8	147	88.2
175.vpr	8	133	98.0	8	130	99.6
176.gcc	8	151	67.6	8	82.3	124
181.mcf	8	165	101	8	141	118
186.crafty	8	83.8	111	8	77.5	120
197.parser	8	172	97.2	8	158	106
252.eon	8	145	83.0	8	96.5	125
253.perlbnk	8	145	115	8	142	118
254.gap	8	110	92.6	8	108	94.5
255.vortex	8	94.0	188	8	81.0	218
256.bzip2	8	134	104	8	129	108
300.twolf	8	214	130	8	197	141

Hardware

CPU: SPARC64 V
 CPU MHz: 1890
 FPU: Integrated
 CPU(s) enabled: 8 cores, 8 chips, 1 core/chip
 CPU(s) orderable: 1 to 16 (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: 32768MB
 Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)
 Other Hardware: None

Software

Operating System: Solaris 9 4/04
 Compiler: Fujitsu Parallelnavi 2.3 with patch 913287-01
 Sun 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 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 Studio 8)
-fast -xtarget=ultra3cu -xipo=2 ONESTEP=yes FDO
(using C++ compiler of Sun 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,GREG,eval,preex,cfunc -O3 ONESTEP=yes FDO
```



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Notes/Tuning Information (Continued)

(using C compiler of Sun Studio 8)

164.gzip: -xO5 -xarch=v8plusb -xchip=ultra2 -xcache=128/64/2:4096/64/4
-xalias_level=std -xipo=2 -xprefetch -W2,-whole,-Ainline
-Wc,-Qiselect-funcalign=64 ONESTEP=yes FDO

175.vpr: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
-xalias_level=std -xchip=ultra -xipo=2 -xprefetch=latx:1.6
-xsfpcnst -W2,-whole -Wc,-Qeps:do_spec_load=1,
-Qeps:enabled=1,-Qeps:rp_filtering_margin=100,
-Qiselect-funcalign=64 -lmopt -lm ONESTEP=yes FDO

176.gcc: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
-xipo=2 -W2,-whole -Wc,-Qgsched-T4,-Qgsched-trace_late=1,
-Qiselect-funcalign=64 -ll2amm ONESTEP=yes FDO

181.mcf: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
-xipo=2 -xprefetch_level=3 -W2,-Apf:l1list=3:noinnerl1list
-Wc,-Qeps:enabled=1 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,-Qiselect-funcalign=64
ONESTEP=yes FDO

253.perlbnk: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
-xipo=2 -xalias_level=std -Wc,-Qeps:enabled=1,
-Qiselect-funcalign=64 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
-xprefetch=latx:2.0 -xvector -W2,-Abcopy
-Wc,-Qiselect-funcalign=64 ONESTEP=yes FDO

255.vortex: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
-xchip=ultra -xipo=2 -xrestrict -xprefetch=latx:1.6
-W2,-Aheap,-Ainline:recursion=1:cs=500:irs=6000,-Aunroll,-crit,
-Ms15,-Mt300,-Mr6000,-reroll=1 -Wc,-Qdepgraph-early_cross_call=1,
-Qeps:do_spec_load=1,-Qeps:enabled=1,-Qiselect-funcalign=64,
-Qpeep-Sh0 -ll2amm ONESTEP=yes FDO

256.bzip2: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
-xipo -xalias_level=strong -xregs=syst -xrestrict
-xprefetch=latx:1.8 -W2,-Abopt -Wc,-Qiselect-funcalign=64,
-Qeps:enabled ONESTEP=yes FDO

(using C++ compiler of Sun Studio 8)

252.eon: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
-noex -xalias_level=compatible -xipo=2 -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

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



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Notes/Tuning Information (Continued)

System Tunables:

```
(for /etc/system)
set consistent_coloring=1
set tune_t_fsflushr=86400
set autoup=86400
set memscrub_period_sec=172800
```

Shell Environments:

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

Processes were bound to CPUs using "submit=pbind".

Extended Interleave Mode enabled.

4 CPUs each on 2 system board. Unused CPUs have physically removed.

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

This result was measured on model PRIMEPOWER900.
Model PRIMEPOWER850 and model PRIMEPOWER900 are electronically equivalent.