



CINT2000 Result

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Fujitsu Limited
PRIMEPOWER1500 (1350MHz)

SPECint_rate2000 = 149
SPECint_rate_base2000 = 126

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	16	234	111	16	211	123
175.vpr	16	230	113	16	213	122
176.gcc	16	240	85.2	16	133	153
181.mcf	16	406	82.3	16	277	121
186.crafty	16	118	158	16	114	163
197.parser	16	289	116	16	266	125
252.eon	16	221	109	16	148	163
253.perlbnk	16	214	156	16	214	156
254.gap	16	185	110	16	173	118
255.vortex	16	159	221	16	130	272
256.bzip2	16	217	128	16	207	135
300.twolf	16	309	180	16	291	191

Hardware

CPU: SPARC64 V
CPU MHz: 1350
FPU: Integrated
CPU(s) enabled: 16 cores, 16 chips, 1 core/chip
CPU(s) orderable: 1 to 32 (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: 131072MB
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
```



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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=17179869184,set shmsys:shminfo_shmmni=256,
set shmsys:shminfo_shmseg=400,set shmsys:shminfo_shmmin=1
set tune_t_fsflushr = 86400
set autoup = 86400

```

```

System Tunables: (for /etc/opt/FJSVpnm/lpg.conf)
TSS=8192M, SHMSEGSIZE=256M

```

Shell Environments:



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```
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).
Processes were bound to CPUs using "submit=pbind".
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 as of date 2003/04/21 were applied: 108434-12, 108435-12, 111697-04, 111721-03.
4 CPUs each on 4 system boards.
Unused CPUs have physically removed.