



CINT2000 Result

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Sun Microsystems
Sun Blade 2000 (1.2GHz)

SPECint_rate2000 = 16.4
SPECint_rate_base2000 = 14.6

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Apr-2003 Hardware Avail: Apr-2003 Software Avail: May-2003

| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.gzip | 2 | 294 | 11.0 | 2 | 240 | 13.5 |
| 175.vpr | 2 | 260 | 12.5 | 2 | 241 | 13.5 |
| 176.gcc | 2 | 171 | 15.0 | 2 | 153 | 16.7 |
| 181.mcf | 2 | 288 | 14.5 | 2 | 239 | 17.4 |
| 186.crafty | 2 | 150 | 15.5 | 2 | 129 | 18.0 |
| 197.parser | 2 | 315 | 13.3 | 2 | 272 | 15.3 |
| 252.eon | 2 | 169 | 17.9 | 2 | 162 | 18.7 |
| 253.perlbnk | 2 | 282 | 14.8 | 2 | 258 | 16.2 |
| 254.gap | 2 | 251 | 10.2 | 2 | 213 | 12.0 |
| 255.vortex | 2 | 193 | 22.8 | 2 | 172 | 25.7 |
| 256.bzip2 | 2 | 216 | 16.1 | 2 | 201 | 17.3 |
| 300.twolf | 2 | 456 | 15.3 | 2 | 420 | 16.6 |

Hardware

CPU: UltraSPARC III Cu
CPU MHz: 1200
FPU: Integrated
CPU(s) enabled: 2 cores, 2 chips, 1 core/chip
CPU(s) orderable: 1-2
Parallel: No
Primary Cache: 32KBI+64KBD on chip
Secondary Cache: 8MB(I+D) off chip
L3 Cache: None
Other Cache: None
Memory: 2GB 4-way interleaved
Disk Subsystem: 1 x 73GB 10K RPM FC-AL Disk, Sun Option X6805A
Other Hardware: None

Software

Operating System: Solaris 9 12/02
Compiler: Sun ONE Studio 8 (pre-FCS build 3/09)
Sun Performance Library 8 (pre-FCS build 3/09)
File System: ufs with ufs logging
System State: Multi-User

Notes/Tuning Information

Compiler invocation:

C: cc
CXX: CC
F90: f90
F77: f90

Integer base flags:

-fast -xipo=2 with ONESTEP=yes and feedback

Integer peak flags:

ONESTEP=yes and feedback for all benchmarks

164.gzip: -xO4 -xbuiltin=%all -xtarget=native -xalias_level=std
-xipo=2 -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100
175.vpr: -fast -xalias_level=std -xipo=2
-Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100 -lmopt -lm
176.gcc: -fast -xipo=2 -l12amm
181.mcf: -fast -xipo=2 -xprefetch_level=3 -Wc,-Qeps:enabled=1
186.crafty: -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
Feedback adds -xlinkopt in PASS2



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Notes/Tuning Information (Continued)

```

197.parser: -fast -xipo=2 -xalias_level=strong
            -Wc,-Qgsched-T6,-Qipa:valueprediction
252.eon:    -fast -xipo=2 -xalias_level=compatible -noex
            -Qoption cg -Qeps:enabled=1,-Qeps:ws=32
253.perlbnk: -xO5 -xtarget=native -xipo -xalias_level=std -xsafe=mem
            -Wc,-Qeps:enabled=1,-Qeps:ws=8,-Qiselect-sw_pf_tbl_th=20,
            -Qiselect-funcalign=32,-Qicache-chbab=1
254.gap:    -fast -xipo=2 -xalias_level=strong -xvector
            -xprefetch_level=3 -W2,-Abcopy
255.vortex: -fast -xrestrict -xipo=2
            -W2,-crit,-Ainline:recursion=1:cs=500:irs=6000
            -Wc,-Qeps:enabled=1,-Qdepgraph-early_cross_call=1,
            -Qiselect-funcalign=32,-Qpeep-Sh0 -ll2amm
256.bzip2:  -fast -xipo -xalias_level=strong -xrestrict
            -Wc,-Qeps:enabled=1
300.twolf:  -fast -xalias_level=strong -xsafe=mem -xipo=2
            -xprefetch=no%auto -Wc,-Qms_pipe+intdivusefp

```

Feedback is done as follows, unless otherwise noted:

```

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

```

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

```

Shell Environments:

```

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

```

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```