



CINT2000 Result

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Sun Microsystems
Sun Fire V240 (1.28GHz)

SPECint_rate2000 = 14.7
SPECint_rate_base2000 = 12.6

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Sep-2003 Hardware Avail: Jan-2004 Software Avail: May-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	260	12.5	2	212	15.3
175.vpr	2	310	10.5	2	291	11.2
176.gcc	2	209	12.2	2	150	17.0
181.mcf	2	798	5.23	2	489	8.53
186.crafty	2	138	16.8	2	120	19.4
197.parser	2	377	11.1	2	336	12.4
252.eon	2	161	18.7	2	156	19.3
253.perlbnk	2	273	15.3	2	255	16.4
254.gap	2	240	10.6	2	205	12.5
255.vortex	2	197	22.4	2	172	25.6
256.bzip2	2	320	10.9	2	295	11.8
300.twolf	2	503	13.8	2	480	14.5

Hardware

CPU: UltraSPARC IIIi
CPU MHz: 1280
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: 1MB(I+D) on chip
L3 Cache: None
Other Cache: None
Memory: 8GB 16-way interleaved
Disk Subsystem: 1 x 36GB SEAGATE ST336607LSUN36G
Other Hardware: None

Software

Operating System: Solaris 9 4/03
Compiler: Sun ONE Studio 8
Sun Performance Library 8
File System: ufs with ufs logging
System State: Multi-User

Notes/Tuning Information

Compiler invocation:
C: cc
CXX: CC

Integer base flags:
-fast -xipo=2 with ONESTEP=yes and feedback

Integer peak flags:
ONESTEP=yes and feedback for all benchmarks

164.gzip: -xO5 -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
-W2,-Apf:l1list=3:noinnerl1list
186.crafty: -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst



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Notes/Tuning Information (Continued)

```

Feedback adds -xlinkopt in PASS2
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

```