



CINT2000 Result

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Sun Microsystems
Sun Fire V890 (8 processor)

SPECint_rate2000 = 118

SPECint_rate_base2000 = 107

SPEC license #: 6 Tested by: Sun Microsystems Test date: Aug-2004 Hardware Avail: Sep-2004 Software Avail: Sep-2004

| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.gzip | 16 | 315 | 82.5 | 16 | 276 | 94.1 |
| 175.vpr | 16 | 267 | 97.2 | 16 | 265 | 98.2 |
| 176.gcc | 16 | 191 | 107 | 16 | 174 | 118 |
| 181.mcf | 16 | 342 | 97.5 | 16 | 273 | 122 |
| 186.crafty | 16 | 167 | 111 | 16 | 134 | 138 |
| 197.parser | 16 | 345 | 96.9 | 16 | 304 | 110 |
| 252.eon | 16 | 170 | 142 | 16 | 176 | 137 |
| 253.perlbnk | 16 | 305 | 110 | 16 | 281 | 119 |
| 254.gap | 16 | 279 | 73.2 | 16 | 237 | 86.2 |
| 255.vortex | 16 | 187 | 188 | 16 | 180 | 196 |
| 256.bzip2 | 16 | 236 | 118 | 16 | 227 | 123 |
| 300.twolf | 16 | 533 | 104 | 16 | 510 | 109 |

Hardware

CPU: UltraSPARC IV
 CPU MHz: 1200
 FPU: Integrated
 CPU(s) enabled: 16 cores, 8 chips, 2 cores/chips
 CPU(s) orderable: 4,8 (order by # of chips)
 Parallel: No
 Primary Cache: 32KBI+64KBD per core on chip (64KBI+128KBD on chip)
 Secondary Cache: 8MB(I+D) per core off chip (16MB(I+D) off chip)
 L3 Cache: None
 Other Cache: None
 Memory: 32GB 8-way interleaved
 Disk Subsystem: 1x73GB
 Other Hardware: None

Software

Operating System: Solaris 9 9/04
 Compiler: Sun Studio 9
 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: -xO4 -xbuiltin=%all -xtarget=native -xalias_level=std
 -xipo=2 -Wc,-Qeps:enabled=1,
 -Qeps:rp_filtering_margin=30,-Qeps:do_spec_load=1
 175.vpr: -fast -xalias_level=std -xipo=2
 -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100,
 -Qeps:do_spec_load=1 -lmopt -lm
 176.gcc: -fast -xipo=2 -l12amm
 181.mcf: -fast -xipo=2 -xprefetch_level=2 -Wc,-Qeps:enabled=1



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Notes/Tuning Information (Continued)

186.crafty: -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
Feedback adds -xlinkopt in PASS2

197.parser: -fast -xipo=2 -xalias_level=strong
-Wc,-Qgsched-T6,-Qipa:valueprediction

252.eon: -fast -xipo=2 -noex
-Qoption cg -Qeps:enabled=1,-Qeps:ws=32

253.perlbnk: -xO5 -xtarget=native xmemalign=4s
-xipo -Wc,-Qeps:enabled=1,-Qeps:ws=8
-xalias_level=std -xsafe=mem
-Wc,-Qiselect-funcalign=32,Qicache-chbab=1
-Wc,-Qiselect-sw_pf_tbl_th=20,
-Qeps:do_spec_load=1 -xprefetch=no

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 -xsafe=mem -Qeps:rp_filtering_margin=99

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=512K
MPSSSTACK=512K
LD_PRELOAD=mpss.so.1

Kernel Parameters (/etc/system):

autoup=900
tune_t_fsflushr=1