



CINT2000 Result

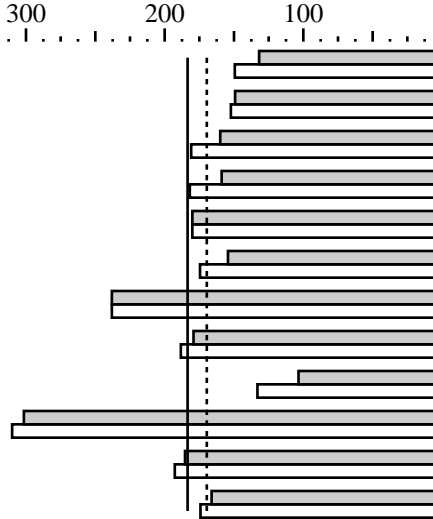
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Sun Microsystems
Sun Fire E2900 (12 processor)

SPECint_rate2000 = 184
SPECint_rate_base2000 = 170

SPEC license #: 6 Tested by: Sun Microsystems Test date: Feb-2005 Hardware Avail: Feb-2005 Software Avail: Jan-2005

| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.zip | 24 | 296 | 132 | 24 | 261 | 149 |
| 175.vpr | 24 | 261 | 149 | 24 | 256 | 152 |
| 176.gcc | 24 | 191 | 160 | 24 | 169 | 181 |
| 181.mcf | 24 | 315 | 159 | 24 | 276 | 182 |
| 186.crafty | 24 | 155 | 180 | 24 | 155 | 180 |
| 197.parser | 24 | 325 | 154 | 24 | 287 | 175 |
| 252.eon | 24 | 152 | 238 | 24 | 152 | 238 |
| 253.perlbnk | 24 | 280 | 179 | 24 | 266 | 188 |
| 254.gap | 24 | 296 | 103 | 24 | 230 | 133 |
| 255.vortex | 24 | 175 | 302 | 24 | 171 | 310 |
| 256.bzip2 | 24 | 225 | 185 | 24 | 217 | 193 |
| 300.twolf | 24 | 503 | 166 | 24 | 480 | 174 |



Hardware

CPU: UltraSPARC IV
 CPU MHz: 1350
 FPU: Integrated
 CPU(s) enabled: 24 cores, 12 chips, 2 cores/chip
 CPU(s) orderable: 4,8,12 (order by # of chip)
 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: 96GB
 Disk Subsystem: 1 x 73GB
 Other Hardware: None

Software

Operating System: Solaris 10
 Compiler: Sun Studio 9
 File System:
 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.zip: -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
 186.crafty: basepeak =yes
 197.parser: -fast -xipo=2 -xalias_level=strong



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Notes/Tuning Information (Continued)

```

-Wc,-Qgsched-T6,-Qipa:valueprediction
252.eon: basepeak = yes
253.perlbnk: -xO5 -xtarget=native -xmalign=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
srcalt=fmax_errno
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

```