# CINT2000 Result

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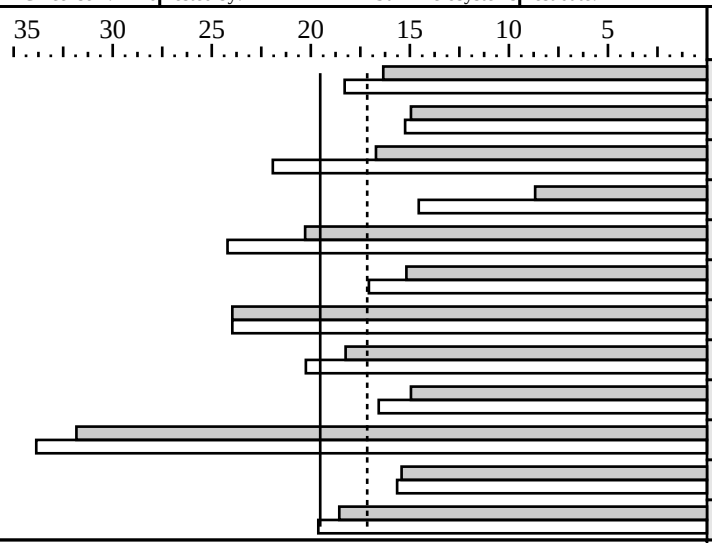
## Sun Microsystems
## Sun Fire V440 (1600MHz)

SPECint_rate2000 = 19.5

SPECint_rate_base2000 = 17.2

SPEC license #: 6 | Tested by: Sun Microsystems | Test date: Nov-2004 | Hardware Avail: Nov-2004 | Software Avail: Jan-2005




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 164.gzip | 2 | 199 | 16.3 | 2 | 178 | 18.3 |
| 175.vpr | 2 | 217 | 14.9 | 2 | 213 | 15.2 |
| 176.gcc | 2 | 153 | 16.7 | 2 | 116 | 21.9 |
| 181.mcf | 2 | 481 | 8.67 | 2 | 287 | 14.6 |
| 186.crafty | 2 | 114 | 20.3 | 2 | 95.9 | 24.2 |
| 197.parser | 2 | 275 | 15.2 | 2 | 245 | 17.1 |
| 252.eon | 2 | 126 | 24.0 | 2 | 126 | 24.0 |
| 253.perlbmk | 2 | 229 | 18.2 | 2 | 206 | 20.2 |
| 254.gap | 2 | 171 | 14.9 | 2 | 154 | 16.6 |
| 255.vortex | 2 | 138 | 31.8 | 2 | 130 | 33.9 |
| 256.bzip2 | 2 | 226 | 15.4 | 2 | 222 | 15.6 |
| 300.twolf | 2 | 375 | 18.6 | 2 | 355 | 19.6 |

### Hardware

| | |
|---|---|
| CPU: | UltraSPARC IIIi |
| CPU MHz: | 1600 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 2 chips, 1 core/chip |
| CPU(s) orderable: | 2,4 |
| 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 73GB |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Solaris 10 |
| Compiler: | Sun Studio 9 |
| File System: | ufs |
| 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,
              -Qeps:do_spec_load=1  -lmopt -lm
 176.gcc:     -fast -xipo=2 -ll2amm
 181.mcf:     -fast -xipo=2 -xprefetch_level=3 -Wc,-Qeps:enabled=1
              -W2,-Apf:llist=3:noinnerllist
```

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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:     basepeak = yes
 253.perlbmk: -xO5 -xtarget=native -xmemalign=4s -xipo
              -Wc,-Qeps:enabled=1,-Qeps:ws=8 -xalias_level=std
              -xsafe=mem -Wc,-Qiselect-funcalign=32,-Qica
              -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=2 -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
              srcalt=fmax_errno
 253.perlbmk: -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
```