CINT2000 Result

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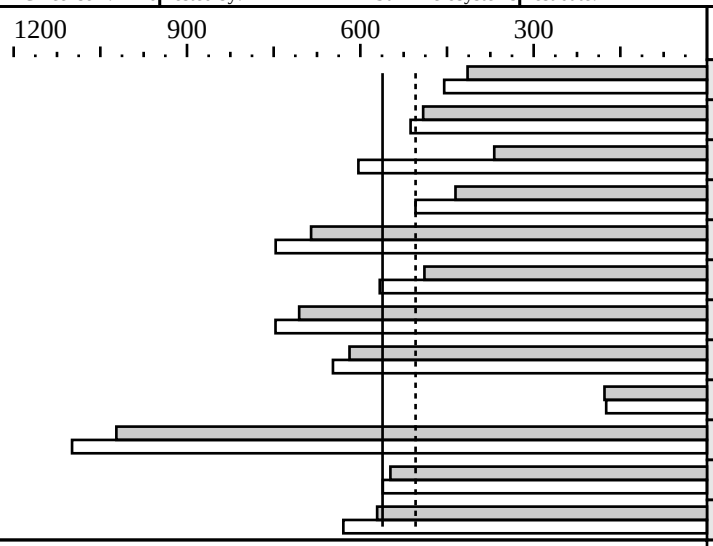
Sun Microsystems
Sun Fire E6900 (24 processor)

SPECint_rate2000 = 562

SPECint_rate_base2000 = 504

SPEC license #: 6 | Tested by: Sun Microsystems | Test date: Jun-2006 | Hardware Avail: Aug-2006 | Software Avail: Jun-2006



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	48	188	414	48	171	455
175.vpr	48	159	491	48	152	513
176.gcc	48	166	368	48	102	603
181.mcf	48	230	435	48	199	504
186.crafty	48	81.3	685	48	74.6	747
197.parser	48	205	489	48	177	566
252.eon	48	103	706	48	96.9	747
253.perlbmk	48	162	619	48	155	647
254.gap	48	345	177	48	351	174
255.vortex	48	103	1022	48	96.3	1099
256.bzip2	48	152	548	48	149	561
300.twolf	48	293	571	48	265	629

Hardware

CPU:	UltraSPARC IV+
CPU MHz:	1800
FPU:	Integrated
CPU(s) enabled:	48 cores, 24 chips, 2 cores/chip
CPU(s) orderable:	4, 8, 12, 16, 20, 24 (order by number of chips)
Parallel:	No
Primary Cache:	64KBI+64KBD per core on chip
Secondary Cache:	2MB(I+D) per chip (on chip)
L3 Cache:	32MB(I+D) per chip (off chip)
Other Cache:	None
Memory:	48GB 8-way interleaved (96x512MB)
Disk Subsystem:	Sun StorageTek D240 Media Tray (2x73GB, 10000 RPM) Sun StorageTek 6130 Array (14x73GB, 10000 RPM)
Other Hardware:	None

Software

Operating System:	Solaris 10 6/06
Compiler:	Sun Studio 11
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 for all benchmarks
  Profile feedback used for those marked with +FDO

  164.gzip:   -x04 -xbuiltin=%all -xtarget=native -xalias_level=std
              -xipo=2 -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=30,
              -Qeps:do_spec_load=1 +FDO
  175.vpr:    -fast -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1,
              -Qeps:rp_filtering_margin=30 -xipo=2 -xpagesize_stack=8K
              -lmopt -lm +FDO
```

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Notes/Tuning Information (Continued)

```
  176.gcc:    -fast -xipo=2 -Wc,-Qicache-chbab=1 -Wc,-Qeps:enabled=1
              -Qeps:ws=32 -Wc,-Qdepgraph-early_cross_call=1
              -Wc,-Qms_pipe-pref_prolog -ll2amm +FDO
  181.mcf:    -fast -xipo=2 -xprefetch_level=2
  186.crafty: -fast -xpagesize=8k -xipo=2 -xalias_level=strong
              -W2,-Ashort_ldst -xinline= -xprefetch -xrestrict
              +FDO (-xlinkopt during pass2)
  197.parser: -fast -xipo=2 -xalias_level=strong -Wc,Qgsched-T6
              -Wc,-Qipa:valueprediction -Wc,-Qms_pipe-prefstrong=0,
              -Qlp-pt=weak +FDO
  252.eon:    -fast -xipo=2 -xalias_level=compatible -Qoption cg
              -Qeps:enabled=1 -xvector -Qoption iropt -Abcopy -xunroll=16
              +FDO
  253.perlbmk:-fast -xipo -Wc,-Qeps:enabled=1,-Qeps:ws=16 -xalias_level=std
              -xsafe=mem -Wc,-Qiselect-funcalign=128,-Qicache-chbab=1
              -Wc,-Qiselect-sw_pf_tbl_th=40,-Qeps:do_spec_load=1 +FDO
  254.gap:    -fast -W2,-Abcopy -xvector -xprefetch_level=3 +FDO
  255.vortex: -fast -xrestrict -xipo=2 -Wc,-Qeps:enabled=1
              -W2,-Ainline:recursion=1:cs=400:irs=5000
              -Wc,-Qdepgraph-early_cross_call=1 -Wc,-Qiselect-funcalign=64
              -Wc,-Qpeep-Sh0 -W2,-crit -xprefetch=latx:1.7 -fsimple=1
              -Wc,-Qiselect-sw_pf_tbl_th=30 -Wc,-Qicache-chbab=1
              -W2,-Ainline:inc=300 -ll2amm +FDO
  256.bzip2:  -fast -xipo=2 -xalias_level=strong -xrestrict
              -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1 +FDO
  300.twolf:  -fast -xalias_level=strong -xsafe=mem -xipo=2
              -xprefetch=no%auto -Wc,-Qms_pipe+intdivusefp -xinline= +FDO

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
  253.perlbmk:-DSPEC_CPU2000_SOLARIS
  254.gap:    -DSYS_IS_USG -DSYS_HAS_TIME_PROTO -DSYS_HAS_SIGNAL_PROTO
              -DSYS_HAS_CALLOC_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

The system was configured with multiple file systems.
The O/S was installed on one disk of the Sun StorageTek D240
Media Tray (ufs, ufs w/logging).  The benchmark was run on
the Sun StorageTek 6130 Array, using H/W Raid 5 and ufs with
ufs logging file system.
```