CINT2000 Result

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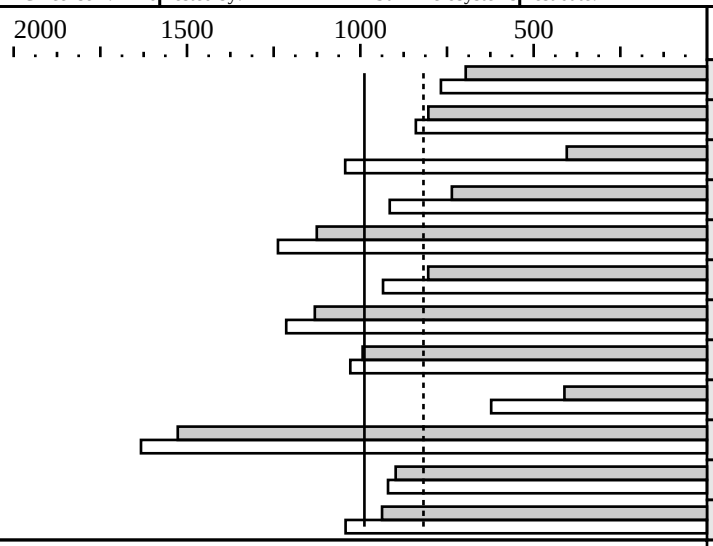
Sun Microsystems
Sun Fire E25K (48 processor)

SPECint_rate2000 = 988

SPECint_rate_base2000 = 818

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	96	224	696	96	203	768
175.vpr	96	194	804	96	186	840
176.gcc	96	303	405	288	352	1044
181.mcf	96	272	736	288	657	915
186.crafty	96	98.9	1126	96	90.0	1238
197.parser	96	249	804	96	214	935
252.eon	96	128	1131	96	119	1214
253.perlbmk	96	202	993	96	195	1029
254.gap	96	298	411	288	590	623
255.vortex	96	139	1527	96	130	1633
256.bzip2	96	186	898	96	182	920
300.twolf	96	356	937	96	320	1043

Hardware

CPU:	UltraSPARC IV+
CPU MHz:	1500
FPU:	Integrated
CPU(s) enabled:	96 cores, 48 chips, 2 cores/chip
CPU(s) orderable:	4-72 (order by number of chips, groups of 4)
Parallel:	No
Primary Cache:	64KBI+64KBD per core on chip (128KBI+128KBD on chip)
Secondary Cache:	2MB(I+D) per chip (on chip)
L3 Cache:	32MB(I+D) per chip (off chip)
Other Cache:	None
Memory:	192GB 16-way interleaved
Disk Subsystem:	Sun StorEdge D240 Media Tray (2x73GB) Sun StorEdge 6120 Array (14x73GB)
Other Hardware:	None

Software

Operating System:	Solaris 10
Compiler:	Sun Studio 11
File System:	ufs (default ufs logging on with Solaris 10)
System State:	Multi-User

Notes/Tuning Information

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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)

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  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:valuepredicition -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
  252.eon:    -DFMAX_IS_DOUBLE -library=iostream
  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=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 StorEdge D240
Media Tray (ufs, ufs w/logging).  The benchmark was run on
the Sun StorEdge 6120 Array, using H/W Raid 5 and ufs with
ufs logging file system.
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Notes/Tuning Information (Continued)