CINT2000 Result

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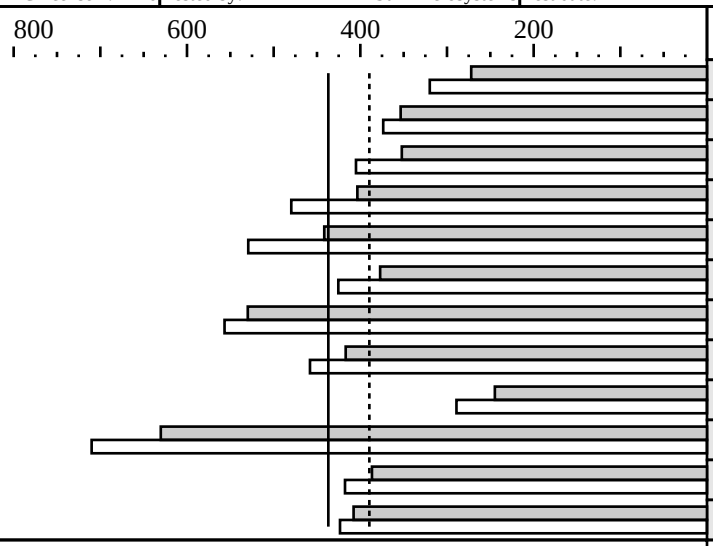
Sun Microsystems
Sun Fire E25K (32 processor)

SPECint_rate2000 = 437

SPECint_rate_base2000 = 390

SPEC license #: 6 | Tested by: Sun Microsystems | Test date: Jul-2004 | Hardware Avail: Jul-2004 | Software Avail: Apr-2004



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	64	382	272	64	325	320
175.vpr	64	294	353	64	278	374
176.gcc	64	232	352	64	202	405
181.mcf	64	331	403	64	279	480
186.crafty	64	168	442	64	140	529
197.parser	64	354	377	64	314	425
252.eon	64	182	530	64	173	557
253.perlbmk	64	321	417	64	292	458
254.gap	64	334	245	64	282	289
255.vortex	64	224	630	64	199	710
256.bzip2	64	288	387	64	267	418
300.twolf	64	546	408	64	526	423

Hardware

CPU:	UltraSPARC IV
CPU MHz:	1200
FPU:	Integrated
CPU(s) enabled:	64 cores, 32 chips, 2 cores/chip
CPU(s) orderable:	4-72 (order by chips in groups of 4)
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:	128GB 16-way interleaved
Disk Subsystem:	Sun StorEdge S1 Disk Array (2x36GB) Sun StorEdge T3 Array for the Workgroup (9x36GB)
Other Hardware:	None

Software

Operating System:	Solaris 9 04/04
Compiler:	Sun Studio 8 Sun Performance Library 8
File System:	ufs with ufs logging
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 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=100
  175.vpr:     -fast -xalias_level=std -xipo=2
               -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100 -lmopt -lm
  176.gcc:     -fast -xipo=2 -ll2amm
  181.mcf:     -fast -xipo=2 -xprefetch_level=2 -Wc,-Qeps:enabled=1
  186.crafty:  -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
```

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Notes/Tuning Information (Continued)

```
                Feedback adds -xlinkopt in PASS2
  197.parser:   -fast -xipo=2 -xalias_level=strong
                -Wc,-Qgsched-T6,-Qipa:valueprediction
  252.eon:      -fast -xipo=2 -xalias_level=compatible -noex
                -Qoption cg -Qeps:enabled=1,-Qeps:ws=32
  253.perlbmk:  -xO5 -xtarget=native -xipo -xalias_level=std -xsafe=mem
                -Wc,-Qeps:enabled=1,-Qeps:ws=8,-Qiselect-sw_pf_tbl_th=20,
                -Qiselect-funcalign=32,-Qicache-chbab=1
  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
  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.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

Processes were bound to CPUs using submit=pbind

The system was configured with multiple file systems.
The O/S was installed on one disk of the Sun StorEdge S1
Disk Array (ufs, ufs w/logging).  The benchmark was run on
the Sun StorEdge T3 Array, using H/W Raid 5 and ufs with
ufs logging file system.
```