CINT2000 Result

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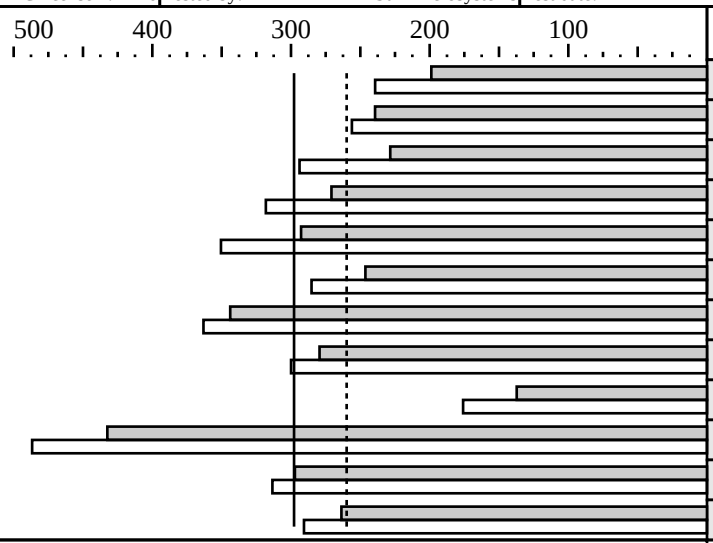
Sun Microsystems
Sun Fire E6900 (24 processor)

SPECint_rate2000 = 298

SPECint_rate_base2000 = 260

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	48	392	199	48	326	239
175.vpr	48	326	239	48	304	256
176.gcc	48	268	228	48	208	294
181.mcf	48	370	271	48	315	318
186.crafty	48	190	293	48	159	351
197.parser	48	407	246	48	351	285
252.eon	48	211	344	48	199	363
253.perlbmk	48	359	279	48	334	300
254.gap	48	446	137	48	348	176
255.vortex	48	245	432	48	217	487
256.bzip2	48	281	297	48	266	313
300.twolf	48	634	264	48	575	291

Hardware

CPU:	UltraSPARC s400
CPU MHz:	1050
FPU:	Integrated
CPU(s) enabled:	48 cores, 24 chips, 2 cores/chip
CPU(s) orderable:	4, 8, 12, 16, 20, 24 (order by # chips)
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 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 ONE 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=3 -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.
```