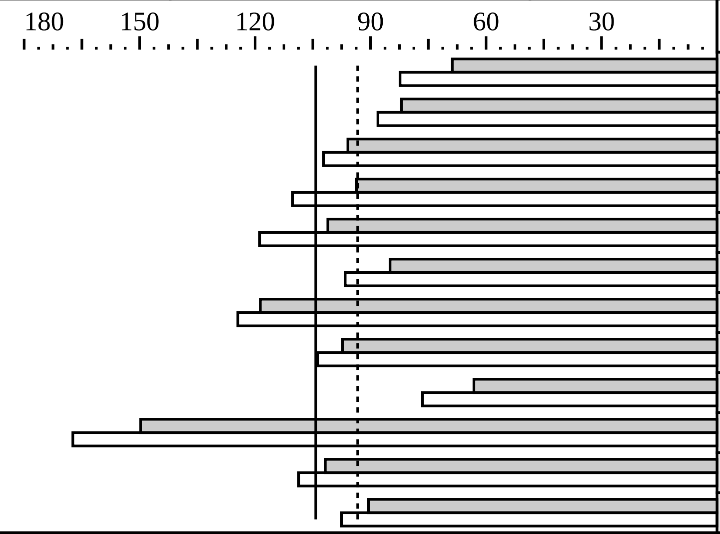
CINT2000 Result

Sun Microsystems
Sun Fire E4900 (8 processor)

SPECint_rate2000 = 104
SPECint_rate_base2000 = 93.3

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	16	378	68.8	16	316	82.3
175.vpr	16	317	82.0	16	295	88.1
176.gcc	16	213	95.9	16	200	102
181.mcf	16	357	93.7	16	303	110
186.crafty	16	184	101	16	156	119
197.parser	16	393	84.9	16	346	96.6
252.eon	16	203	119	16	194	124
253.perlbmk	16	343	97.3	16	322	104
254.gap	16	323	63.2	16	267	76.5
255.vortex	16	235	150	16	211	167
256.bzip2	16	274	102	16	256	109
300.twolf	16	615	90.5	16	571	97.6

Hardware

CPU:	UltraSPARC s400
CPU MHz:	1050
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip
CPU(s) orderable:	4, 8, 12 (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:	32GB 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
```

Notes/Tuning Information (Continued)

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                 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.
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