CINT2000 Result

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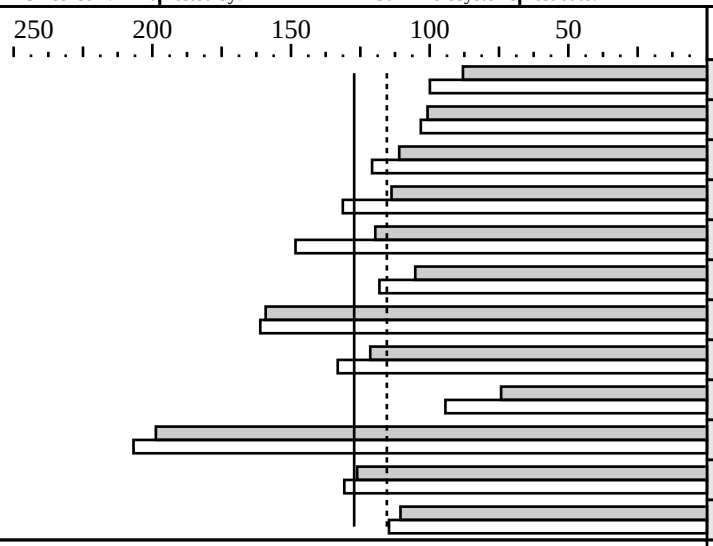
Sun Microsystems
Sun Fire E4900 (8 processor)

SPECint_rate2000 = 127

SPECint_rate_base2000 = 115

SPEC license #: 6 | Tested by: Sun Microsystems | Test date: Jan-2005 | Hardware Avail: Feb-2005 | Software Avail: Jan-2005



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	16	295	88.0	16	260	99.9
175.vpr	16	258	101	16	252	103
176.gcc	16	184	111	16	169	121
181.mcf	16	294	114	16	254	131
186.crafty	16	155	120	16	125	148
197.parser	16	318	105	16	283	118
252.eon	16	152	159	16	150	161
253.perlbmk	16	275	121	16	251	133
254.gap	16	275	74.2	16	216	94.3
255.vortex	16	177	199	16	171	207
256.bzip2	16	221	126	16	213	131
300.twolf	16	504	111	16	486	115

Hardware

CPU:	UltraSPARC IV
CPU MHz:	1350
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip
CPU(s) orderable:	4, 8, 12, 16, 20, 24 (order by number of 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:	64GB 16-way interleaved
Disk Subsystem:	Sun StorEdge S1 Disk Array (2x36GB) Sun StorEdge 6120 Array (14x73GB)
Other Hardware:	None

Software

Operating System:	Solaris 10
Compiler:	Sun Studio 10
File System:	ufs (default ufs logging on with Solaris 10)
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 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=30,
               -Qeps:do_spec_load=1
  175.vpr:     -fast -xalias_level=std -xipo=2 -Wc,-Qeps:enabled=1,
               -Qeps:rp_filtering_margin=100,-Qeps:do_spec_load=1 -lmopt -lm
  176.gcc:     -fast -xipo=2 -ll2amm
  181.mcf:     -fast -xipo=2 -xprefetch_level=2 -Wc,-Qeps:enabled=1
```

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Notes/Tuning Information (Continued)

```
    186.crafty:  -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
                 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
    253.perlbmk: -fast -xipo=2 -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 -W2,-Abcopy -xvector
                 -xprefetch_level=3
    255.vortex:  -fast -xrestrict -xipo=2 -Wc,-Qeps:enable=1
                 -W2,-Ainline:recursion=1:cs=500:irs=6000
                 -Wc,-Qdepgraph-early_cross_call=1 -Wc,-Qiselect-funcalign=32
                 -Wc,-Qpeep-Sh0 -W2,-crit -ll2amm
    256.bzip2:   -fast -xipo -xalias_level=strong -xrestrict
                 -Wc,-Qeps:enabled=1 -xsafe=mem -Qeps:rp_filtering_margin=99
    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
                 srcalt = fmax_errno
    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 S1
  Disk Array (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.
```