



CINT2000 Result

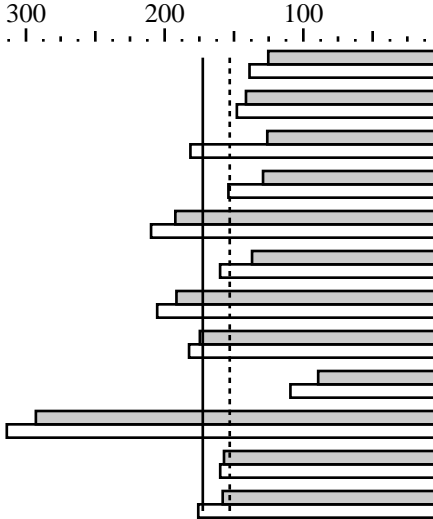
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Sun Microsystems
Sun Fire E4900 (8 processor)

SPECint_rate2000 = 173
SPECint_rate_base2000 = 153

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.zip	16	207	125	16	187	139
175.vpr	16	184	141	16	176	148
176.gcc	16	162	126	16	113	181
181.mcf	16	259	129	48	651	154
186.crafty	16	96.5	192	16	88.4	210
197.parser	16	244	137	16	209	160
252.eon	16	126	191	16	117	205
253.perlbnk	16	191	175	16	183	182
254.gap	16	229	89.3	48	560	109
255.vortex	16	120	293	16	112	314
256.bzip2	16	177	157	16	174	160
300.twolf	16	352	158	16	317	176



Hardware
CPU: UltraSPARC IV+
CPU MHz: 1500
FPU: Integrated
CPU(s) enabled: 16 cores, 8 chips, 2 cores/chip
CPU(s) orderable: 4, 8, 12 (order by number of chips)
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: 48GB 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

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.zip: -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)

```

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:valueprediction -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.perlbnk:  -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.perlbnk: -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.