



CINT2000 Result

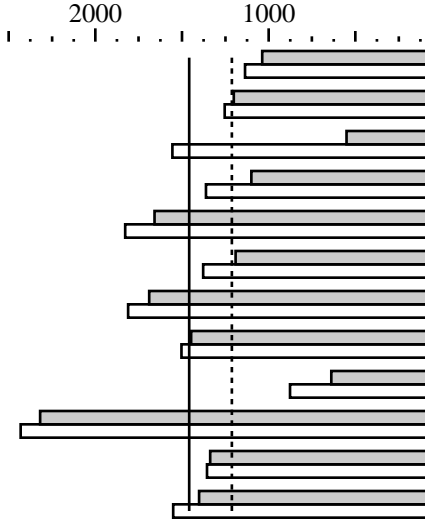
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Sun Microsystems
Sun Fire E25K (72 processor)

SPECint_rate2000 = 1459
SPECint_rate_base2000 = 1213

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	144	225	1037	144	206	1136
175.vpr	144	195	1201	144	187	1254
176.gcc	144	334	551	432	354	1556
181.mcf	144	273	1100	432	662	1362
186.crafty	144	101	1658	144	91.4	1828
197.parser	144	253	1191	144	218	1378
252.eon	144	129	1688	144	120	1811
253.perlbnk	144	208	1447	144	200	1503
254.gap	144	288	639	432	629	877
255.vortex	144	137	2318	144	131	2431
256.bzip2	144	187	1337	144	185	1356
300.twolf	144	358	1401	144	323	1551



Hardware

CPU: UltraSPARC IV+
 CPU MHz: 1500
 FPU: Integrated
 CPU(s) enabled: 144 cores, 72 chips, 2 cores/chip
 CPU(s) orderable: 4-72 (order by number of chips, groups of 4)
 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: 288GB 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.gzip: -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.



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