



CINT2000 Result

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Sun Microsystems
Sun Fire V1280 (900MHz)

SPECint_rate2000 = 6.21
SPECint_rate_base2000 = 5.56

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Feb-2003 Hardware Avail: Feb-2003 Software Avail: May-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	1	390	4.16	1	319	5.09
175.vpr	1	339	4.79	1	315	5.15
176.gcc	1	215	5.93	1	202	6.31
181.mcf	1	365	5.72	1	308	6.78
186.crafty	1	201	5.77	1	173	6.72
197.parser	1	419	4.98	1	365	5.72
252.eon	1	226	6.68	1	217	6.96
253.perlbnk	1	375	5.57	1	349	5.99
254.gap	1	316	4.03	1	273	4.67
255.vortex	1	254	8.67	1	227	9.73
256.bzip2	1	287	6.07	1	268	6.50
300.twolf	1	611	5.69	1	562	6.20

Hardware

CPU: UltraSPARC III Cu
CPU MHz: 900
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 1 core/chip
CPU(s) orderable: 4,8,12
Parallel: No
Primary Cache: 32KBI+64KBD on chip
Secondary Cache: 8MB(I+D) off chip
L3 Cache: None
Other Cache: None
Memory: 2GB 4-way interleaved
Disk Subsystem: 2 x 36GB 10K RPM LVD Disk, Sun P/N XTA-3310-36GB-10K
Other Hardware: None

Software

Operating System: Solaris 9 9/02
Compiler: Sun ONE Studio 8 (pre-FCS build 1/28)
Sun Performance Library 8 (pre-FCS build 1/28)
File System: ufs with ufs logging
System State: Multi-User

Notes/Tuning Information

Compiler invocation:

C: cc
CXX: CC
F90: f90
F77: f90

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 -l12amm
181.mcf: -fast -xipo=2 -xprefetch_level=3 -Wc,-Qeps:enabled=1
186.crafty: -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
Feedback adds -xlinkopt in PASS2



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Notes/Tuning Information (Continued)

```

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.perlbnk: -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 -l12amm
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.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
LD_LIBRARY_PATH=/usr/lib:/export/home/compilers/EA2-FCS
/20030128_k2/lib/v8plusb:/export/home/compilers/EA2-FCS
/20030128_k2/prod/lib/v8plusb

```

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```

System Settings:

Other CPUs disabled at the firmware level using "disablecomponent" on the System Controller processor running System Management Services software