



CINT2000 Result

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Sun Microsystems
Sun Fire V1280 (900MHz)

SPECint2000 = 535
SPECint_base2000 = 479

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	390	359	319	439	
175.vpr	1400	339	413	315	444	
176.gcc	1100	215	511	202	544	
181.mcf	1800	365	493	308	584	
186.crafty	1000	201	497	173	579	
197.parser	1800	419	429	365	493	
252.eon	1300	226	576	217	600	
253.perlbmk	1800	375	480	349	516	
254.gap	1100	316	348	273	402	
255.vortex	1900	254	747	227	839	
256.bzip2	1500	287	523	268	560	
300.twolf	3000	611	491	562	534	

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