



# CINT2000 Result

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Sun Microsystems  
Sun Blade 2500 (1.28GHz)

SPECint\_rate2000 = 14.4  
SPECint\_rate\_base2000 = 12.4

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	262	12.4	2	215	15.1
175.vpr	2	314	10.4	2	294	11.0
176.gcc	2	216	11.8	2	155	16.5
181.mcf	2	812	5.14	2	516	8.10
186.crafty	2	138	16.8	2	120	19.4
197.parser	2	376	11.1	2	335	12.5
252.eon	2	162	18.6	2	155	19.4
253.perlbnk	2	278	15.0	2	254	16.4
254.gap	2	242	10.5	2	208	12.3
255.vortex	2	216	20.4	2	191	23.0
256.bzip2	2	320	10.9	2	310	11.2
300.twolf	2	497	14.0	2	470	14.8

### Hardware

CPU: UltraSPARC IIIi  
CPU MHz: 1280  
FPU: Integrated  
CPU(s) enabled: 2 cores, 2 chips, 1 core/chip  
CPU(s) orderable: 1-2  
Parallel: No  
Primary Cache: 32KBI+64KBD on chip  
Secondary Cache: 1MB(I+D) on chip  
L3 Cache: None  
Other Cache: None  
Memory: 8GB (8x1GB DIMM)  
Disk Subsystem: 1x36GB 10K RPM SCSI  
Other Hardware: None

### Software

Operating System: Solaris 8 HW 5/03  
Compiler: Sun ONE Studio 8  
Sun Performance Library 8  
File System: ufs with ufs logging  
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: -xO5 -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  
-W2,-Apf:l1list=3:noinnerl1list  
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



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## Notes/Tuning Information (Continued)

```

-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 -ll2amm
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"

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```

Processes were bound to CPUs using submit=pbind