



# CINT2000 Result

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Sun Microsystems  
Sun Blade 2500 (1.6GHz)

SPECint2000 = 845  
SPECint\_base2000 = 739

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Dec-2004 Hardware Avail: Feb-2005 Software Avail: Jan-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	198	708	171	820	
175.vpr	1400	221	632	216	648	
176.gcc	1100	150	735	116	944	
181.mcf	1800	498	361	286	629	
186.crafty	1000	114	875	95.9	1042	
197.parser	1800	277	650	246	733	
252.eon	1300	126	1035	126	1035	
253.perlbnk	1800	223	807	204	883	
254.gap	1100	170	647	154	716	
255.vortex	1900	137	1389	130	1461	
256.bzip2	1500	228	659	221	680	
300.twolf	3000	377	796	355	844	

### Hardware

CPU: UltraSPARC IIIi  
CPU MHz: 1600  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1,2  
Parallel: No  
Primary Cache: 32KBI+64KBD on chip  
Secondary Cache: 1MB(I+D) off chip  
L3 Cache: None  
Other Cache: None  
Memory: 4GB (4x1GB DIMM)  
Disk Subsystem: 1 x 146GB 10K RPM SCSI  
Other Hardware: None

### Software

Operating System: Solaris 10  
Compiler: Sun Studio 9  
File System: ufs  
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: -xO4 -xbuiltin=%all -xtarget=native -xalias\_level=std  
-xipo=2 -Wc,-Qeps:enabled=1,-Qeps:rp\_filtering\_margin=30, -Qeps:do\_spec\_load=1  
175.vpr: -fast -xalias\_level=std -xipo=2  
-Wc,-Qeps:enabled=1,-Qeps:rp\_filtering\_margin=100,-Qeps:do\_spec\_load=1 -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: basepeak=yes
253.perlbmk: -xO5 -xtarget=native -xmalign=4s -xipo -Wc,-Qeps:enabled=1
           -Qeps:ws=8, -xalias_level=std -xsafe=mem -Wc,-Qiselect-funcalign=32,
           -Qicache-chbab=1 -Wc,-Qiselect-sw_pf_tbl_th=20,-Qeps:do_spec_load=1 -xprefetch=no
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 -xsafe=mem -Qeps:rp_filtering_margin=99
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
          srcalt = fmax_errno
253.perlbmk: -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=512K
MPSSSTACK=512K
LD_PRELOAD=mpss.so.1

```

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```

Only one CPU in the system