



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Fire V490(1 processor)

SPECint\_rate2000 = 16.5  
SPECint\_rate\_base2000 = 15.0

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	281	11.6	2	243	13.4
175.vpr	2	236	13.8	2	234	13.9
176.gcc	2	160	15.9	2	153	16.7
181.mcf	2	294	14.2	2	245	17.0
186.crafty	2	151	15.4	2	118	19.6
197.parser	2	304	13.7	2	268	15.6
252.eon	2	177	17.0	2	171	17.6
253.perlbnk	2	284	14.7	2	248	16.8
254.gap	2	239	10.7	2	212	12.0
255.vortex	2	167	26.4	2	161	27.4
256.bzip2	2	210	16.6	2	202	17.3
300.twolf	2	477	14.6	2	457	15.2

### Hardware

CPU: UltraSPARC IV  
CPU MHz: 1350  
FPU: Integrated  
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chips  
CPU(s) orderable: 2,4 (order by # of chips)  
Parallel: No  
Primary Cache: 32KBI+64KBD per core on chip (64KBI+128KBD on chip)  
Secondary Cache: 8MB(I+D) per core off chip (16MB(I+D) off chip)  
L3 Cache: None  
Other Cache: None  
Memory: 8GB  
Disk Subsystem: 1 x 73GB  
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=2 -Wc,-Qeps:enabled=1

186.crafty: -fast -xinline= -xipo=2 -xalias\_level=strong -W2,-Ashort\_ldst  
Feedback adds -xlinkopt in PASS2



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Fire V490(1 processor)

SPECint\_rate2000 = 16.5  
SPECint\_rate\_base2000 = 15.0

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

## Notes/Tuning Information (Continued)

```

197.parser: -fast -xipo=2 -xalias_level=strong
            -Wc,-Qgsched-T6,-Qipa:valueprediction
252.eon:    -fast -xipo=2 -noex
            -Qoption cg -Qeps:enabled=1,-Qeps:ws=32
253.perlbnk: -xO5 -xtarget=native -xmemalign=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
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=512K
MPSSSTACK=512K
LD_PRELOAD=mpss.so.1

```

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```