



# CINT2000 Result

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Sun Microsystems  
Sun Fire X4100

SPECint2000 = 1829  
SPECint\_base2000 = 1660

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Aug-2005 Hardware Avail: Oct-2005 Software Avail: Nov-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	1000 2000 3000 4000			
164.gzip	1400	95.4	1467	93.2	1502	[Bar chart showing ratio bars for 164.gzip]			
175.vpr	1400	102	1369	94.2	1486	[Bar chart showing ratio bars for 175.vpr]			
176.gcc	1100	56.9	1934	56.4	1950	[Bar chart showing ratio bars for 176.gcc]			
181.mcf	1800	164	1097	153	1178	[Bar chart showing ratio bars for 181.mcf]			
186.crafty	1000	59.6	1678	41.3	2419	[Bar chart showing ratio bars for 186.crafty]			
197.parser	1800	126	1432	125	1444	[Bar chart showing ratio bars for 197.parser]			
252.eon	1300	47.7	2725	43.5	2988	[Bar chart showing ratio bars for 252.eon]			
253.perlbnk	1800	98.2	1833	92.8	1940	[Bar chart showing ratio bars for 253.perlbnk]			
254.gap	1100	76.7	1434	68.8	1599	[Bar chart showing ratio bars for 254.gap]			
255.vortex	1900	78.6	2419	61.9	3068	[Bar chart showing ratio bars for 255.vortex]			
256.bzip2	1500	111	1354	104	1444	[Bar chart showing ratio bars for 256.bzip2]			
300.twolf	3000	165	1823	157	1905	[Bar chart showing ratio bars for 300.twolf]			

### Hardware

CPU: AMD Opteron (TM) 254  
CPU MHz: 2800  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1,2 (order by # of chips)  
Parallel: No  
Primary Cache: 64KBI + 64KBD (on chip) per core  
Secondary Cache: 1024KB (I+D) (on chip) per core  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 8GB (4x2GB, PC3200 CL3 DDR SDRAM ECC Registered)  
Disk Subsystem: SAS, 36GB, 10K RPM  
Other Hardware: None

### Software

Operating System: Solaris 10 3/05 HW1  
Compiler: Sun Studio 11  
File System: ufs  
System State: Multi-user

## Notes/Tuning Information

Compiler invocation:

C: cc  
CXX: CC

FDO: PASS1= -xprofile=collect:./feedback PASS2= -xprofile=use:./feedback  
fdo\_pre0: rm -rf ./feedback.profile

Integer base flags:

Base tuning for C programs : -fast -xcrossfile -xalias\_level=std +FDO ONESTEP=yes  
Base tuning for C++ programs: -fast -xcrossfile -xarch=amd64 +FDO ONESTEP=yes

Integer peak flags:

ONESTEP=yes +FDO for all benchmarks

164.gzip: -fast -xpagesize=2m -xcrossfile -M /usr/lib/ld/map.bssalign  
175.vpr: -fast -xpagesize=2m -W2,-Ainline:inc=200:cs=500 -M /usr/lib/ld/map.bssalign -lmopt -lm  
176.gcc: -fast -xipo=2 -Wd,-iropt-prof -xalias\_level=strong -xrestrict  
181.mcf: -fast -xpagesize=2m -xcrossfile -M /usr/lib/ld/map.bssalign  
186.crafty: -fast -xrestrict -xipo=2 -xprefetch -xarch=amd64 -xpagesize=2m



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## Notes/Tuning Information (Continued)

```

-M /usr/lib/ld/map.bssalign -Wd,-iropt-prof -W2,-Ashort_ldst:ldld
-W2,-Ainline:rs=50
197.parser: -fast -xpagesize=2m -xipo=2 -W2,-Ainline:inc=200:cs=500 -M /usr/lib/ld/map.bssalign
252.eon: -fast -xipo=2 -qoption CC -iropt-prof -xvector -qoption iropt -Abcopy -xalias_level
-xarch=amd64 -xrestrict -Qoption ube -xcallee=yes -xregs=frameptr
253.perlbnk: -fast -xcrossfile -M /usr/lib/ld/map.bssalign -lbsdmalloc
254.gap: -fast -xipo=2 -Wd,-iropt-prof -xvector -W2,-Abcopy -lbsdmalloc -xprefetch
-W2,-Ainline:cp=5:rs=1300:irs=3300:inc=100 -W2,-Arestrict_g
255.vortex: -fast -xipo=2 -Wd,-iropt-prof -lbsdmalloc -xrestrict -xprefetch -M /usr/lib/ld/map.bssalign
256.bzip2: -fast -xpagesize=2m -xcrossfile -xarch=sse2 -Xc -M /usr/lib/ld/map.bssalign -lbsdmalloc
300.twolf: -fast -xipo=2 -Wd,-iropt-prof -xrestrict -M /usr/lib/ld/map.bssalign

```

### Portability:

```

186.crafty: -DUNIX -DHAS_LONGLONG -DLITTLE_ENDIAN_ARCH
252.eon: -DFMAX_IS_DOUBLE -DSPEC_CPU2000_LP64 -DUSE_STRERROR
253.perlbnk: -DSPEC_CPU2000_SOLARIS_X86
254.gap: -DSYS_IS_USG -DSYS_HAS_SIGNAL_PROTO -DSYS_HAS_TIME_PROTO -DSYS_HAS_CALLOC_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 CPU using submit=pbind

Default BIOS setting was used ; Only one CPU was present on the system