



# CINT2000 Result

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Advanced Micro Devices  
ASUS SK8N Motherboard, AMD Opteron (TM) 148

SPECint2000 = 1409  
SPECint\_base2000 = 1304

SPEC license #: 49 | Tested by: AMD, Austin, TX | Test date: Nov-2003 | Hardware Avail: Dec-2003 | Software Avail: Nov-2003

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	122	1152	118	1187	
175.vpr	1400	124	1129	124	1134	
176.gcc	1100	70.4	1562	70.4	1562	
181.mcf	1800	250	720	158	1136	
186.crafty	1000	52.6	1902	51.6	1936	
197.parser	1800	168	1068	166	1086	
252.eon	1300	69.4	1873	63.1	2060	
253.perlbnk	1800	117	1540	117	1540	
254.gap	1100	87.3	1260	87.3	1260	
255.vortex	1900	115	1646	104	1830	
256.bzip2	1500	124	1208	124	1214	
300.twolf	3000	267	1123	219	1370	

### Hardware

CPU: AMD Opteron (TM) 148  
CPU MHz: 2200  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1  
Parallel: No  
Primary Cache: 64KBI + 64KBD on chip  
Secondary Cache: 1024KB(I+D) on chip  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 2 x 512MB PC3200 DDR SDRAM, ECC Registered  
Disk Subsystem: Western Digital WD2000, IDE  
Other Hardware: None

### Software

Operating System: SuSE Linux 9.0 (AMD64) 2.4.21-102-default  
Compiler: SuSE gcc 3.3.1 compiler (from SuSE Linux 9.0)  
File System: Linux/ext3  
System State: Multi-user SuSE Run level 3

## Notes/Tuning Information

Tested by Advanced Micro Devices

+FDO: PASS1=-fprofile-arcs PASS2=-fbranch-probabilities

Portability:

PORTABILITY=-DSPEC\_CPU2000\_LP64 is applied to all benchmarks, except for peak runs of 181.mcf, 197.parser and 300.twolf, which are compiled for 32-bit in peak.

186.crafty: CPORTABILITY=-DLINUX\_i386

176.gcc: Approved src.alt is used.

252.eon: CXXPORTABILITY=-DHAS\_ERRLIST -DFMAX\_IS\_DOUBLE

Approved src.alt is used.

253.perlbnk: CPORTABILITY=-DSPEC\_CPU2000\_LINUX\_I386 -DSPEC\_CPU2000\_NEED\_BOOL -DSPEC\_CPU2000\_GLIBC22

254.gap: CPORTABILITY=-DSYS\_IS\_USG -DSYS\_HAS\_IOCTL\_PROTO -DSYS\_HAS\_TIME\_PROTO -DSYS\_HAS\_SIGNAL\_PROTO -DSYS\_HAS\_ANSI -DSYS\_HAS\_CALLOC\_PROTO

Baseline C: gcc -O3 -funroll-all-loops +FDO

Baseline C++: g++ -O3 -funroll-all-loops +FDO

Peak tuning:

gzip: -O3 -funroll-all-loops -finline-limit=900 -freduce-all-givs +FDO

vpr: -O3 -funroll-loops -finline-limit=1000 +FDO

gcc: basepeak=true

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info@spec.org

http://www.spec.org



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## Notes/Tuning Information (Continued)

```
mcf: -O3 -funroll-all-loops -m32 +FDO
crafty: -O3 -funroll-loops -fprefetch-loop-arrays
parser: -O3 -funroll-all-loops -m32 +FDO
eon: -O3 -funroll-all-loops -ffast-math -finline-limit=3000 +FDO
perlbmk: basepeak=true
gap: basepeak=true
vortex: -O3 -funroll-all-loops -finline-limit=1000 +FDO
bzip2: -O3 -funroll-all-loops -freduce-all-givs -finline-limit=2700 +FDO
twolf: -O3 -funroll-all-loops -finline-limit=2000 -m32 +FDO
```

ONESTEP is used for all base and peak runs

The tested system can be assembled using an ATX case such as the Antec KS-282, a 480W power supply, and a PCI or AGP video card.