



# CINT2000 Result

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## IBM

IBM eServer 326m, 2.8 GHz AMD Opteron(tm) Processor 254

SPECint2000 = 1924

SPECint\_base2000 = 1682

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Nov-2005 | Hardware Avail: Nov-2005 | Software Avail: Nov-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	82.7	1693	82.7	1692	
175.vpr	1400	107	1311	101	1384	
176.gcc	1100	58.6	1876	58.2	1889	
181.mcf	1800	248	727	151	1195	
186.crafty	1000	40.3	2482	39.6	2528	
197.parser	1800	153	1175	115	1559	
252.eon	1300	45.6	2851	38.3	3396	
253.perlbmk	1800	97.8	1840	84.8	2122	
254.gap	1100	61.6	1785	59.4	1852	
255.vortex	1900	71.1	2670	63.8	2978	
256.bzip2	1500	97.1	1545	97.1	1545	
300.twolf	3000	199	1505	150	2006	

### Hardware

CPU: AMD Opteron(tm) Processor 254  
CPU MHz: 2800  
FPU: Integrated  
CPU(s) enabled: 2 cores, 2 chips, 1 core/chip  
CPU(s) orderable: 1,2  
Parallel: No  
Primary Cache: 64KBI + 64KBD on chip  
Secondary Cache: 1024KB (I+D) on chip  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 8 x 1024GB PC3200  
Disk Subsystem: SCSI, 36GB 15K RPM  
Other Hardware: None

### Software

Operating System: SuSE Linux 9.0 SP2 SLES 64 bit Kernel 2.6.5-7.191-smp (SP2)  
Compiler: PathScale EKO Compiler Suite, Release 2.2.1  
File System: Linux/reiserfs  
System State: Multi-user, run level 3

## Notes/Tuning Information

Tested by IBM Corporation

+FDO: PASS1= -fb\_create fbdata PASS2= -fb\_opt fbdata

Base tuning for C programs: -Ofast +FDO

Base tuning for C++ programs: -Ofast +FDO

Portability flags:

186.crafty: -DLINUX\_i386

252.eon: -DHAS\_ERRLIST -DSPEC\_CPU2000\_LP64

253.perlbmk: -DSPEC\_CPU2000\_LINUX\_I386 -DSPEC\_CPU2000\_NEED\_BOOL

-DSPEC\_CPU2000\_GLIBC22 -DSPEC\_CPU2000\_LP64

254.gap: -DSYS\_IS\_USG -DSYS\_HAS\_IOCTL\_PROTO -DSYS\_HAS\_TIME\_PROTO

-DSYS\_HAS\_CALLOC\_PROTO -DSPEC\_CPU2000\_LP64

255.vortex: -DSPEC\_CPU2000\_LP64

Peak tuning:

164.gzip: -O3 -ipa -WOPT:val=0 -OPT:unroll\_size=0 +FDO

175.vpr: -O3 -ipa -m32 +FDO

176.gcc: -O3 -IPA:plimit=10000 -LNO:opt=0 -OPT:goto=off +FDO

181.mcf: -O3 -ipa -IPA:field\_reorder=on -m32 +FDO

186.crafty: -Ofast -CG:local\_fwd\_sched=on -LNO:opt=0 -WOPT:val=0 +FDO

197.parser: -O3 -ipa -m32 -IPA:ctype=on +FDO

252.eon: -Ofast -CG:gcm=off:p2align\_freq=1:prefetch=off -IPA:plimit=4000

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http://www.spec.org



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## Notes/Tuning Information (Continued)

```

-OPT:treeheight=on -TENV:X=4:frame_pointer=off -fno-exception
-LNO:fu=10:full_unroll_outer=on -GRA:optimize_boundary=on +FDO
253.perlbnk: -O2 -ipa -OPT:Ofast:transform_to_memlib=off
              -fno-math-errno -IPA:plimit=10000 +FDO
254.gap:      -Ofast -IPA:min_hotness=5 -OPT:alias=disjoint -CG:movnti=1 +FDO
255.vortex:   -Ofast -OPT:goto=off +FDO
256.bzip2:    basepeak=true
300.twolf:    -O2 -CG:gcm=off:p2align_freq=100000
              -OPT:ofast:unroll_times_max=8:unroll_size=256:alias=disjoint
              -WOPT:mem_opnds=on -m32 +FDO

```

### BIOS Configuration Notes

Node Interleaving Disabled

### Other Configuration Notes

Taskset utility used to bind process to CPU(s)