



# CINT2000 Result

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**Fujitsu Siemens Computers**  
CELSIUS V810, Opteron (TM) 250, Linux 64-bit

SPECint\_rate2000 = 37.1  
SPECint\_rate\_base2000 = 33.5

SPEC license #: 22 | Tested by: Fujitsu Siemens Computers | Test date: Nov-2004 | Hardware Avail: Aug-2004 | Software Avail: Oct-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	99.1	32.8	2	98.8	32.9
175.vpr	2	120	27.0	2	116	27.9
176.gcc	2	69.2	36.9	2	69.2	36.9
181.mcf	2	255	16.4	2	169	24.6
186.crafty	2	48.8	47.6	2	48.7	47.6
197.parser	2	168	24.9	2	138	30.3
252.eon	2	62.8	48.0	2	53.2	56.7
253.perlbnk	2	113	37.0	2	104	40.3
254.gap	2	74.7	34.2	2	72.9	35.0
255.vortex	2	79.9	55.2	2	74.1	59.5
256.bzip2	2	113	30.8	2	113	30.8
300.twolf	2	231	30.1	2	182	38.2

### Hardware

CPU: AMD Opteron (TM) 250  
 CPU MHz: 2400  
 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: 4 x 512 MB PC3200 CL3-3-3 DDR SDRAM  
 Disk Subsystem: S-ATA 7200 rpm  
 Other Hardware: None

### Software

Operating System: SuSE Linux 9.1 (AMD64) 2.6.4-52-smp  
 Compiler: PathScale EKO Compiler Suite, Release 1.4  
 - (both for C and C++)  
 File System: Linux/Reiser  
 System State: Multi-user SuSE Run level 3

## Notes/Tuning Information

Tested by Fujitsu Siemens Computers

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

### Portability Flags:

186.crafty: -DLINUX\_i386  
 252.eon: -DHAS\_ERRLIST -DSPEC\_CPU2000\_LP64  
 Approved srcalt fmax\_errno is used  
 253.perlbnk: -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\_SIGNAL\_PROTO -DSYS\_HAS\_ANSI  
 -DSYS\_HAS\_CALLOC\_PROTO -DSPEC\_CPU2000\_LP64  
 255.vortex: -DSPEC\_CPU2000\_LP64  
 300.twolf: -DHAVE\_SIGNED\_CHAR

### Baseline optimization flags:

C programs: -O3 -ipa +FDO  
 C++ programs: -Ofast +FDO



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## Notes/Tuning Information (Continued)

Peak tuning:

```
164.gzip: -Ofast +FDO
175.vpr: -O2 -ipa -OPT:alias=disjoint -CG:p2align_freq=500000 +FDO
  loader -INLINE:aggressive=on
  -IPA:space=300:plimit=10000:callee_limit=5000:linear=on
176.gcc: basepeak = true
181.mcf: -O3 -ipa -IPA:field_reorder=on -m32 +FDO
186.crafty: -Ofast +FDO
197.parser: -O3 -ipa -m32 +FDO
  loader -IPA:ctype=on
252.eon: -Ofast -CG:gcm=off:p2align_freq=1:prefetch=off
  -OPT:treeheight=on -TENV:X=4:frame_pointer=off
  -fno-exceptions -LNO:fu=10:full_unroll_outer=on +FDO
  loader -IPA:plimit=4000:pu_reorder=1
253.perlbnk: -O3 -ipa +FDO
  loader -IPA:plimit=10000
254.gap: -O3 -ipa -OPT:transform_to_memlib=on
255.vortex: -Ofast -IPA:space=70:plimit=3000
  -OPT:goto=off:unroll_analysis=off:unroll_size=0:unroll_times_max=8
  -LNO:opt=0 -TENV:X=4 +FDO
256.bzip2: basepeak = true
300.twolf: -O2
  -OPT:unroll_times_max=8:unroll_size=256:alias=disjoint:Ofast
  -CG:gcm=off:p2align_freq=100000 -WOPT:mem_opnds=on
  -m32 +FDO
```

BIOS Version 1.05

BIOS default settings have been used. These include

- Node Memory Interleave disabled
- ACPI SRAT Table enabled

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