



# CINT2000 Result

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**Fujitsu Siemens Computers**  
CELSIUS V830, Opteron (TM) 280, Linux 64-bit

SPECint\_rate2000 = 38.3  
SPECint\_rate\_base2000 = 34.3

SPEC license #: 22 | Tested by: Fujitsu Siemens Computers | Test date: Jan-2006 | Hardware Avail: Sep-2005 | Software Avail: Dec-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	95.9	33.9	2	95.8	33.9
175.vpr	2	119	27.2	2	115	28.2
176.gcc	2	66.1	38.6	2	67.1	38.1
181.mcf	2	309	13.5	2	195	21.4
186.crafty	2	46.6	49.8	2	45.3	51.2
197.parser	2	163	25.6	2	127	32.8
252.eon	2	52.0	58.0	2	45.0	67.0
253.perlbnk	2	109	38.4	2	97.3	42.9
254.gap	2	73.4	34.8	2	73.7	34.6
255.vortex	2	76.8	57.4	2	71.7	61.5
256.bzip2	2	111	31.3	2	111	31.3
300.twolf	2	225	30.9	2	177	39.4

### Hardware

CPU: AMD Opteron 280  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1,2  
 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: 4 x 512 MB PC3200 CL3-3-3 DDR SDRAM  
 Disk Subsystem: SCSI U320  
 Other Hardware: None

### Software

Operating System: SLES 9 with SP3 (AMD64) - kernel 2.6.5-7.244-smp  
 Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.3 (for C and C++)  
 File System: Linux/ReiserFS  
 System State: Multi-User SuSE Run Level 3

## Notes/Tuning Information

### Portability flags:

```
186.crafty: -DLINUX_i386
252.eon: -DHAS_ERRLIST -DSPEC_CPU2000_LP64
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_CALLOC_PROTO -DSPEC_CPU2000_LP64
255.vortex: -DSPEC_CPU2000_LP64
```

### Feedback Optimization:

```
+FDO: PASS1=-fb_create fbdata PASS2=-fb_opt fbdata
```

### Baseline Optimization Flags:

```
C programs: -Ofast +FDO
C++ programs: -Ofast +FDO
```

### Peak Tuning Flags:

```
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
```



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## Notes/Tuning Information (Continued)

```
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
-OPT:treeheight=on -TENV:X=4:frame_pointer=off -fno-exceptions
-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 default settings with  
Node memory interleave disabled, SRAT enabled  
taskset has been used to bind processes to CPUs

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