



# CINT2000 Result

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

SPECint\_rate2000 = **76.0**  
SPECint\_rate\_base2000 = **68.1**

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	4	96.0	67.7	4	95.8	67.8
175.vpr	4	120	53.9	4	116	56.1
176.gcc	4	67.6	75.5	4	68.7	74.3
181.mcf	4	319	26.2	4	198	42.2
186.crafty	4	46.4	99.9	4	45.3	102
197.parser	4	164	51.1	4	128	65.4
252.eon	4	52.0	116	4	45.0	134
253.perlbnk	4	109	76.5	4	97.6	85.5
254.gap	4	73.5	69.5	4	73.3	69.6
255.vortex	4	77.1	114	4	72.1	122
256.bzip2	4	111	62.5	4	111	62.5
300.twolf	4	226	61.6	4	182	76.3

### Hardware

CPU: AMD Opteron 280  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 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: 8 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 interleaved disabled, SRAT enabled  
taskset has been used to bind processes to CPUs

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