# CINT2000 Result

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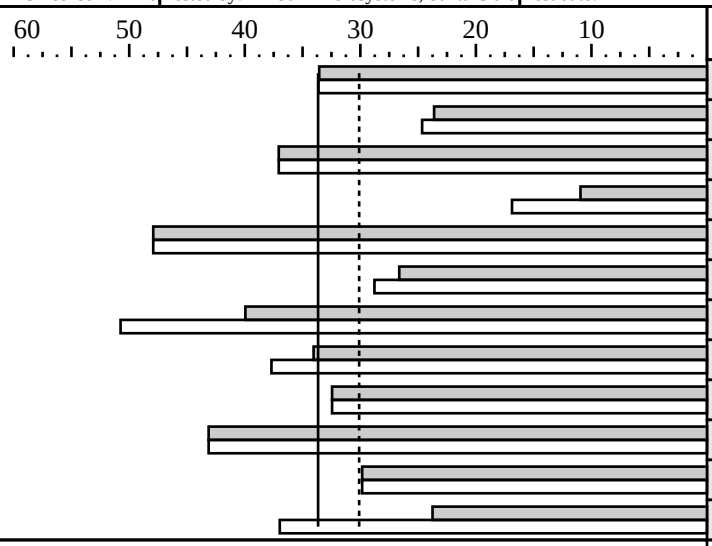
## Sun Microsystems
## Sun Fire V40z

SPECint_rate2000 = 33.7

SPECint_rate_base2000 = 30.1

SPEC license #: 6 | Tested by: Sun Microsystems, Santa Clara | Test date: Jun-2004 | Hardware Avail: Jul-2004 | Software Avail: May-2004




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 164.gzip | 2 | 96.8 | 33.6 | 2 | 96.6 | 33.6 |
| 175.vpr | 2 | 138 | 23.6 | 2 | 132 | 24.7 |
| 176.gcc | 2 | 68.9 | 37.1 | 2 | 68.9 | 37.1 |
| 181.mcf | 2 | 381 | 10.9 | 2 | 247 | 16.9 |
| 186.crafty | 2 | 48.4 | 47.9 | 2 | 48.4 | 47.9 |
| 197.parser | 2 | 157 | 26.6 | 2 | 145 | 28.8 |
| 252.eon | 2 | 75.5 | 39.9 | 2 | 59.4 | 50.7 |
| 253.perlbmk | 2 | 123 | 34.0 | 2 | 111 | 37.7 |
| 254.gap | 2 | 78.7 | 32.4 | 2 | 78.7 | 32.4 |
| 255.vortex | 2 | 102 | 43.1 | 2 | 102 | 43.1 |
| 256.bzip2 | 2 | 117 | 29.8 | 2 | 117 | 29.8 |
| 300.twolf | 2 | 293 | 23.8 | 2 | 188 | 37.0 |

### Hardware

| | |
|---|---|
| CPU: | AMD Opteron (TM) 850 |
| CPU MHz: | 2400 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 2 chips, 1 core/chip |
| CPU(s) orderable: | 1,2,4 |
| Parallel: | No |
| Primary Cache: | 64KBI + 64KBD on chip |
| Secondary Cache: | 1024KB (I+D) on chip |
| L3 Cache: | N/A |
| Other Cache: | N/A |
| Memory: | 8x1GB, PC2700 CL2.5 DDR SDRAM ECC Registered |
| Disk Subsystem: | SCSI, 73GB, 10K RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SuSE Linux 8.0 SLES 64 bit (SP3) |
| Compiler: | PathScale EKO Compiler Suite, Release 1.1<br>SuSE optional gcc 3.3 (from SLES8 SP3) |
| File System: | Linux/ext3 |
| System State: | Multi-user, Run level 3 |

## Notes/Tuning Information

```
Feedback-directed optimization is indicated by "+FDO", which means,
unless otherwise noted:
     PASS1: -fb_create fbdata
     PASS2: -fb_opt    fbdata

Compiler: pathcc (PathScale C) unless otherwise noted.
If other compilers are used, they are indicated as:
   g++     Gnu C++
   pathCC  PathScale C++

Integer base tuning:
  C programs:       pathcc -O3 -ipa +FDO
  C++ programs:     pathCC -Ofast +FDO

Peak Tuning:
164.gzip:     -O3 -ipa -WOPT:val=0 -CG:p2align_freq=10000 +FDO
175.vpr:      -O2 -ipa -OPT:alias=disjoint -LNO:prefetch_ahead=2
              -CG:p2align_freq=500000 -INLINE:aggressive=on
              -IPA:space=300:plimit=10000:callee_limit=5000:linear=on
```

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## Notes/Tuning Information (Continued)

```
                +FDO
    176.gcc:    basepeak = true
    181.mcf:    -O3 -static -OPT:Ofast -m32 +FDO
    186.crafty: basepeak = true
    197.parser: -O3 -ipa -m32 -IPA:ctype=on +FDO
    252.eon:    g++ -O3 -msse2 -funroll-all-loops -ffast-math
                -finline-limit=5000
                Uses g++ style Feedback Directed Optimization:
                   PASS1: -fprofile-arcs   PASS2: -fbranch-probabilities
                Previous feedback is removed prior to compiles, using:
                   fdo_pre0 = rm -f *.da *.life analyz_prbrob.out
    253.perlbmk: -O3 -ipa -TENV:X=3 -IPA:min_hotness=5:plimit=20000 +FDO
    254.gap:    basepeak=yes
    255.vortex: basepeak=yes
    256.bzip2:  basepeak=yes
    300.twolf:  -O2 -OPT:unroll_times=8:unroll_size=256:alias=disjoint:Ofast
                -CG:gcm=off:p2align_freq=100000 -TENV:X=4 +FDO -m32

    Portability:
    186.crafty: -DLINUX_i386
    252.eon:    -DHAS_ERRLIST  -DSPEC_CPU2000_LP64 -lm
                srcalt = fmax_errno
    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_SIGNAL_PROTO -DSYS_HAS_ANSI -DSYS_HAS_CALLOC_PROTO
                -DSPEC_CPU2000_LP64
    255.vortex: -DSPEC_CPU2000_LP64

    Notes:
         BIOS build 2.1.0.9E, default setting was used.
         Only two CPUs were present in the system, other CPUs were physically removed.
```