CINT2000 Result

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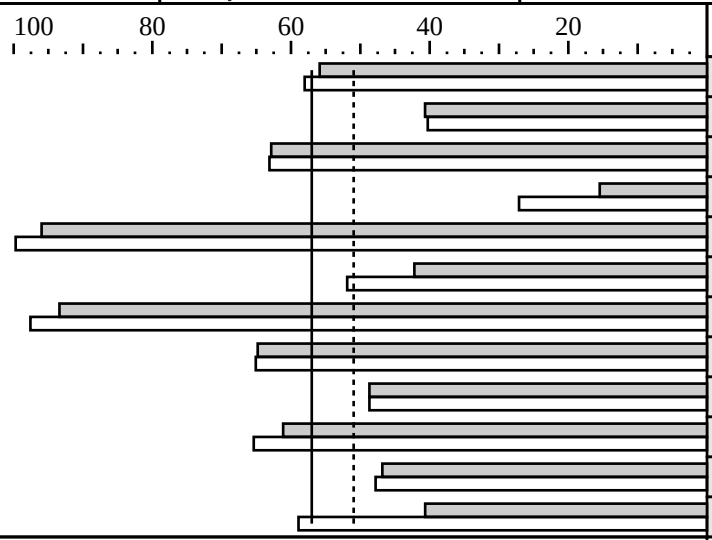
Verari Systems
QuatreX-64 (TM), AMD Opteron (TM) 850

SPECint_rate2000 = 57.0

SPECint_rate_base2000 = 51.0

SPEC license #: 49 | Tested by: AMD, Austin, TX | Test date: Apr-2004 | Hardware Avail: Jun-2004 | Software Avail: Apr-2003



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	116	55.9	4	112	58.0
175.vpr	4	160	40.7	4	161	40.3
176.gcc	4	81.2	62.9	4	80.9	63.1
181.mcf	4	540	15.5	4	308	27.1
186.crafty	4	48.3	96.0	4	46.5	99.7
197.parser	4	198	42.2	4	161	51.9
252.eon	4	64.6	93.4	4	61.8	97.6
253.perlbmk	4	129	64.8	4	128	65.1
254.gap	4	105	48.7	4	105	48.7
255.vortex	4	144	61.1	4	135	65.4
256.bzip2	4	149	46.8	4	146	47.8
300.twolf	4	342	40.6	4	236	58.9

Hardware

CPU:	AMD Opteron (TM) 850
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip
CPU(s) orderable:	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:	8 x 512 MB PC3200 DDR SDRAM CL3.0
Disk Subsystem:	SCSI, Ultra-320, 10k rpm
Other Hardware:	None

Software

Operating System:	SuSE Linux 8.0 SLES 64 bit (SP3) SuSE NUMA kernel 2.4.21-143
Compiler:	SuSE optional gcc 3.3 compiler (20030312) (from SLES8 SP3)
File System:	Linux/ext3
System State:	Multi-user SuSE Run level 3

Notes/Tuning Information

```
+FDO: PASS1=-fprofile-arcs PASS2=-fbranch-probabilities
Portability:
               PORTABILITY=-DSPEC_CPU2000_LP64 is applied to all benchmarks,
               except for peak runs of 181.mcf, 197.parser and 300.twolf, which
               are compiled for 32-bit in peak.
 186.crafty:  CPORTABILITY=-DLINUX_i386
 176.gcc:     Approved src.alt is used
 252.eon:     CXXPORTABILITY=-DHAS_ERRLIST -DFMAX_IS_DOUBLE
              Approved src.alt is used.
 253.perlbmk: CPORTABILITY=-DSPEC_CPU2000_LINUX_I386 -DSPEC_CPU2000_NEED_BOOL
                           -DSPEC_CPU2000_GLIBC22
 254.gap:     CPORTABILITY=-DSYS_IS_USG -DSYS_HAS_IOCTL_PROTO -DSYS_HAS_TIME_PROTO
                          -DSYS_HAS_SIGNAL_PROTO -DSYS_HAS_ANSI -DSYS_HAS_CALLOC_PROTO
Baseline C:   gcc -O3 -funroll-all-loops +FDO
Baseline C++: g++ -O3 -funroll-all-loops +FDO
Peak tuning:
 164.gzip:    -O3 -funroll-all-loops -finline-limit=900 -freduce-all-givs +FDO
 175.vpr:     -O3 -funroll-loops -finline-limit=1000 +FDO
 176.gcc:     -O3 -funroll-all-loops -finline-limit=900 +FDO
 181.mcf:     -O3 -funroll-all-loops -m32 +FDO
```

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Notes/Tuning Information (Continued)

```
    186.crafty:  -O3 -funroll-loops -fprefetch-loop-arrays
    197.parser:  -O3 -funroll-all-loops -m32 +FDO
    252.eon:     -O3 -funroll-all-loops -ffast-math -finline-limit=3000 +FDO
    253.perlbmk: -O3 -funroll-all-loops -finline-limit=1800 +FDO
    254.gap:     basepeak=true
    255.vortex:  -O3 -funroll-all-loops -finline-limit=1000 +FDO
    256.bzip2:   -O3 -funroll-all-loops -freduce-all-givs -finline-limit=2700 +FDO
    300.twolf:   -O3 -funroll-all-loops -finline-limit=2000 -m32 +FDO
  ONESTEP is used for all base and peak runs
BIOS: PQTDX0-C
Taskset utility used to bind processes to CPU(s)
```