CINT2000 Result

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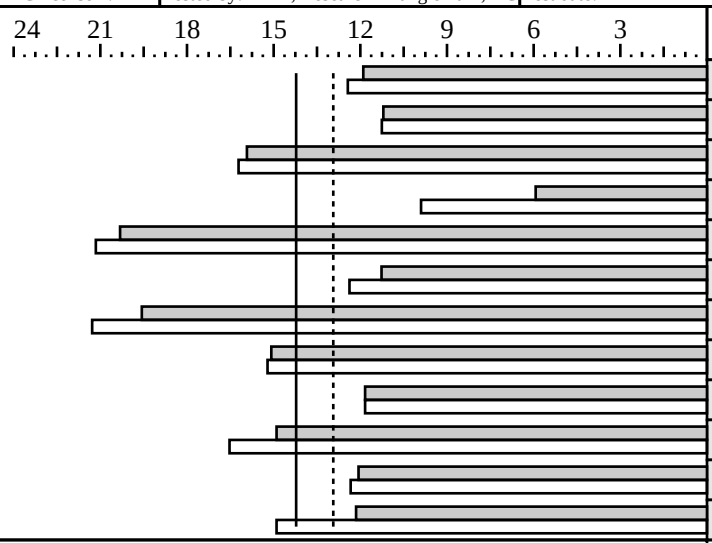
IBM

eServer 325, 2.0 GHz Opteron, gcc, 64-bit SuSE SLES8 Linux

SPECint_rate2000 = 14.2

SPECint_rate_base2000 = 12.9

SPEC license #: 11 | Tested by: IBM, Research Triangle Park, NC | Test date: Aug-2003 | Hardware Avail: Oct-2003 | Software Avail: Jul-2003



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	1	136	11.9	1	131	12.4
175.vpr	1	145	11.2	1	144	11.3
176.gcc	1	80.1	15.9	1	78.7	16.2
181.mcf	1	352	5.93	1	211	9.90
186.crafty	1	57.1	20.3	1	54.8	21.2
197.parser	1	185	11.3	1	169	12.4
252.eon	1	77.1	19.6	1	70.9	21.3
253.perlbmk	1	138	15.1	1	137	15.2
254.gap	1	108	11.8	1	108	11.8
255.vortex	1	148	14.9	1	133	16.5
256.bzip2	1	144	12.1	1	141	12.3
300.twolf	1	286	12.1	1	234	14.9

Hardware

CPU:	AMD Opteron 246
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 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:	2 x 512MB PC2700 Reg ECC DDR SDRAM CL2.5
Disk Subsystem:	1 x 36GB 10Krpm SCSI
Other Hardware:	None

Software

Operating System:	SuSE Linux 8.0 SLES 64 bit Kernel 2.4.19-249 (SP2)
Compiler:	SuSE gcc33 optional compiler (from SLES8 SP2)
File System:	Linux/reiserfs
System State:	Multi-user SuSE Run level 5

Notes/Tuning Information

```
Tested by IBM Corporation
  gcc is the SuSE optional gcc33 package C compiler (from SLES8 SP2)
  +FDO: PASS1=-fprofile-arcs PASS2=-fbranch-probabilities
  ONESTEP is used for all base runs
  Portability:      PORTABILITY=-DSPEC_CPU2000_LP64 is applied to all benchmarks
  (affecting only 176.gcc, 252.eon, 253.perlbmk, 254.gap, and 255.vortex)
    176.gcc:        Approved src.alt is used
    186.crafty:     CPORTABILITY=-DLINUX_i386
    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 +FD0
  Baseline C++:     g++ -O3 -funroll-all-loops +FD0
  Peak tuning:
    164.gzip:       -O3 -funroll-all-loops -finline-limit=900 -freduce-all-givs +FDO
    175.vpr:        -O3 -funroll-loops -finline-limit=1000 +FDO
```

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Notes/Tuning Information (Continued)

```
    176.gcc:        -O3 -funroll-all-loops -finline-limit=900 +FDO
    181.mcf:        -O3 -funroll-all-loops -m32 +FDO
                    ONESTEP=yes
    186.crafty:     -O3 -funroll-loops -fprefetch-loop-arrays
    197.parser:     -O3 -funroll-all-loops -m32 +FDO
                    ONESTEP=yes
    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 -static -finline-limit=2000 -m32 +FDO
  Set the following BIOS parameters:
    DRAM Interleave = AUTO
    Node Interleave = Disabled
    ACPI SRAT       = Disabled
  Only 1 CPU installed in system
```