CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

IBM

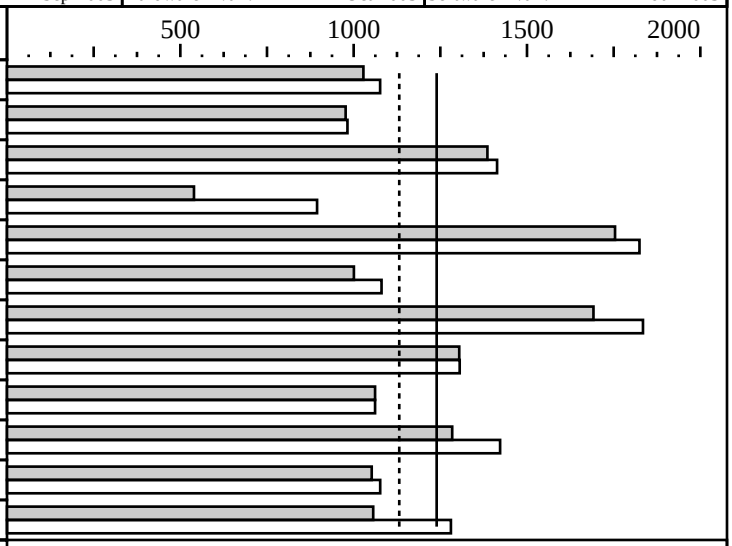
eServer 325, 2.0 GHz Opteron, gcc, 64-bit SuSE SLES8 Linux

SPECint2000 = 1239

SPECint_base2000 = 1132

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
164.gzip	1400	136	1028	130	1076
175.vpr	1400	143	977	143	982
176.gcc	1100	79.4	1386	77.8	1414
181.mcf	1800	334	539	201	894
186.crafty	1000	57.0	1754	54.8	1824
197.parser	1800	180	1001	167	1080
252.eon	1300	76.8	1692	70.9	1835
253.perlbmk	1800	138	1305	138	1306
254.gap	1100	104	1062	104	1062
255.vortex	1900	148	1284	134	1422
256.bzip2	1500	143	1052	139	1077
300.twolf	3000	284	1056	234	1281



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:	4x512MB PC2700 Reg ECC DDR SDRAM CL2.5
Disk Subsystem:	1 x 40GB IDE
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
```

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

```
    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
                    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
```