



CINT2000 Result

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IBM Corporation
IBM System p5 520Q (1650 Mhz, 1 CPU, SLES)

SPECint2000 = **1302**
SPECint_base2000 = **1255**

SPEC license #: 11 | Tested by: IBM Austin | Test date: Oct-2006 | Hardware Avail: Aug-2006 | Software Avail: Dec-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	179	782	179	782	
175.vpr	1400	119	1172	119	1172	
176.gcc	1100	78.8	1396	78.8	1396	
181.mcf	1800	61.4	2930	61.4	2930	
186.crafty	1000	98.6	1014	79.7	1254	
197.parser	1800	196	916	176	1021	
252.eon	1300	101	1288	99.7	1304	
253.perlbnk	1800	222	812	199	904	
254.gap	1100	97.2	1132	97.2	1132	
255.vortex	1900	88.9	2136	88.9	2136	
256.bzip2	1500	128	1174	128	1174	
300.twolf	3000	204	1471	204	1471	

Hardware

CPU: POWER5+
 CPU MHz: 1650
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (SMT off)
 CPU(s) orderable: 4 core
 Parallel: No
 Primary Cache: 64 KB I + 32 KB D on chip per core
 Secondary Cache: 1920 KB I+D on chip per chip
 L3 Cache: 36 MB I+D off chip per chip
 Other Cache: None
 Memory: 16 GB (8x2GB)
 Disk Subsystem: 1x73GB SCSI, 15K RPM
 Other Hardware: None

Software

Operating System: SLES
 SUSE Linux Enterprise Server 10 (ppc) VERSION = 10
 w/2.6.16.21-0.8-ppc64 Linux kernel
 Compiler: IBM XL C/C++ Advanced Edition V8.0.1 for Linux
 File System: reiserfs
 System State: Multi-User

Notes/Tuning Information

+FDO

Feedback directed optimization enabled by: PASS1=-qpdf1 PASS2=-qpdf2

Integer suite

C: invoked as cc
C++: invoked as xlc

Integer Portability Flags:

176.gcc: -DHOST_WORDS_BIG_ENDIAN
 186.crafty: -DLINUX_PPC32
 252.eon: -DHAS_ERRLIST
 253.perlbnk: -DSPEC_CPU2000_LINUX_PPC32 -DSPEC_CPU2000_NEED_BOOL
 254.gap: -DSYS_IS_USG -DSYS_HAS_IOCTL_PROTO -DSYS_HAS_CALLOC_PROTO
 300.twolf: -DHAVE_SIGNED_CHAR

Additional Peak Portability Flags:

252.eon: -DSPEC_CPU2000_LP64 (for 64-bit compilation)
 253.perlbnk: -DSPEC_CPU2000_LP64 (for 64-bit compilation)

Integer Base Optimization Flags:



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SPECint2000 = 1302

SPECint_base2000 = 1255

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Notes/Tuning Information (Continued)

C: +FDO -O5
C++: +FDO -O5

Integer Peak Optimization Flags

```
164.gzip
  basepeak=1
175.vpr
  basepeak=1
176.gcc
  basepeak=1
181.mcf
  basepeak=1
186.crafty
  +FDO -O4 -qarch=pwr4 -qtune=pwr4 -q64
197.parser
  +FDO -O5 -qstaticlink
252.eon
  +FDO -O5 -q64
253.perlbnk:
  +FDO -O5 -q64
254.gap
  basepeak=1
255.vortex
  basepeak=1
256.bzip2
  basepeak=1
300.twolf
  basepeak=1
```

System Settings:

```
-- ulimit stack size set to unlimited
```

SMT: Acronym for 'Simultaneous Multi-Threading'. A processor technology that allows the simultaneous execution of multiple thread contexts within a single processor core. SMT is enabled by default.

Large pages reserved as follows by root user:

```
echo 30 > /proc/sys/vm/nr_hugepages
```

System configured with libhugetlbfs library for application access to large pages

Environment variables set as follows:

```
export HUGETLB_MORECORE=yes
export LD_PRELOAD=libhugetlbfs.so
(export LD_PRELOAD=libhugetlbfs.so not used for --action build.)
```

Linux booted with the options:

```
maxcpus=1 smt-enabled=off
```

Each process was bound to a cpu using submit= with the taskset command

```
submit = taskset -p -c \${SPECUSERNUM} \${\$} >/dev/null ; \$command
```