



# CINT2000 Result

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**IBM Corporation**  
IBM System p5 550Q (1650 Mhz, 8 CPU, SLES)

SPECint\_rate2000 = **136**  
SPECint\_rate\_base2000 = **133**

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	16	273	95.2	16	273	95.2
175.vpr	16	221	118	16	221	118
176.gcc	16	135	152	16	135	152
181.mcf	16	173	193	16	173	193
186.crafty	16	177	105	16	143	130
197.parser	16	310	108	16	288	116
252.eon	16	168	144	16	172	140
253.perlbnk	16	322	104	16	326	102
254.gap	16	155	132	16	155	132
255.vortex	16	166	212	16	166	212
256.bzip2	16	197	141	16	197	141
300.twolf	16	408	137	16	408	137

### Hardware

CPU: POWER5+  
 CPU MHz: 1650  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip (SMT on)  
 CPU(s) orderable: 4,8 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: 32 GB (16x2GB)  
 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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## 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 480 > /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.)

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

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