



# CINT2000 Result

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**IBM Corporation**  
IBM System p5 510 (2100 Mhz, 1 CPU, SLES)

SPECint2000 = **1655**  
SPECint\_base2000 = **1594**

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	141	994	141	994	
175.vpr	1400	93.9	1491	93.9	1491	
176.gcc	1100	62.0	1774	62.0	1774	
181.mcf	1800	48.3	3725	48.3	3725	
186.crafty	1000	77.5	1290	62.7	1595	
197.parser	1800	155	1165	139	1297	
252.eon	1300	80.0	1625	78.3	1660	
253.perlbnk	1800	175	1027	156	1150	
254.gap	1100	76.9	1430	76.9	1430	
255.vortex	1900	70.1	2709	70.1	2709	
256.bzip2	1500	99.5	1507	99.5	1507	
300.twolf	3000	160	1869	160	1869	

### Hardware

CPU: POWER5+  
 CPU MHz: 2100  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (SMT off)  
 CPU(s) orderable: 1,2 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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## 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
```

This result was measured on an IBM System p5 510. IBM System p5 505 and IBM System



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## Notes/Tuning Information (Continued)

p5 510 (2-core version) are electronically equivalent.