



# CINT2000 Result

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IBM Corporation  
IBM System p5 575 (2200 MHz, 1 CPU)

SPECint2000 = 1765  
SPECint\_base2000 = 1705

SPEC license #: 11 | Tested by: IBM | Test date: Dec-2005 | Hardware Avail: Feb-2006 | Software Avail: Feb-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	140	1002	135	1034	
175.vpr	1400	93.9	1492	92.0	1522	
176.gcc	1100	61.0	1803	60.5	1819	
181.mcf	1800	49.5	3640	59.4	3031	
186.crafty	1000	72.9	1371	59.6	1677	
197.parser	1800	117	1534	116	1558	
252.eon	1300	69.7	1864	69.7	1866	
253.perlbmk	1800	159	1131	146	1235	
254.gap	1100	70.7	1555	69.5	1582	
255.vortex	1900	67.4	2818	59.3	3205	
256.bzip2	1500	91.3	1644	87.3	1719	
300.twolf	3000	156	1925	149	2011	

### Hardware

CPU: POWER5+  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 8 chips, 1 core/chip (SMT off)  
 CPU(s) orderable: 8,16  
 Parallel: No  
 Primary Cache: 64KBI+32KBD (on chip)/core  
 Secondary Cache: 1920KB unified, shared (on chip)/chip  
 L3 Cache: 36MB unified (off-chip)/DCM, 8 DCMs/SUT  
 Other Cache: None  
 Memory: 64x512MB  
 Disk Subsystem: 2x73GB SCSI, 15K RPM  
 Other Hardware: None

### Software

Operating System: AIX 5L V5.3  
 Compiler: XL C/C++ Enterprise Edition Version 8.0 for AIX  
 File System: AIX/JFS2  
 System State: Multi-user

## Notes/Tuning Information

### Portability Flags:

```
176.gcc: -ma -DHOST_WORDS_BIG_ENDIAN
186.crafty: -DAIX
253.perlbmk: -DSPEC_CPU2000_AIX
254.gap: -DSYS_IS_BSD -DSYS_STRING_H
          -DSYS_HAS_MALLOC_PROTO -DSYS_HAS_CALLOC_PROTO
300.twolf: -DHAVE_SIGNED_CHAR
```

### Base Optimization Flags:

```
C: -qpdf1/pdf2
   -O5 -blpdata -D_ILS_MACROS
C++: -qpdf1/pdf2
      -O4 -qalign=natural
```

### Peak Optimization Flags

```
164.gzip: -qpdf1/pdf2
          -O4 -qfdpr -blpdata
          fdpr -q -O3
175.vpr: -qpdf1/pdf2
         -O5 -qfdpr -blpdata
```



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## Notes/Tuning Information (Continued)

```

176.gcc:      fdpr -q -O3
              -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -blpdata
181.mcf:      -qpdf1/pdf2
              -O4 -qalign=natural -blpdata
186.crafty:   -qpdf1/pdf2
              -O4 -qalign=natural -q64 -lhm -blpdata
197.parser:   -qpdf1/pdf2
              -O4 -qfdpr -D_ILS_MACROS -blpdata
              fdpr -q -O3
252.eon:      -qpdf1/pdf2
              -O4 -qalign=natural
253.perlbnk:  -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -blpdata -lhm
254.gap:      -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -blpdata
255.vortex:   -qpdf1/pdf2
              -O4 -qfdpr -lhm -blpdata
              fdpr -q -O3
256.bzip2:    -qpdf1/pdf2
              -O5 -qfdpr -blpdata
              fdpr -q -O3
300.twolf:    -O5 -qfdpr -blpdata
              fdpr -q -O3

```

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-04 Recommended Technology Level.

SMT: Acronym for "Simultaneous Multi-Threading". A processor technology that allows the simultaneous execution of multiple thread contexts within a single processor core. (Enabled by default)

DCM: Acronym for "Dual-Chip Module" (one dual-core processor chip + one L3-cache chip)

SUT: Acronym for "System Under Test"

Extended C: IBM XL C for AIX invoked as cc  
C++: IBM XL C for AIX invoked as xlc

ulimits set to unlimited.

Large page mode and memory affinity were set as follows:

```

vmo -r -o lpgg_regions=800 -o lpgg_size=16777216
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
shutdown -rF
export MEMORY_AFFINITY=MCM

```

The following config-file entry was used to assign each benchmark process to a core:

```
submit = bindprocessor \$$ \$$SPECUSERNUM; $command
```

The "bindprocessor" AIX command binds a process to a CPU core.

Seven cores were deconfigured and SMT disabled using the AIX commands

```

smtctl -m off -w boot
bosboot -aD
shutdown -rF
drmgr -r -c cpu
drmgr -r -c cpu
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```



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```
drmgr -r -c cpu  
drmgr -r -c cpu
```