



CINT2000 Result

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IBM Corporation
IBM System p5 520 (1650 MHz, 1 CPU)

SPECint2000 = 1337
SPECint_base2000 = 1288

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	186	751	181	775	
175.vpr	1400	125	1123	122	1146	
176.gcc	1100	80.9	1360	80.2	1372	
181.mcf	1800	64.1	2809	76.7	2346	
186.crafty	1000	97.0	1030	79.6	1257	
197.parser	1800	156	1153	154	1172	
252.eon	1300	91.5	1421	91.5	1420	
253.perlbmk	1800	208	865	185	972	
254.gap	1100	94.6	1163	92.9	1183	
255.vortex	1900	88.9	2137	78.5	2422	
256.bzip2	1500	121	1243	115	1301	
300.twolf	3000	208	1439	199	1507	

Hardware

CPU: POWER5+
 CPU MHz: 1650
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (SMT off)
 CPU(s) orderable: 1,2
 Parallel: No
 Primary Cache: 64KBI+32KBD (on chip)/core
 Secondary Cache: 1920KB unified, shared (on chip)/chip
 L3 Cache: 36MB unified (off-chip)/DCM, 1 DCM/SUT
 Other Cache: None
 Memory: 8x2GB
 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=200 -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.

One core was deconfigured and SMT disabled using the AIX commands

```

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

```