



CINT2000 Result

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IBM Corporation

IBM System p5 520Q (1650 MHz, 4 CPU)

SPECint_rate2000 = 70.0

SPECint_rate_base2000 = 68.6

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	8	283	45.8	8	284	45.8
175.vpr	8	219	59.2	8	219	59.2
176.gcc	8	128	79.5	8	128	79.5
181.mcf	8	172	97.4	8	169	99.0
186.crafty	8	170	54.5	8	143	65.0
197.parser	8	258	64.8	8	257	64.9
252.eon	8	148	81.2	8	148	81.3
253.perlbnk	8	316	52.9	8	301	55.5
254.gap	8	159	64.0	8	162	63.1
255.vortex	8	161	109	8	157	112
256.bzip2	8	189	73.8	8	182	76.3
300.twolf	8	425	65.5	8	439	63.4

Hardware

CPU: POWER5+
CPU MHz: 1650
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip (SMT on)
CPU(s) orderable: 4 cores
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, 2 chips per SUT
Other Cache: None
Memory: 16 GB (8x2 GB)
Disk Subsystem: 1x73GB SCSI, 15K RPM
Other Hardware: None

Software

Operating System: AIX 5L V5.3
Compiler: XL C/C++ Enterprise Edition Version 8.0 for AIX
XL Fortran Enterprise Edition Version 10.1 for AIX
Other Software: ESSL 4.2.0.4
File System: AIX/JFS2
System State: Multi-user

Notes/Tuning Information

Portability Flags:

```
176.gcc: -ma -DHOST_WORDS_BIG_ENDIAN
186.crafty: -DAIX
253.perlbnk: -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: basepeak=1
176.gcc: basepeak=1
```



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Notes/Tuning Information (Continued)

```

181.mcf:      -qpdf1/pdf2
              -O5 -blpdata -qalign=natural -qhot=arraypad -qfdpr -Q -qmaxmem=-1
              fdpr -q -O3
186.crafty:   -qpdf1/pdf2
              -O4 -qalign=natural -q64 -lhmu -blpdata
197.parser:   -qpdf1/pdf2
              -O4 -qfdpr -D_ILS_MACROS -blpdata
              fdpr -q -O3
252.eon:      -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural
253.perlbnk:  -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -blpdata -lhmu
254.gap:      -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -blpdata
255.vortex:   -qpdf1/pdf2
              -O4 -qfdpr -lhmu -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 5300-05 Recommended Technology Level.
 The installed C/C++ compiler is XL C/C++ Enterprise Edition Version 8.0 for AIX with the March 2006 PTF.
 The installed Fortran copiler is XL Fortran Enterprise Edition Version 10.1 with the May 2006 AIX PTF.

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)

SUT: Acronym for "System Under Test"

PTF: IBM identifier for "Program Fix Level"

```

Extended C:   IBM XL C for AIX invoked as cc
ANSI C89:     IBM XL C for AIX invoked as xlc
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
bosboot -aD
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.

This result was measured on an IBM System p5 505Q. IBM System p5 505Q and IBM System p5 520Q are electronically equivalent.