



CINT2000 Result

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IBM Corporation

IBM BladeCenter JS21 (2500 MHz, 4 CPU)

SPECint_rate2000 = 67.5

SPECint_rate_base2000 = 64.2

SPEC license #: 11 | Tested by: IBM | Test date: Jan-2006 | Hardware Avail: Mar-2006 | Software Avail: Mar-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	132	49.0	4	119	54.6
175.vpr	4	147	44.2	4	146	44.6
176.gcc	4	69.7	73.2	4	69.7	73.2
181.mcf	4	167	50.0	4	165	50.6
186.crafty	4	72.6	63.9	4	58.8	78.8
197.parser	4	128	65.3	4	127	65.9
252.eon	4	61.1	98.7	4	61.1	98.7
253.perlbnk	4	141	59.3	4	132	63.2
254.gap	4	80.1	63.7	4	78.9	64.7
255.vortex	4	83.2	106	4	75.2	117
256.bzip2	4	137	50.8	4	132	52.5
300.twolf	4	190	73.4	4	182	76.4

Hardware

CPU: IBM PowerPC 970MP
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 4
 Parallel: No
 Primary Cache: 64KBI+32KBD (on chip)/core
 Secondary Cache: 1MB unified (on chip)/core
 L3 Cache: None
 Other Cache: None
 Memory: 4x2GB PC2-4200 533MHz ECC Chipkill DDR2
 Disk Subsystem: 2x 73GB 10,000 rpm 2.5" SFF Serial Attached SCSI
 Other Hardware: BladeCenter H

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.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
          -O5 -qalign=natural -qfdpr -Q -qmaxmem=-1 -q64 -blpdata -lhmu -qenablevmx
          fdpr -q -O3
175.vpr: -qpdf1/pdf2
          -O5 -qalign=natural -qfdpr -Q -qmaxmem=-1 -blpdata -lhmu
```



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Notes/Tuning Information (Continued)

```

fdpr -q -O3
176.gcc: basepeak=1
181.mcf: -qpdf1/pdf2
        -O5 -qalign=natural -qfdpr -Q -qmaxmem=-1 -blpdata
186.crafty: fdpr -q -O3
           -qpdf1/pdf2
           -O5 -qfdpr -q64 -lhmu
197.parser: fdpr -q -O3
           -qpdf1/pdf2
           -O4 -qfdpr -D_ILS_MACROS -blpdata
           fdpr -q -O3
252.eon: basepeak=1
253.perlbnk: -qpdf1/pdf2
            -O4 -qalign=natural -D_ILS_MACROS -blpdata -lhmu -qenablevmx
254.gap: -qpdf1/pdf2
         -O5 -D_ILS_MACROS -blpdata -lhmu -qenablevmx
255.vortex: -qpdf1/pdf2
            -O4 -qfdpr -blpdata -lhmu
            fdpr -q -O3
256.bzip2: -qpdf1/pdf2
           -O5 -qfdpr -blpdata
           fdpr -q -O3
300.twolf: -qpdf1/pdf2
           -O4 -qfdpr -qarch=pwr3 -qtune=pwr3 -blpdata
           fdpr -q -O3

```

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

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.