



# CINT2000 Result

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IBM Corporation  
IBM System p5 505 (1650 MHz, 2 CPU)

SPECint\_rate2000 = 34.1  
SPECint\_rate\_base2000 = 33.5

SPEC license #: 11 | Tested by: IBM | Test date: Sep-2005 | Hardware Avail: Oct-2005 | Software Avail: Oct-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	280	23.2	4	279	23.3
175.vpr	4	239	27.2	4	241	27.0
176.gcc	4	137	37.3	4	137	37.3
181.mcf	4	176	47.4	4	173	48.2
186.crafty	4	177	26.2	4	177	26.2
197.parser	4	260	32.1	4	257	32.5
252.eon	4	154	39.1	4	152	39.8
253.perlbnk	4	315	26.5	4	289	28.9
254.gap	4	155	33.0	4	156	32.8
255.vortex	4	162	54.5	4	151	58.2
256.bzip2	4	195	35.6	4	190	36.7
300.twolf	4	432	32.2	4	432	32.2

### Hardware

CPU: POWER5  
 CPU MHz: 1650  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip (SMT on)  
 CPU(s) orderable: 2  
 Parallel: None  
 Primary Cache: 64KBI+32KBD (on chip)/core  
 Secondary Cache: 1920KB unified (on chip)/chip  
 L3 Cache: 36MB unified (off-chip)/DCM, 1 DCM/SUT  
 Other Cache: None  
 Memory: 8x2GB  
 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  
 File System: AIX/JFS2  
 System State: Multi-user

## Notes/Tuning Information

#### Portability Flags:

```
176.gcc: -ma -DHOST_WORDS_BIG_ENDIAN
186.crafty: -DAIX
252.eon: srcalt=fmax_errno
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
      -O5 -lhuu -qalign=natural
```

#### Peak Optimization Flags

```
164.gzip: -qpdf1/pdf2
          -O5 -qalign=natural -lhuu -blpdata -qfdpr -Q
          fdpr -q -O3
175.vpr: -qpdf1/pdf2
```



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## Notes/Tuning Information (Continued)

```

-05 -lhmu -blpdata -D_ILS_MACROS
176.gcc: basepeak=1
181.mcf: -05 -blpdata -qfdpr
         fdpr -q -03
186.crafty: basepeak=1
197.parser: -qpdf1/pdf2
         -05 -blpdata -D_ILS_MACROS
252.eon: -qpdf1/pdf2
         -04 -qarch=pwr4 -qtune=pwr4 -qalign=natural -D_ILS_MACROS
253.perlbnk: -qpdf1/pdf2
         -05 -lhmu -qalign=natural -blpdata -D_ILS_MACROS
254.gap: -qpdf1/pdf2
         -05 -qalign=natural -lhmu -blpdata -qfdpr -Q
         fdpr -q -03
255.vortex: -qpdf1/pdf2
         -05 -lhmu -blpdata
256.bzip2: -05 -blpdata -qfdpr -D_ILS_MACROS
         fdpr -q -03
300.twolf: basepeak=1

```

Approved alternate-source file 252.eon.fmax\_errno.src.alt.tar.gz was used with 252.eon for POSIX-compatibility.

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-03 Recommended Maintenance package.

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
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=400 -o lpgg_size=16777216
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
reboot -q
export MEMORY_AFFINITY=MCM

```

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

```
submit = let "MYCPU=2*\$SPECUSERNUM"; if (("MYCPU > 3")) then let "MYCPU=3"; fi; bindprocessor \$\$ \$MYCPU; $command
```

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

Use flags-description file IBM-20050919-AIX.txt.