



# CINT2000 Result

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IBM Corporation  
IBM eServer p5 575 (1900 MHz, 8 CPU)

SPECint\_rate2000 = 167  
SPECint\_rate\_base2000 = 159

SPEC license #: 11 | Tested by: IBM | Test date: Jan-2005 | Hardware Avail: Feb-2005 | Software Avail: Dec-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	16	229	114	16	223	117
175.vpr	16	183	142	16	183	142
176.gcc	16	117	175	16	116	176
181.mcf	16	130	258	16	122	275
186.crafty	16	155	119	16	117	158
197.parser	16	224	149	16	225	149
252.eon	16	127	190	16	125	194
253.perlbnk	16	287	116	16	265	126
254.gap	16	143	143	16	137	149
255.vortex	16	154	229	16	144	245
256.bzip2	16	165	168	16	164	170
300.twolf	16	337	165	16	337	165

### Hardware

CPU: POWER5  
 CPU MHz: 1900  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 8 chips, 1 core/chip (SMT on)  
 CPU(s) orderable: 8  
 Parallel: no  
 Primary Cache: 64KBI+32KBD (on chip)  
 Secondary Cache: 1920KB unified (on chip)  
 L3 Cache: 36MB unified (off-chip)/DCM, 8 DCM/SUT  
 Other Cache: None  
 Memory: 32 GB  
 Disk Subsystem: 2x36GB SCSI, 15K RPM  
 Other Hardware: None

### Software

Operating System: AIX 5L V5.3  
 Compiler: XL C/C++ Enterprise Edition Version 7.0 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
-I.
253.perlbnk: -DSPEC_CPU2000_AIX
254.gap: -DSYS_IS_BSD -DSYS_STRING_H -DSYS_HAS_TIME_PROTO
-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 -lhm -qalign=natural
```

### Peak Optimization Flags

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



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## Notes/Tuning Information (Continued)

```

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

```

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

APAR IY62267 was applied to AIX 5L V5.3 to achieve Maintenance Level 1.

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) For the 575, only one core is active per chip.

SUT: Acronym for "System Under Test"

ulimits set to unlimited.

Large page mode and memory affinity were set as follows:

```

vmo -r -o lgpg_regions=1664 -o lgpg_size=16777216 -o memory_affinity=1
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 > 15")) then let "MYCPU=15"; fi; bindprocessor \$\$ \$MYCPU; $command
```

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