



# CINT2000 Result

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IBM Corporation  
IBM eServer p5 570 (1900 MHz, 16 CPU)

SPECint\_rate2000 = 294  
SPECint\_rate\_base2000 = 273

SPEC license #: 11 | Tested by: IBM | Test date: Jun-2004 | Hardware Avail: Sep-2004 | Software Avail: Aug-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	32	237	220	32	237	220
175.vpr	32	223	233	32	223	233
176.gcc	32	126	324	32	126	324
181.mcf	32	206	324	32	210	318
186.crafty	32	169	220	32	124	300
197.parser	32	389	172	32	254	263
252.eon	32	137	352	32	137	352
253.perlbnk	32	298	224	32	271	247
254.gap	32	149	273	32	143	286
255.vortex	32	160	441	32	152	464
256.bzip2	32	178	313	32	176	317
300.twolf	32	397	281	32	400	279

### Hardware

CPU: POWER5  
 CPU MHz: 1900  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 8 chips, 2 cores/chip (SMT on)  
 CPU(s) orderable: 2,4,8,12,16  
 Parallel: No  
 Primary Cache: 64KBI+32KBD (on chip)/core  
 Secondary Cache: 1920KB unified (on chip)/chip  
 L3 Cache: 36MB unified (off chip)/DCM, 8 DCM/SUT  
 Other Cache: none  
 Memory: 64x1 GB DDR2  
 Disk Subsystem: 1x36GB SCSI, 15K RPM  
 Other Hardware:

### 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. -DNDEBUG
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 -qalign=natural
C++: -qpdf1/pdf2
      -O5 -lhm -qalign=natural
```

### Peak Optimization Flags

```
164.gzip: -qpdf1/pdf2
```



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## Notes/Tuning Information (Continued)

```

-04 -qarch=pwr4 -qtune=pwr4 -qalign=natural -D_ILS_MACROS
"CC=xlc"
175.vpr:      basepeak = 1
176.gcc:      basepeak = 1
181.mcf:      fdpr -quiet -R3
              -05 -blpdata -qfdpr
186.crafty:   -qpdf1/pdf2
              fdpr -quiet -R3
              -04 -q64 -qfdpr -qarch=pwr3 -qtune=pwr3 -D_ILS_MACROS
197.parser:   -qpdf1/pdf2
              fdpr -quiet -R3
              -04 -blpdata -D_ILS_MACROS -qfdpr -qarch=pwr3 -qtune=pwr3
252.eon:      basepeak = 1
253.perlbnk:  -qpdf1/pdf2
              -05 -D_ILS_MACROS -lhmu -qalign=natural
254.gap:      -qpdf1/pdf2
              -04 -qarch=pwr4 -qtune=pwr4 -D_ILS_MACROS -lhmu -qalign=natural
255.vortex:   -qpdf1/pdf2
              -05 -lhmu -qalign=natural -D_ILS_MACROS -blpdata
256.bzip2:    -qpdf1/pdf2
              -05 -blpdata -qarch=pwr3 -qtune=pwr3 -qalign=natural
300.twolf:    -05 -lhmu -blpdata -qalign=natural
              "CC = xlc"

```

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

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"

ulimits set to unlimited.

Large page mode and memory affinity were set as follows:

```

vmo -r -o lpgg_regions=400 -o lpgg_size=16777216 -o memory_affinity=1
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
reboot -q
export MEMORY_AFFINITY=MCM

```