



# CINT2000 Result

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IBM Corporation  
IBM eServer p5 595 (1900 MHz, 1 CPU)

SPECint2000 = 1452  
SPECint\_base2000 = 1392

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	159	882	156	897	
175.vpr	1400	114	1226	114	1228	
176.gcc	1100	69.6	1581	70.6	1558	
181.mcf	1800	74.5	2417	67.6	2663	
186.crafty	1000	86.0	1163	67.6	1479	
197.parser	1800	145	1244	145	1244	
252.eon	1300	81.5	1594	79.1	1643	
253.perlbmk	1800	184	981	169	1067	
254.gap	1100	86.0	1279	86.2	1276	
255.vortex	1900	88.4	2149	83.0	2290	
256.bzip2	1500	113	1327	118	1271	
300.twolf	3000	193	1555	187	1605	

### Hardware

CPU: POWER5  
CPU MHz: 1900  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip (SMT off)  
CPU(s) orderable: 16,24,32,40,48,56,64  
Parallel: No  
Primary Cache: 64KBI+32KBD (on chip)  
Secondary Cache: 1920KB unified (on chip)  
L3 Cache: 36MB unified (off-chip)/chip, 1 chip/MCM, 8 MCM/SUT  
Other Cache: None  
Memory: 256 GB DDR2  
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.perlbmk: -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 -D_ILS_MACROS -qfdpr
```



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## Notes/Tuning Information (Continued)

```

175.vpr:      -qpdf1/pdf2
              -O5 -blpdata -qalign=natural -qhot=arraypad -Q
176.gcc:      -qpdf1/pdf2
              -O5
181.mcf:      fdpr -q -O3
              -O5 -blpdata -qfdpr -D_ILS_MACROS
186.crafty:   -qpdf1/pdf2
              fdpr -q -O3
              -O4 -q64 -qfdpr -qarch=pwr3 -qtune=pwr3 -D_ILS_MACROS
197.parser:   basepeak=1
252.eon:      -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -D_ILS_MACROS
              CC=xlC
253.perlbnk:  -qpdf1/pdf2
              -O5 -lhmu -qalign=natural
254.gap:      -qpdf1/pdf2
              -O5 -lhmu -qalign=natural -D_ILS_MACROS -blpdata
255.vortex:   -qpdf1/pdf2
              -O5 -lhmu -qalign=natural -D_ILS_MACROS -blpdata
256.bzip2:    fdpr -q -O3
              -O5 -blpdata -D_ILS_MACROS -qfdpr
300.twolf:    fdpr -q -O3
              -O5 -blpdata -qfdpr -D_ILS_MACROS

```

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)

MCM: Acronym for "Multi-Chip Module" (four dual-core processor chips + four L3-cache chips)

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=4096 -o lpgg_size=16777216 -o memory_affinity=1
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
reboot -q
export MEMORY_AFFINITY=MCM

```

One core was deconfigured and SMT disabled at the open-firmware prompt, using the command

```
boot -s cpu=1 -s smt_off
```