



CINT2000 Result

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IBM Corporation
IBM System p5 550Q (1500 MHz, 1 CPU)

SPECint2000 = 1187
SPECint_base2000 = 1156

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
164.gzip	1400	206	678	206	678
175.vpr	1400	140	1001	140	1000
176.gcc	1100	89.7	1226	89.7	1226
181.mcf	1800	72.2	2494	69.7	2582
186.crafty	1000	108	924	108	924
197.parser	1800	172	1044	172	1045
252.eon	1300	106	1227	102	1279
253.perlbnk	1800	230	781	211	855
254.gap	1100	105	1049	105	1049
255.vortex	1900	99.2	1916	92.2	2062
256.bzip2	1500	133	1129	126	1187
300.twolf	3000	230	1304	223	1343

Hardware

CPU: POWER5+
 CPU MHz: 1500
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (SMT off)
 CPU(s) orderable: 4,8
 Parallel: None
 Primary Cache: 64KBI+32KBD (on chip)/core
 Secondary Cache: 1920KB unified (on chip)/chip
 L3 Cache: 2x36MB unified (off-chip)/QCM, 2 QCM/SUT
 Other Cache: None
 Memory: 16x4GB
 Disk Subsystem: 1x36GB 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 -lhm -qalign=natural
```

Peak Optimization Flags

```
164.gzip: basepeak=1
175.vpr: -qpdf1/pdf2
         -O5 -lhm -blpdata -D_ILS_MACROS
176.gcc: basepeak=1
```



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Notes/Tuning Information (Continued)

```

181.mcf:      -O5 -blpdata -qfdpr
              fdpr -q -O3
186.crafty:  basepeak=1
197.parser:  -qpdf1/pdf2
              -O5 -blpdata -D_ILS_MACROS
252.eon:     -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -D_ILS_MACROS
253.perlbnk: -qpdf1/pdf2
              -O5 -lhmu -qalign=natural -blpdata -D_ILS_MACROS
254.gap:     basepeak=1
255.vortex:  -qpdf1/pdf2
              -O5 -lhmu -blpdata
256.bzip2:   -O5 -blpdata -qfdpr -D_ILS_MACROS
              fdpr -q -O3
300.twolf:   -O5 -blpdata -qfdpr -D_ILS_MACROS
              fdpr -q -O3

```

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)

QCM: Acronym for "Quad-Core Module" (two dual-core processor chips + two L3-cache chips)

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=1600 -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 > 15")) then let "MYCPU=15"; fi; bindprocessor \$\$ \$MYCPU; $command
```

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

Seven cores were deconfigured and SMT disabled at the open-firmware prompt, using the command

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

Use flags-description file IBM-20051013-AIX.txt.