



CINT2000 Result

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IBM Corporation
IBM System p5 520 (1900 MHz, 1 CPU)

SPECint2000 = 1513
SPECint_base2000 = 1470

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	163	860	163	860	
175.vpr	1400	112	1249	112	1247	
176.gcc	1100	70.7	1556	70.7	1556	
181.mcf	1800	58.8	3062	54.2	3321	
186.crafty	1000	85.0	1177	85.0	1177	
197.parser	1800	137	1316	137	1316	
252.eon	1300	82.6	1574	79.9	1627	
253.perlbnk	1800	172	1047	158	1139	
254.gap	1100	82.7	1331	82.7	1331	
255.vortex	1900	75.7	2511	70.6	2693	
256.bzip2	1500	106	1412	101	1484	
300.twolf	3000	182	1650	176	1703	

Hardware

CPU: POWER5+
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (SMT off)
 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 -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:   -qpdl1/pdf2
              -O5 -blpdata -D_ILS_MACROS
252.eon:      -qpdl1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -D_ILS_MACROS
253.perlbnk:  -qpdl1/pdf2
              -O5 -lhmu -qalign=natural -blpdata -D_ILS_MACROS
254.gap:      basepeak=1
255.vortex:   -qpdl1/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)

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.

One core was 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.