CINT2000 Result

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IBM Corporation

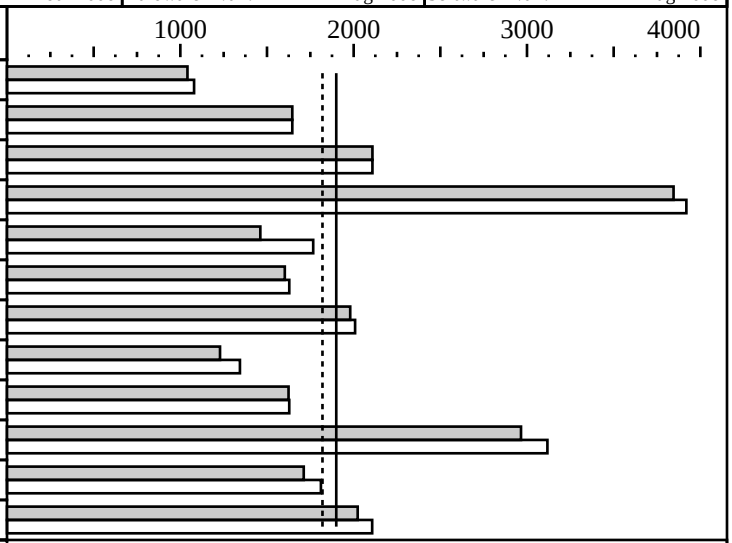
IBM System p5 595 (2300 MHz, 1 CPU)

SPECint2000 = 1900

SPECint_base2000 = 1820

SPEC license #: 11 | Tested by: IBM Austin | Test date: Jul-2006 | Hardware Avail: Aug-2006 | Software Avail: Aug-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
164.gzip	1400	134	1041	130	1079
175.vpr	1400	85.1	1646	85.1	1646
176.gcc	1100	52.2	2108	52.2	2108
181.mcf	1800	46.8	3846	45.9	3919
186.crafty	1000	68.4	1461	56.6	1767
197.parser	1800	112	1603	111	1628
252.eon	1300	65.7	1980	64.7	2008
253.perlbmk	1800	146	1229	134	1344
254.gap	1100	67.7	1624	67.6	1628
255.vortex	1900	64.1	2965	60.9	3118
256.bzip2	1500	87.6	1712	82.8	1811
300.twolf	3000	148	2023	142	2107



Hardware

CPU:	POWER5+
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 2 cores/chip (SMT off)
CPU(s) orderable:	16,32,48,64 cores
Parallel:	No
Primary Cache:	64 KB I + 32 KB D on chip per core
Secondary Cache:	1920 KB I+D on chip per chip
L3 Cache:	36 MB I+D off chip per chip
Other Cache:	None
Memory:	256 GB (64x4 GB)
Disk Subsystem:	2x73GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition Version 8.0 for AIX XL Fortran Enterprise Edition Version 10.1 for AIX Other Software: ESSL 4.2.0.4
File System:	AIX/JFS2
System State:	Multi-user

Notes/Tuning Information

```
Portability Flags:
  176.gcc:      -ma -DHOST_WORDS_BIG_ENDIAN
  186.crafty:   -DAIX
  253.perlbmk:  -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
        -O4 -qalign=natural

Peak Optimization Flags
  164.gzip:     -qpdf1/pdf2
                -O4 -qfdpr -blpdata
                fdpr -q -O3
  175.vpr:      basepeak=1
  176.gcc:      basepeak=1
```

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Notes/Tuning Information (Continued)

```
  181.mcf:      -qpdf1/pdf2
                -O5 -blpdata -qalign=natural -qhot=arraypad -qfdpr -Q -qmaxmem=-1
                fdpr -q -O3
  186.crafty:   -qpdf1/pdf2
                -O4 -qalign=natural -q64 -lhmu -blpdata
  197.parser:   -qpdf1/pdf2
                -O4 -qfdpr -D_ILS_MACROS -blpdata
                fdpr -q -O3
  252.eon:      -qpdf1/pdf2
                -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural
  253.perlbmk:  -qpdf1/pdf2
                -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -blpdata -lhmu
  254.gap:      -qpdf1/pdf2
                -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -blpdata
  255.vortex:   -qpdf1/pdf2
                -O4 -qfdpr -lhmu -blpdata
                fdpr -q -O3
  256.bzip2:    -qpdf1/pdf2
                -O5 -qfdpr -blpdata
                fdpr -q -O3
  300.twolf:    -O5 -qfdpr -blpdata
                fdpr -q -O3
```

The installed OS level is AIX 5L for POWER Version 5.3 with the 5300-05 Recommended Technology Level.
The installed C/C++ compiler is XL C/C++ Enterprise Edition Version 8.0 for AIX with the March 2006 PTF.
The installed Fortran copiler is XL Fortran Enterprise Edition Version 10.1 with the May 2006 AIX PTF.

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)
SUT: Acronym for "System Under Test"
PTF: IBM identifier for "Program Fix Level"

```
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 lgpg_regions=8192 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    bosboot -aD
    shutdown -rF
    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 > 127")) then let "MYCPU-=127"; fi; bindprocessor $$ $MYCPU; $command
```

The "bindprocessor" AIX command binds a process to a CPU core.
Sixty-three cores were deconfigured and SMT disabled at the open-firmware prompt, using the command

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