CINT2000 Result

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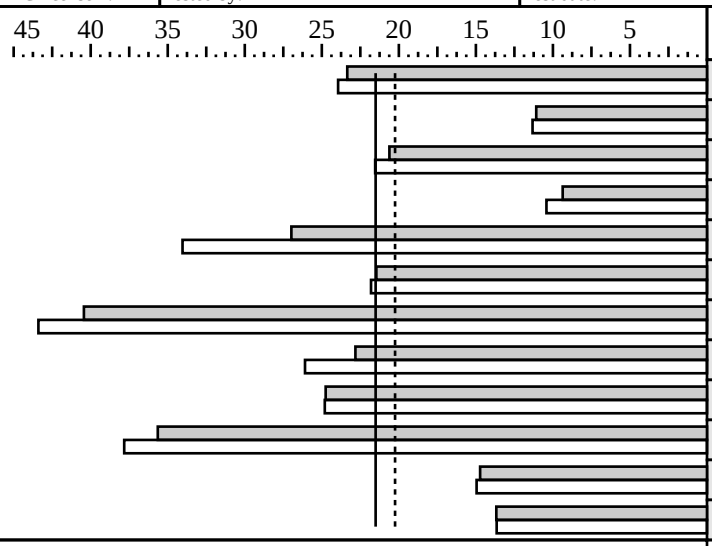
IBM Corporation

IBM eServer BladeCenter JS20 (2200 MHz, 2 CPU)

SPECint_rate2000 = 21.5

SPECint_rate_base2000 = 20.2

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	139	23.3	2	136	23.9
175.vpr	2	293	11.1	2	287	11.3
176.gcc	2	124	20.6	2	118	21.5
181.mcf	2	446	9.37	2	401	10.4
186.crafty	2	86.0	27.0	2	68.2	34.0
197.parser	2	195	21.5	2	192	21.8
252.eon	2	74.6	40.4	2	69.5	43.4
253.perlbmk	2	183	22.8	2	160	26.1
254.gap	2	103	24.7	2	103	24.8
255.vortex	2	124	35.6	2	117	37.8
256.bzip2	2	236	14.7	2	233	15.0
300.twolf	2	509	13.7	2	510	13.7

Hardware

CPU:	PowerPC 970
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	2 cores, 2 chips, 1 core/chip
CPU(s) orderable:	1,2
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip)/chip
Secondary Cache:	512KB unified (on chip)/chip
L3 Cache:	None
Other Cache:	None
Memory:	4x1 GB
Disk Subsystem:	1x40GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition V7.0 for AIX
File System:	AIX/JFS2
System State:	Multi-user

Notes/Tuning Information

```
Tested by IBM
  Portability Flags:
    176.gcc:          EXTRA_CFLAGS=-ma -DHOST_WORDS_BIG_ENDIAN
    186.crafty:       EXTRA_CFLAGS=-DAIX
    252.eon:          EXTRA_LDFLAGS=-I.
    253.perlbmk:      EXTRA_CFLAGS=-DSPEC_CPU2000_AIX
    254.gap:          EXTRA_CFLAGS=-DSYS_IS_BSD -DSYS_STRING_H -DSYS_HAS_TIME_PROTO
                                   -DSYS_HAS_MALLOC_PROTO -DSYS_HAS_CALLOC_PROTO
    300.twolf:        EXTRA_CFLAGS=-DHAVE_SIGNED_CHAR

  Base Optimization Flags:
    C:      -qpdf1/pdf2
            -O5 -blpdata -D_ILS_MACROS
    C++:    -qpdf1/pdf2
            -O5 -lhmu -qalign=natural

  Alternate Sources for Base & Peak:
    Approved alternate-source file 252.eon.fmax_errno.src.alt.tar.gz
    was used with 252.eon for POSIX-compatibility.
```

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Notes/Tuning Information (Continued)

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Peak Optimization Flags:
   164.gzip:       -qpdf1/pdf2
                   -O5 -blpdata -D_ILS_MACROS -qfdpr
                   fdpr -R3
   175.vpr:        -qpdf1/pdf2
                   -O5 -lhmu -qalign=natural -D_ILS_MACROS -blpdata
   176.gcc:        -qpdf1/pdf2
                   -O5 -blpdata -D_ILS_MACROS -qfdpr
                   fdpr -R3
   181.mcf:        -O5 -lhmu -blpdata -qalign=natural
                   CC=xlc
   186.crafty:     -qpdf1/pdf2
                   -O4 -q64 -qfdpr -qarch=pwr3 -qtune=pwr3 -D_ILS_MACROS
                   fdpr -R3
   197.parser:     -qpdf1/pdf2
                   -O5 -blpdata -D_ILS_MACROS -qfdpr
                   fdpr -R3
   252.eon:        -qpdf1/pdf2
                   -O4 -qarch=auto -qtune=auto -qalign=natural -lhmu
   253.perlbmk:    -qpdf1/pdf2
                   -O5 -lhmu -qalign=natural
   254.gap:        -qpdf1/pdf2
                   -O5 -blpdata -D_ILS_MACROS -qfdpr
                   fdpr -R3
   255.vortex:     -qpdf1/pdf2
                   -O5 -blpdata -D_ILS_MACROS -qfdpr
                   fdpr -R3
   256.bzip2:      -qpdf1/pdf2
                   -O5 -blpdata -D_ILS_MACROS -qfdpr
                   fdpr -R3
   300.twolf:      -qpdf1/pdf2
                   -O4 -qarch=auto -qtune=auto -qalign=natural
                   fdpr -R3


C:   IBM XL C for AIX invoked as xlc
C++: IBM VAC++ invoked as xlC

APAR IY 62532 was applied to AIX to enable new hardware support.
ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
   vmo -r -o lgpg_regions=200 -o lgpg_size=16777216 -o memory_affinity=1
   chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
   shutdown -r
   export MEMORY_AFFINITY=MCM
The following config-file entry was used to assign each benchmark process to a core:
   submit = let "MYCPU=$SPECUSERNUM"; bindprocessor $$ $MYCPU; $command
The "bindprocessor" AIX command binds a process to a CPU core.
```