CINT2000 Result

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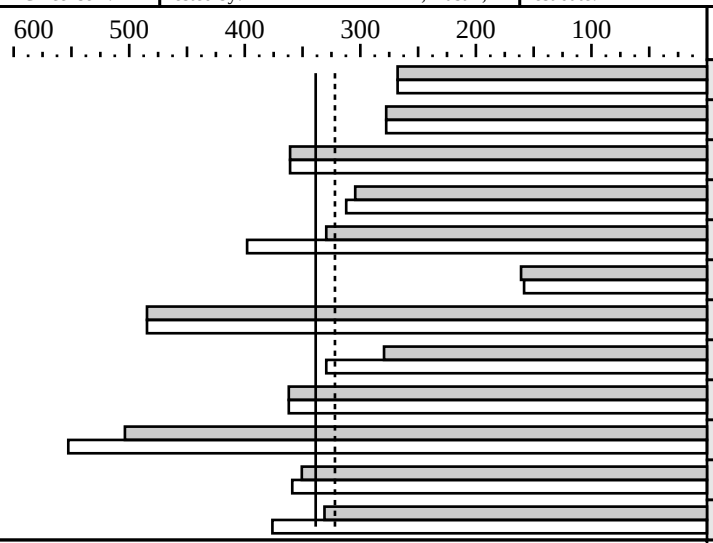
IBM Corporation

IBM eServer pSeries 690 Turbo (1700 MHz, 32 CPU)

SPECint_rate2000 = 339

SPECint_rate_base2000 = 322

SPEC license #: 11 | Tested by: IBM, Austin, TX | Test date: Apr-2003 | Hardware Avail: May-2003 | Software Avail: May-2003



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	32	194	268	32	194	268
175.vpr	32	187	278	32	187	278
176.gcc	32	113	361	32	113	361
181.mcf	32	219	304	32	214	312
186.crafty	32	113	329	32	93.3	398
197.parser	32	415	161	32	422	158
252.eon	32	99.6	485	32	99.6	485
253.perlbmk	32	239	279	32	203	329
254.gap	32	113	362	32	113	362
255.vortex	32	140	504	32	128	553
256.bzip2	32	159	351	32	155	359
300.twolf	32	336	331	32	296	376

Hardware

CPU:	POWER4+
CPU MHz:	1700
FPU:	Integrated
CPU(s) enabled:	32 cores, 16 chips, 2 cores/chip, 4 chips/MCM
CPU(s) orderable:	1,2,3,4 (order by # MCM)
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip) per core
Secondary Cache:	1536KB unified (on chip) per chip
L3 Cache:	128MB unified (off-chip) per MCM, 4 MCMs in SUT (4 chips per MCM)
Other Cache:	None
Memory:	256 GB
Disk Subsystem:	1x36GB SCSI, 10K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.2
Compiler:	IBM C for AIX, Version 6.0 IBM VisualAge C++ Professional for AIX, Version 6.0
File System:	AIX/JFS
System State:	Multi-User

Notes/Tuning Information

```
Integer Portability Flags:
  176.gcc:     -ma -DHOST_WORDS_BIG_ENDIAN
  186.crafty:  -DAIX
  252.eon:     -DNEED_EXPLICIT_SPECIALIZATION
               -I. -DNDEBUG
  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 -qalign=natural
  C++:
  -qpdf1/pdf2
  -O5 -lhmu -qalign=natural

Integer Peak Optimization Flags
164.gzip
```

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Notes/Tuning Information (Continued)

```
    BASEPEAK = 1
    "CC      = /usr/vac/bin/xlc"
  175.vpr
    BASEPEAK = 1
  176.gcc
    BASEPEAK = 1
  181.mcf
    fdpr -v -R3
    -O5 -blpdata
  186.crafty
    -qpdf1/pdf2
    fdpr -v -R3
    -O3 -q64
  197.parser
    -O5 -blpdata
  252.eon
    BASEPEAK = 1
  253.perlbmk
    -qpdf1/pdf2
    -O5 -lhmu -qalign=natural
  254.gap
    BASEPEAK = 1
  255.vortex
    -qpdf1/pdf2
    -O5 -lhmu -qalign=natural
  256.bzip2
    -qpdf1/pdf2
    -O5 -blpdata -qarch=pwr3 -qtune=pwr3
  300.twolf
    -qpdf1/pdf2
    -O5 -lhmu -qalign=natural -blpdata
    "CC      = /usr/vac/bin/xlc"

    MCM: Acronym for "Multi-Chip Module"
    SUT: Acronym for "System Under Test"

    fpdr: Feedback directed program restructuring tool
    /usr/spec2000 filesystem mounted with no JFS log file I/O.
    APAR IY 36772 was applied to AIX to enable new hardware support.
    ulimits set to unlimited.
    C: IBM VAC++ invoked as cc except where noted as xlc
    C++: IBM VAC++ invoked as xlC
    Large page mode and memory affinity were set as follows:
      vmo -r -o lgpg_regions=1024 -o lgpg_size=16777216 -o memory_affinity=1
      chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
      shutdown -r
      export MEMORY_AFFINITY=MCM
```