IBM Corporation
IBM eServer pSeries 690 Turbo (1700 MHz, 1 CPU)

CINT2000 Result

SPECint2000 = 1113
SPECint_base2000 = 1077

IBM eServer pSeries 690 Turbo (1700 MHz, 1 CPU)

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

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU: POWER4+</td>
<td>Operating System: AIX 5L V5.2</td>
</tr>
<tr>
<td>CPU MHz: 1700</td>
<td>Compiler: IBM C for AIX, Version 6.0</td>
</tr>
<tr>
<td>FPU: Integrated</td>
<td>IBM VisualAge C++ Professional for AIX, Version 6.0</td>
</tr>
<tr>
<td>CPU(s) enabled: 1 core, 4 chips, 2 cores/chip, 4 chips/MCM</td>
<td>File System: AIX/JFS</td>
</tr>
<tr>
<td>CPU(s) orderable: 1.2.3,4 MCMs (order by # MCM)</td>
<td>System State: Multi-User</td>
</tr>
<tr>
<td>Parallel: No</td>
<td></td>
</tr>
<tr>
<td>Primary Cache: 64KBI+32KBD (on chip) per core</td>
<td></td>
</tr>
<tr>
<td>Secondary Cache: 1536KB unified (on chip) per chip</td>
<td></td>
</tr>
<tr>
<td>L3 Cache: 128MB unified (off-chip) per MCM, 4 MCMs in SUT</td>
<td></td>
</tr>
<tr>
<td>Other Cache: None</td>
<td></td>
</tr>
<tr>
<td>Memory: 16 GB</td>
<td></td>
</tr>
<tr>
<td>Disk Subsystem: 1x36GB SCSI, 10K RPM</td>
<td></td>
</tr>
<tr>
<td>Other Hardware: None</td>
<td></td>
</tr>
</tbody>
</table>

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
-05 -blpdata -qalign=natural
C++:
-qpdf1/pdf2
-05 -lhma -qalign=natural

Integer Peak Optimization Flags
164.gzip
IBM Corporation
IBM eServer pSeries 690 Turbo (1700 MHz, 1 CPU)

SPECint2000 = 1113
SPECint_base2000 = 1077

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"

31 processors were deconfigured through the configuration menu.
6 memory-cards were deconfigured through the configuration menu.

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=32 -o lgpg_size=16777216 -o memory_affinity=1
  chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
  shutdown -r
  export MEMORY_AFFINITY=MCM