



# CINT2000 Result

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## IBM Corporation

### IBM eServer pSeries 690 HPC (1300 MHz, 16 CPU)

SPECint\_rate2000 = 149

SPECint\_rate\_base2000 = 144

SPEC license #: 11 | Tested by: IBM, Austin, TX | Test date: Jun-2002 | Hardware Avail: Dec-2001 | Software Avail: Sep-2002

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	16	239	109	16	239	109
175.vpr	16	186	139	16	186	139
176.gcc	16	144	141	16	143	143
181.mcf	16	190	176	16	188	178
186.crafty	16	145	128	16	118	157
197.parser	16	399	83.8	16	399	83.8
252.eon	16	128	189	16	128	189
253.perlbnk	16	296	113	16	261	128
254.gap	16	142	144	16	142	144
255.vortex	16	157	225	16	149	237
256.bzip2	16	182	153	16	182	153
300.twolf	16	300	186	16	294	190

#### Hardware

CPU: POWER4  
 CPU MHz: 1300  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 16 chips, 1 core/chip, 4 chips/MCM  
 CPU(s) orderable: 8,16 (order by # cores)  
 Parallel: No  
 Primary Cache: 64KBI+32KBD (on chip) per core  
 Secondary Cache: 1440KB 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: 128 GB  
 Disk Subsystem: 1X16GB 1X8GB  
 Other Hardware: None

#### Software

Operating System: AIX 5L V5.1  
 Compiler: IBM VisualAge C for AIX, Version 6.0  
 IBM VisualAge C++ for AIX, Version 6.0  
 File System: AIX/JFS  
 System State: Multi-User

## Notes/Tuning Information

#### Portability Flags:

```
gcc: -ma -DHOST_WORDS_BIG_ENDIAN
crafty: -DAIX
eon: -DNEED_EXPLICIT_SPECIALIZATION
-I. -DNDEBUG
perlbnk: -DSPEC_CPU2000_AIX
gap: -DSYS_IS_BSD -DSYS_STRING_H -DSYS_HAS_TIME_PROTO
-DSYS_HAS_MALLOC_PROTO -DSYS_HAS_CALLOC_PROTO
twolf: -DHAVE_SIGNED_CHAR
```

#### Base Optimization Flags:

```
C:
-qpdf1/pdf2
-O5 -blpdata -qalign=natural
C++:
-qpdf1/pdf2
-O5 -lhu -qalign=natural
```

#### Integer Peak Optimization Flags

164.gzip



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## Notes/Tuning Information (Continued)

```
BASEPEAK = 1
175.vpr
BASEPEAK = 1
176.gcc
-qpdf1/pdf2
-O5 -lhmu -qalign=natural
181.mcf
fdpr -v -R3
-O3 -lhmu -qipa=partition=large -blpdata
186.crafty
fdpr -v -R3
-O4 -q64
197.parser
BASEPEAK = 1
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
BASEPEAK = 1
300.twolf
-qpdf1/pdf2
-O5 -lhmu -qalign=natural -blpdata
```

fpdr: Feedback directed program restructuring tool.  
/usr/spec2000 filesystem mounted with no JFS log file I/O.  
APAR IY 28102 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:  
vmtune -g 16777216 -L 1024 -yl

MCM = Multi-chip Module  
SUT = System under Test