



# CINT2000 Result

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## IBM Corporation

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

SPECint\_rate2000 = 131

SPECint\_rate\_base2000 = 125

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	242	107	16	242	107
175.vpr	16	248	105	16	248	105
176.gcc	16	153	134	16	152	134
181.mcf	16	312	107	16	309	108
186.crafty	16	148	125	16	121	153
197.parser	16	415	80.5	16	415	80.5
252.eon	16	130	185	16	130	185
253.perlbnk	16	305	110	16	267	125
254.gap	16	146	140	16	146	140
255.vortex	16	172	205	16	160	220
256.bzip2	16	204	137	16	204	137
300.twolf	16	495	112	16	422	132

#### Hardware

CPU: POWER4  
 CPU MHz: 1300  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 8 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: 1440KB unified (on chip) per chip  
 L3 Cache: 128MB unified (off-chip) per MCM, 2 MCMs in SUT (4 chips per MCM)  
 Other Cache: None  
 Memory: 64 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 -lhuu -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