



# CINT2000 Result

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## IBM Corporation

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

SPECint2000 = 1113

SPECint\_base2000 = 1077

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	175	799	175	799	
175.vpr	1400	133	1053	133	1053	
176.gcc	1100	96.4	1141	96.4	1141	
181.mcf	1800	99.8	1804	94.2	1910	
186.crafty	1000	106	944	90.7	1102	
197.parser	1800	398	453	387	465	
252.eon	1300	96.7	1344	96.7	1344	
253.perlbnk	1800	217	828	195	922	
254.gap	1100	98.6	1115	98.6	1115	
255.vortex	1900	114	1663	113	1675	
256.bzip2	1500	133	1130	128	1168	
300.twolf	3000	213	1408	211	1425	

### Hardware

CPU: POWER4+  
 CPU MHz: 1700  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 4 chips, 2 cores/chip, 4 chips/MCM  
 CPU(s) orderable: 1,2,3,4 MCMs (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  
 Other Cache: None  
 Memory: 16 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.perlbnk: -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.perlbnk
-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 lpgg\_regions=32 -o lpgg\_size=16777216 -o memory\_affinity=1  
chuser capabilities=CAP\_BYPASS\_RAC\_VMM,CAP\_PROPAGATE \$USER  
shutdown -r  
export MEMORY\_AFFINITY=MCM