



# CINT2000 Result

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## IBM Corporation

IBM eServer pSeries 630 Model 6E4 (1200 MHz, 1 CPU)

SPECint2000 = 767

SPECint\_base2000 = 745

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	252	555	252	555	
175.vpr	1400	195	717	195	717	
176.gcc	1100	137	800	137	800	
181.mcf	1800	155	1164	147	1223	
186.crafty	1000	151	662	129	778	
197.parser	1800	583	309	588	306	
252.eon	1300	137	948	137	948	
253.perlbmk	1800	304	592	275	654	
254.gap	1100	145	759	145	759	
255.vortex	1900	166	1146	166	1147	
256.bzip2	1500	189	792	183	819	
300.twolf	3000	303	990	299	1004	

### Hardware

CPU: POWER4+  
 CPU MHz: 1200  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip, 1 chip/SCM  
 CPU(s) orderable: 1,2,4 (order by # cores)  
 Parallel: No  
 Primary Cache: 64KBI+32KBD (on chip) per core  
 Secondary Cache: 1536KB unified (on chip) per chip  
 L3 Cache: 8MB unified (off-chip) per SCM, 1 SCM in SUT  
 Other Cache: None  
 Memory: 8 GB  
 Disk Subsystem: 1x36GB SCSI  
 Other Hardware: None

### Software

Operating System: AIX 5L V5.2 PTF 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.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"
```

SCM: Acronym for "Single-Chip Module"

SUT: Acronym for "System Under Test"

1 processor was deconfigured through the configuration menu.  
The 1-way pSeries 630 machine contains 1 CPU board.

fpdr: Feedback directed program restructuring tool  
/usr/spec2000 filesystem mounted with no JFS log file I/O.  
APAR IY 38292 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
```