



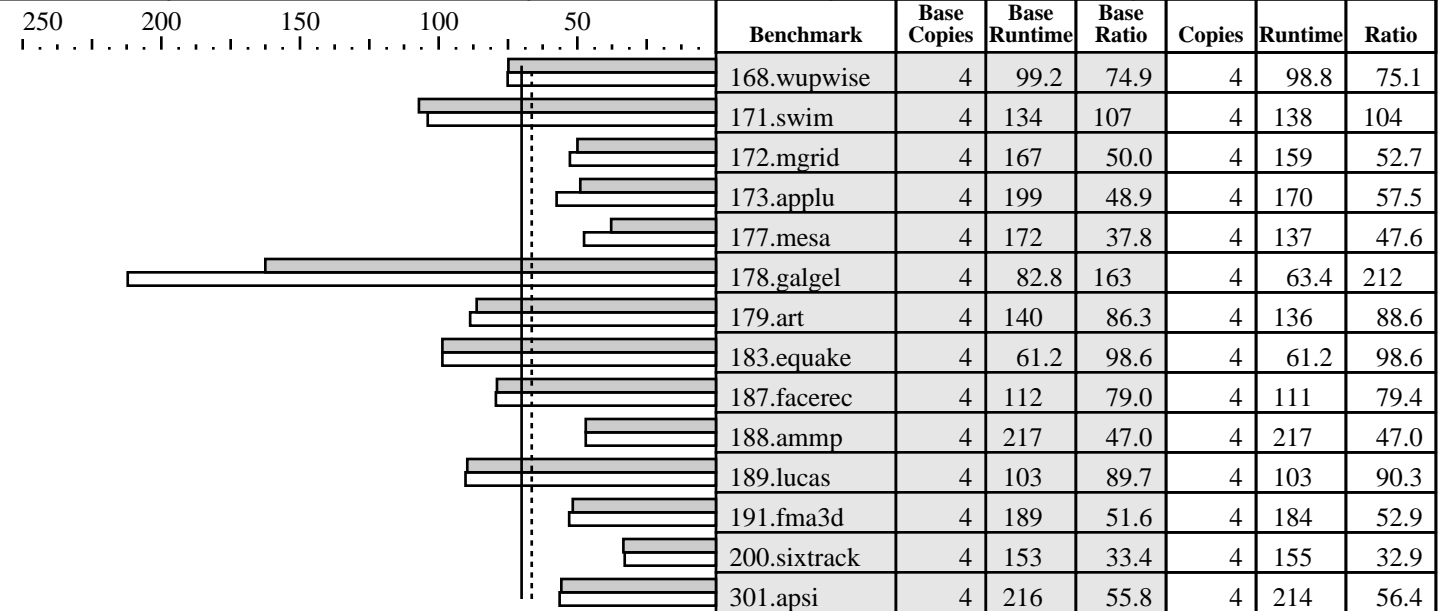
# CFP2000 Result

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IBM Corporation  
IBM eServer pSeries 655 (1700 MHz, 4 CPU)

SPECfp\_rate2000 = 70.1  
SPECfp\_rate\_base2000 = 66.5

SPEC license #: 11 | Tested by: IBM Austin | Test date: Sep-2003 | Hardware Avail: Jul-2003 | Software Avail: Oct-2003



## Hardware

CPU: POWER4+  
 CPU MHz: 1700  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 4 chips, 1 core/chip, 4 chips/MCM  
 CPU(s) orderable: 1 (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, 1 MCM in SUT (4 chips per MCM)  
 Other Cache: None  
 Memory: 16 GB  
 Disk Subsystem: 1x36GB SCSI, 15K RPM  
 Other Hardware: None

## Software

Operating System: AIX 5L V5.2  
 Compiler: IBM C for AIX, Version 6.0  
 IBM XL FORTRAN for AIX, Version 8.1.1.0  
 Other Software: ESSL 3.3.0.5, MASS 3.0  
 File System: AIX/JFS2  
 System State: Multi-User

## Notes/Tuning Information

### Portability Flags

-qfixed used in: 168.wupwise, 171.swim, 172.mgrid, 173.applu,  
 178.galgel, 200.sixtrack, 301.apsi  
 -qsuffix=f=f90 used in: 178.galgel, 187.facerec, 189.lucas, 191.fma3d

### Base Optimization Flags:

C: -O5 -qalign=natural -blpdata -lmass  
 Fortran: -O5 -qalign=natural -blpdata -lmass

### Peak Optimization Flags

168.wupwise: -O5 -qipa=partition=large  
 171.swim: -O4 -q64 -blpdata  
 172.mgrid: -O5 -qarch=pwr3 -qtune=pwr3 -blpdata  
 173.applu: -O3 -qarch=pwr3 -qtune=pwr3 -lmass -qhot -blpdata  
 177.mesa: -qpdf1/pdf2



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## Notes/Tuning Information (Continued)

```
fdpr -v -R3
-03 -qarch=pwr3 -qtune=pwr3 -qipa=level=2 -qalign=natural -blpdata
178.galgel: -qpdf1/pdf2
fdpr -v -R3
-05 -qalign=natural -qessl -lessl -lmass -blpdata
179.art: -04 -lhmu
183.quake: basepeak = 1
187.facerec: fdpr -v -R3
-05 -lmass -blpdata
188.ammp: basepeak = 1
189.lucas: -03 -q64 -blpdata
191.fma3d: -qpdf1/pdf2
-05 -qarch=pwr4 -qtune=pwr3 -lhmu -qalign=natural -blpdata
200.sixtrack: -qpdf1/pdf2
-05 -lmass
301.apsi: -05 -qarch=pwr4 -qtune=pwr3 -blpdata
```

C: IBM VAC++ invoked as xlc  
Fortran 77 and 90: IBM XL Fortran for AIX invoked as xlf90.

fpdr: Feedback directed program restructuring tool  
AIX maintenance fixes APAR IY49575 were applied to base operating system.  
ulimits set to unlimited.  
Large page mode and memory affinity were set as follows:  
vmo -r -o lgpg\_regions=400 -o lgpg\_size=16777216 -o memory\_affinity=1  
chuser capabilities=CAP\_BYPASS\_RAC\_VMM,CAP\_PROPAGATE \$USER  
shutdown -r  
export MEMORY\_AFFINITY=MCM

MCM: Acronym for "Multi-Chip Module"  
SUT: Acronym for "System Under Test"