



# CFP2000 Result

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IBM Corporation  
IBM eServer pSeries 640 (8 MB L2)

SPECfp\_rate2000 = 12.8  
SPECfp\_rate\_base2000 = 11.5

SPEC license #: 11 | Tested by: IBM, Austin, TX | Test date: Aug-2000 | Hardware Avail: Oct-2000 | Software Avail: Oct-2000

| Benchmark    | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|--------------|-------------|--------------|------------|--------|---------|-------|
| 168.wupwise  | 4           | 562          | 13.2       | 4      | 375     | 19.8  |
| 171.swim     | 4           | 1816         | 7.92       | 4      | 1637    | 8.79  |
| 172.mgrid    | 4           | 964          | 8.66       | 4      | 991     | 8.43  |
| 173.applu    | 4           | 1247         | 7.82       | 4      | 1245    | 7.83  |
| 177.mesa     | 4           | 514          | 12.7       | 4      | 514     | 12.6  |
| 178.galgel   | 4           | 761          | 17.7       | 4      | 757     | 17.8  |
| 179.art      | 4           | 284          | 42.4       | 4      | 284     | 42.4  |
| 183.equake   | 4           | 569          | 10.6       | 4      | 405     | 14.9  |
| 187.facerec  | 4           | 901          | 9.79       | 4      | 564     | 15.6  |
| 188.amp      | 4           | 801          | 12.7       | 4      | 689     | 14.8  |
| 189.lucas    | 4           | 1123         | 8.26       | 4      | 1119    | 8.29  |
| 191.fma3d    | 4           | 986          | 9.88       | 4      | 993     | 9.82  |
| 200.sixtrack | 4           | 686          | 7.44       | 4      | 687     | 7.43  |
| 301.apsi     | 4           | 893          | 13.5       | 4      | 844     | 14.3  |

### Hardware

CPU: IBM Power3-II  
 CPU MHz: 375  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 4 chips, 1 core/chip  
 CPU(s) orderable: 2,4  
 Parallel: No  
 Primary Cache: 32KBI+64KBD (on chip)  
 Secondary Cache: 8MB (I+D) (off chip)  
 L3 Cache: None  
 Other Cache: None  
 Memory: 4GB  
 Disk Subsystem: 1x9.1GB IBM Ultra-2 SCSI, 10000RPM  
 Other Hardware: None

### Software

Operating System: AIX 4.3.3 + beta of APAR IY12051  
 Compiler: Fortran 77 and 90: IBM xl Fortran 6.1 invoked as 'xlF90'  
 C: IBM VAC 5.0 invoked as 'xlc'  
 File System: AIX/JFS  
 System State: Multi-user

## Notes/Tuning Information

### Portability Flags

-qfixed used in: wupwise, swim, mgrid, applu, galgel, sixtrack, apsi  
 -qsuffix=f=f90 used in: galgel, facerec, lucas, fma3d

NOTE: The flag combination 'qpdf1/qpdf2' indicates a 2 step compilation process, the exact process is as follows:

```
fdo_pre0 = rm -rf ${PDFDIR}; mkdir -p ${PDFDIR}
PASS1_FLAGS    =-qpdf1 {optimization flags}
PASS1_LDFLAGS  = {libraries} -L{pdf library location} -lpdf
PASS2_FLAGS    =-qpdf2 {optimization flags}
PASS2_LDFLAGS  =-{libraries}
```

### Base Optimization Flags:

Fortran: -qpdf1/pdf2 -O3 -qarch=pwr3 -lmass  
 C: -O5 -lmass

### Peak Optimization Flags:

168.wupwise: -qpdf1/pdf2 -O4 -qipa=level=2 -lmass  
 171.swim: -qpdf1/pdf2 -O4 -qipa=level=2 -qhot -lmass  
 172.mgrid:-O3 -qarch=pwr3 -qhot



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## Notes/Tuning Information (Continued)

```
173.applu: -qpdf1/pdf2 -O3 -qarch=pwr3 -lmass
177.mesa: -O5 -lmass
178.galgel: -O4 -qipa=level=2 -qhot -lmass
179.art: -O5 -lmass
183.quake: -O5 -lmass -lhm
187.facerec: -O3 -qarch=pwr3 -qhot -lmass
188.amp: -O3 -qarch=pwr3 -bnso -bI:/lib/syscalls.exp
189.lucas: -qpdf1/pdf2 -O3 -qarch=pwr3 -lmass
191.fma3d: -O4 -qipa=level=2 -qhot -lmass
200.sixtrack: -O3 -qarch=pwr3
301.apsi: -O4 -qipa=level=2 -qhot -lmass -bnso -bI:/lib/syscalls.exp
```