



# CFP2000 Result

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IBM Corporation  
IBM eServer pSeries 640 (4 MB L2)

SPECfp2000 = 366

SPECfp\_base2000 = 313

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	521	307	282	567
171.swim	3100	1367	227	798	389
172.mgrid	1800	635	284	631	285
173.applu	2100	676	311	676	311
177.mesa	1400	513	273	513	273
178.galgel	2900	764	380	758	383
179.art	2600	281	924	281	924
183.earthquake	1300	246	528	186	699
187.facerec	1900	884	215	544	349
188.ammmp	2200	808	272	687	320
189.lucas	2000	766	261	765	261
191.fma3d	2100	689	305	676	311
200.sixtrack	1100	537	205	538	205
301.apsi	2600	891	292	823	316

### Hardware

CPU: IBM Power3-II  
 CPU MHz: 375  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
 CPU(s) orderable: 1,2,3,4  
 Parallel: No  
 Primary Cache: 32KBI+64KBD (on chip)  
 Secondary Cache: 4MB (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
```