



# CFP2000 Result

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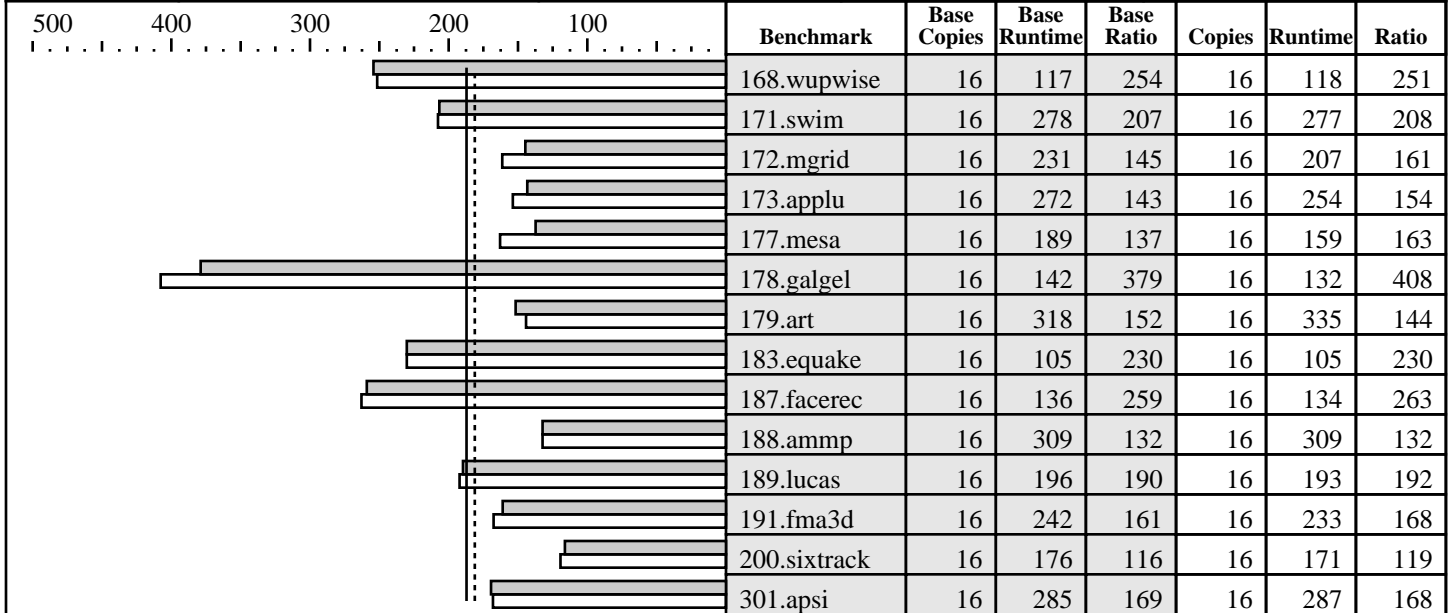
IBM Corporation

IBM eServer pSeries 670 (1500 MHz, 16 CPU)

SPECfp\_rate2000 = 187

SPECfp\_rate\_base2000 = 181

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



### Hardware

CPU: POWER4+  
 CPU MHz: 1500  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 8 chips, 2 cores/chip, 4 chips/MCM  
 CPU(s) orderable: 4,8,16 (order by # cores)  
 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, 2 MCMs in SUT (4 chips per MCM)  
 Other Cache: None  
 Memory: 64 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 XL FORTRAN for AIX, Version 8.1.0.3  
 Other Software: ESSL 3.3, MASS 3.0  
 File System: AIX/JFS  
 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

### Floating Point Peak Flags

168.wupwise  
 -O5 -qipa=partition=large  
 171.swim  
 -O4 -q64 -blpdata  
 172.mgrid



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## Notes/Tuning Information (Continued)

```

-05 -qarch=pwr3 -qtune=pwr3 -blpdata
173.applu
-03 -qarch=pwr3 -qtune=pwr3 -lmass -qhot -blpdata
177.mesa
-qpdf1/pdf2
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

```

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

fpdr: Feedback directed program restructuring tool  
/usr/spec2000 filesystem mounted with no JFS log file I/O.  
APAR IY 39795 was applied to AIX to enable new hardware support.  
ulimits set to unlimited.  
C: IBM VAC++ invoked as xlc  
Fortran 77 and 90: IBM XL Fortran for AIX invoked as xlf90.  
Large page mode and memory affinity were set as follows:  
vmo -r -o lpgg\_regions=512 -o lpgg\_size=16777216 -o memory\_affinity=1  
chuser capabilities=CAP\_BYPASS\_RAC\_VMM,CAP\_PROPAGATE \$USER  
shutdown -r  
export MEMORY\_AFFINITY=MCM