



# CFP2000 Result

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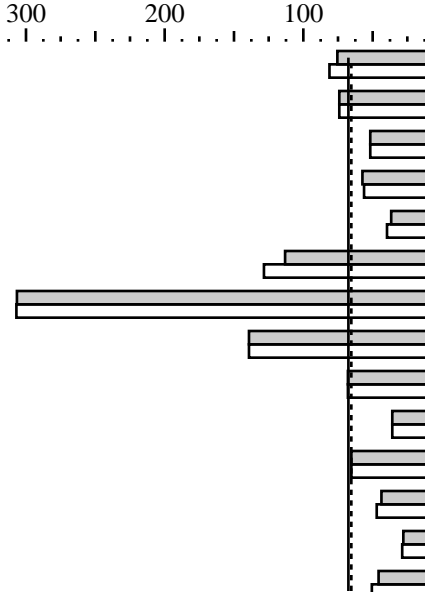
IBM IntelliStation POWER 285 Workstation (1900 MHz, 2 CPU)

SPECfp\_rate2000 = 67.6

SPECfp\_rate\_base2000 = 65.4

SPEC license #: 11 | Tested by: IBM | Test date: Sep-2005 | Hardware Avail: Oct-2005 | Software Avail: Oct-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	98.4	75.5	4	91.5	81.2
171.swim	4	194	74.1	4	194	74.1
172.mgrid	4	161	51.7	4	161	51.7
173.applu	4	170	57.4	4	173	56.2
177.mesa	4	177	36.6	4	164	39.7
178.galgel	4	119	113	4	105	128
179.art	4	39.4	307	4	39.3	307
183.quake	4	43.3	139	4	43.3	139
187.facerec	4	130	67.8	4	130	67.8
188.amp	4	285	35.8	4	285	35.8
189.lucas	4	142	65.4	4	142	65.4
191.fma3d	4	223	43.7	4	207	47.1
200.sixtrack	4	183	27.9	4	178	28.7
301.apsi	4	264	45.7	4	238	50.6



### Hardware

CPU: POWER5+  
 CPU MHz: 1900  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip (SMT on)  
 CPU(s) orderable: 1,2  
 Parallel: None  
 Primary Cache: 64KBI+32KBD (on chip)/core  
 Secondary Cache: 1920KB unified (on chip)/chip  
 L3 Cache: 36MB unified (off-chip)/DCM, 1 DCM/SUT  
 Other Cache: None  
 Memory: 8x2GB  
 Disk Subsystem: 1x73GB SCSI, 15K RPM  
 Other Hardware: None

### Software

Operating System: AIX 5L V5.3  
 Compiler: XL C/C++ Enterprise Edition Version 8.0 for AIX  
 XL Fortran Enterprise Edition Version 10.1 for AIX  
 Other Software: ESSL 4.2.0.2  
 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:

Fortran: -O5 -lhm -blpdata -lmass  
 C: -qpdf1/pdf2  
 -O5 -blpdata -qalign=natural

### Peak Optimization Flags

168.wupwise: -qpdf1/pdf2  
 -O5 -blpdata -qfdpr -qalign=struct=natural  
 fdpr -q -O3  
 171.swim: basepeak=1  
 172.mgrid: basepeak=1  
 173.applu: -O5 -blpdata -lmass



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## Notes/Tuning Information (Continued)

```

177.mesa:      -qpdf1/pdf2
               -O5 -blpdata -qalign=natural -Dfloor=__floor
178.galgel:    -O5 -blpdata -qessl -lessl
179.art:       -qpdf1/pdf2
               -O5 -blpdata -qhot=arraypad -Q -qalign=natural
183.equake:    basepeak=1
187.facerec:   basepeak=1
188.amp:       basepeak=1
189.lucas:     basepeak=1
191.fma3d:     -qpdf1/pdf2
               -O5 -blpdata -qfdpr -qalign=struct=natural
               fdpr -q -O3
200.sixtrack: -qpdf1/pdf2
               -O5 -blpdata -qfdpr -qalign=struct=natural
               fdpr -q -O3
301.apsi:      -O5 -lmass -qessl -lessl -blpdata -qsave

```

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-03 Recommended Maintenance package.

SMT: Acronym for "Simultaneous Multi-Threading". A processor technology that allows the simultaneous execution of multiple thread contexts within a single processor core. (Enabled by default)

DCM: Acronym for "Dual-Chip Module" (one dual-core processor chip + one L3-cache chip)

SUT: Acronym for "System Under Test"

ESSL: Engineering and Scientific Subroutine Library

```

Extended C:    IBM XL C for AIX invoked as cc
ANSI C89:      IBM XL C for AIX invoked as xlc
Fortran 77:    IBM XL Fortran for AIX invoked as xlf90 unless explicitly reassigned
Fortran 90:    IBM XL Fortran for AIX invoked as xlf

```

ulimits set to unlimited.

Large page mode and memory affinity were set as follows:

```

vmo -r -o lpgp_regions=400 -o lpgp_size=16777216
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
reboot -q
export MEMORY_AFFINITY=MCM

```

The following config-file entry was used to assign each benchmark process to a core:

```

submit = let "MYCPU=2*\$SPECUSERNUM"; if (( "\$MYCPU > 3" )) then let "MYCPU=3"; fi; bindprocessor \$\$ \$MYCPU; $command

```

The "bindprocessor" AIX command binds a process to a CPU core.

Use flags-description file IBM-20050919-AIX.txt.