



CFP2000 Result

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IBM Corporation

IBM IntelliStation POWER 285 Workstation (2100 MHz, 2 CPU)

SPECfp_rate2000 = 72.9

SPECfp_rate_base2000 = 70.0

SPEC license #: 11 | Tested by: IBM Austin | Test date: Jun-2006 | Hardware Avail: Aug-2006 | Software Avail: Aug-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	91.8	80.9	4	77.9	95.3
171.swim	4	183	78.5	4	183	78.5
172.mgrid	4	144	57.9	4	137	60.9
173.applu	4	201	48.5	4	195	50.0
177.mesa	4	156	41.7	4	158	41.1
178.galgel	4	102	132	4	97.3	138
179.art	4	38.6	313	4	35.0	345
183.quake	4	40.8	148	4	40.1	150
187.facerec	4	115	76.8	4	113	78.3
188.amp	4	249	41.0	4	255	40.0
189.lucas	4	135	68.5	4	134	69.0
191.fma3d	4	214	45.5	4	191	51.0
200.sixtrack	4	168	30.4	4	161	31.6
301.apsi	4	239	50.5	4	238	50.6

Hardware	Software
CPU: POWER5+	Operating System: AIX 5L V5.3
CPU MHz: 2100	Compiler: XL C/C++ Enterprise Edition Version 8.0 for AIX XL Fortran Enterprise Edition Version 10.1 for AIX Other Software: ESSL 4.2.0.4
FPU: Integrated	File System: AIX/JFS2
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip (SMT on)	System State: Multi-user
CPU(s) orderable: 1,2 core	
Parallel: No	
Primary Cache: 64 KB I + 32 KB D on chip per core	
Secondary Cache: 1920 KB I+D on chip per chip	
L3 Cache: 36 MB I+D off chip per chip, 1 chip per SUT	
Other Cache: None	
Memory: 4 GB (4x1 GB)	
Disk Subsystem: 1x73GB SCSI, 15K RPM	
Other Hardware: None	

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

Peak Optimization Flags

168.wupwise: -O5 -qsave -blpdata -lhmu -lmass
171.swim: basepeak=1
172.mgrid: -qpdf1/pdf2
-O4 -qipa=partition=large -q64 -blpdata
173.applu: -O5 -qarch=pwr3 -qtune=pwr3 -qalign=struct=natural -qfdpr -q64 -blpdata
fdpr -q -O3



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Notes/Tuning Information (Continued)

```

177.mesa:      -qpdf1/pdf2
               -O5 -qfdpr
               fdpr -q -O3
178.galgel:    -qpdf1/pdf2
               -O5 -qfdpr -qalign=struct=natural -lhmu -blpdata -lmass -qessl -lessl
               fdpr -q -O3
179.art:       -O5 -lhmu -blpdata
183.earthquake: -qpdf1/pdf2
               -O3 -qarch=auto -qtune=auto -qipa=level=2 -blpdata
187.facerec:   -O5 -qsave -blpdata
188.ammpp:     -O5 -qalign=natural -qfdpr -blpdata -lhmu
               fdpr -q -O3
189.lucas:     -O3 -qarch=auto -qtune=auto -qfdpr -blpdata -qessl -lessl
               fdpr -q -O3
191.fma3d:     -qpdf1/pdf2
               -O3 -qarch=auto -qtune=auto -qipa=level=2 -q64 -lhmu -blpdata -lmass
200.sixtrack:  -O3 -qarch=auto -qtune=auto -qfdpr
               fdpr -q -O3
301.apsi:      -O5

```

The installed OS level is AIX 5L for POWER Version 5.3 with the 5300-05 Recommended Technology Level.
 The installed C/C++ compiler is XL C/C++ Enterprise Edition Version 8.0 for AIX with the March 2006 PTF.
 The installed Fortran compiler is XL Fortran Enterprise Edition Version 10.1 with the May 2006 AIX PTF.

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)

SUT: Acronym for "System Under Test"

ESSL: Engineering and Scientific Subroutine Library

PTF: IBM identifier for "Program Fix Level"

```

ANSI C89:      IBM XL C for AIX invoked as xlc
Fortran 77:    IBM XL Fortran for AIX invoked as xlf90
Fortran 90:    IBM XL Fortran for AIX invoked as xlf90

```

ulimits set to unlimited.

Large page mode, memory affinity and MATMUL threading were set as follows:

```

vmo -r -o lpgg_regions=128 -o lpgg_size=16777216
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
bosboot -aD
shutdown -rF
export MEMORY_AFFINITY=MCM
export XLFRTIOPTS=intrinthds=1

```

The following config-file entry was used to assign each benchmark process to a core:
 submit = bindprocessor \\$\\$ \\$SPECUSERNUM; \$command

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