



CFP2000 Result

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IBM Corporation
IBM System p5 575 (2200 MHz, 8 CPU)

SPECfp_rate2000 = 382
SPECfp_rate_base2000 = 355

SPEC license #: 11 | Tested by: IBM | Test date: Dec-2005 | Hardware Avail: Feb-2006 | Software Avail: Feb-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	16	84.6	351	16	73.1	406
171.swim	16	133	434	16	132	435
172.mgrid	16	124	269	16	106	314
173.applu	16	158	247	16	148	263
177.mesa	16	137	190	16	132	197
178.galgel	16	80.6	668	8	29.4	916
179.art	16	22.2	2170	16	21.9	2206
183.equake	16	32.2	749	16	31.9	757
187.facerec	16	93.5	377	16	93.1	379
188.amp	16	218	187	16	206	198
189.lucas	16	68.1	545	8	30.1	617
191.fma3d	16	179	217	16	169	231
200.sixtrack	16	158	129	16	152	134
301.apsi	16	218	221	16	217	222

Hardware	Software
CPU: POWER5+	Operating System: AIX 5L V5.3
CPU MHz: 2200	Compiler: XL C/C++ Enterprise Edition Version 8.0 for AIX XL Fortran Enterprise Edition Version 10.1 for AIX Other Software: ESSL 4.2.0.3
FPU: Integrated	File System: AIX/JFS2
CPU(s) enabled: 8 cores, 8 chips, 1 core/chip (SMT on)	System State: Multi-user
CPU(s) orderable: 8,16	
Parallel: No	
Primary Cache: 64KBI+32KBD (on chip)/core	
Secondary Cache: 1920KB unified, shared (on chip)/chip	
L3 Cache: 36MB unified (off-chip)/DCM, 8 DCMs/SUT	
Other Cache: None	
Memory: 64x512MB	
Disk Subsystem: 2x73GB 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: -qpdf1/pdf2
-O5 -qhot=arraypad -Q -qalign=struct=natural -q64 -blpdata
172.mgrid: -qpdf1/pdf2
-O4 -qalign=struct=natural -lhmu -blpdata
173.applu: -O5 -qarch=pwr3 -qtune=pwr3 -qalign=struct=natural -qfdpr -q64 -blpdata



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Notes/Tuning Information (Continued)

```

fdpr -q -O3
177.mesa: -qpdf1/pdf2
          -O4
178.galgel: -O5 -qfdpr -lhmu -blpdata -lmass -qessl -lessl
           fdpr -q -O3
           users=8
179.art: -qpdf1/pdf2
         -O5 -qalign=natural -lhmu -blpdata
183.quake: -qpdf1/pdf2
           -O3 -qarch=auto -qtune=auto -qipa=level=2 -blpdata
187.facerec: -O5 -qhot=arraypad -Q -qalign=struct=natural -blpdata
188.ammp: -O5 -qalign=natural -qfdpr -blpdata -lhmu
          fdpr -q -O3
189.lucas: -O3 -qarch=auto -qtune=auto -qfdpr -blpdata -qessl -lessl
          fdpr -q -O3
          users=8
191.fma3d: -qpdf1/pdf2
           -O5 -qfdpr -q64 -lhmu -blpdata -lmass
           fdpr -q -O3
200.sixtrack: -qpdf1/pdf2
             -O5 -qfdpr -qalign=struct=natural
             fdpr -q -O3
301.apsi: -O5 -qhot=arraypad -Q -qalign=struct=natural

```

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-04 Recommended Technology Level.

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

```

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 and memory affinity were set as follows:

```

vmo -r -o lpgg_regions=1024 -o lpgg_size=16777216
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
shutdown -rF
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 > 15")) then let "MYCPU=15"; fi; bindprocessor \\$\\$ \\$MYCPU; \$command

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