



CFP2000 Result

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IBM Corporation
IBM System p5 550 (1650 MHz, 4 CPU)

SPECfp_rate2000 = 119
SPECfp_rate_base2000 = 117

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	8	115	129	8	104	142
171.swim	8	207	139	8	207	139
172.mgrid	8	175	95.6	8	166	101
173.applu	8	199	98.0	8	222	88.0
177.mesa	8	185	70.2	8	185	70.1
178.galgel	8	133	202	8	121	222
179.art	8	46.0	525	8	45.0	536
183.quake	8	49.8	242	8	48.9	247
187.facerec	8	141	125	8	142	124
188.amp	8	326	62.7	8	316	64.7
189.lucas	8	149	124	8	147	127
191.fma3d	8	253	76.9	8	245	79.6
200.sixtrack	8	212	48.1	8	216	47.3
301.apsi	8	300	80.3	8	298	81.1

Hardware

CPU: POWER5+
 CPU MHz: 1650
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip (SMT on)
 CPU(s) orderable: 2,4
 Parallel: No
 Primary Cache: 64KBI+32KBD (on chip)/core
 Secondary Cache: 1920KB unified, shared (on chip)/chip
 L3 Cache: 36MB unified (off-chip)/DCM, 2 DCMs/SUT
 Other Cache: None
 Memory: 8x4GB
 Disk Subsystem: 2x73GB 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 4.2.0.3
 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 -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 -lhmu -blpdata -lmass -qessl -lessl
               fdpr -q -O3
179.art:       -qpdf1/pdf2
               -O5 -qhot=arraypad -Q -qalign=natural -blpdata -lhmu
183.earthquake: -qpdf1/pdf2
               -O3 -qarch=auto -qtune=auto -qipa=level=2 -blpdata
187.facerec:   -O5 -qsave -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
191.fma3d:     -qpdf1/pdf2
               -O3 -qarch=auto -qtune=auto -qipa=level=2 -q64 -lhmu -blpdata -lmass
200.sixtrack:  -qpdf1/pdf2
               -O4 -qfdpr
               fdpr -q -O3
301.apsi:      -O5

```

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=800 -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 = bindprocessor \$\$ \$SPECUSERNUM; $command
```

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