



CFP2000 Result

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IBM Corporation
IBM System p5 550 (1900 MHz, 4 CPU)

SPECfp_rate2000 = 133
SPECfp_rate_base2000 = 129

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	8	105	141	8	102	146
171.swim	8	200	144	8	200	144
172.mgrid	8	162	103	8	162	103
173.applu	8	172	113	8	174	112
177.mesa	8	180	72.0	8	180	72.0
178.galgel	8	118	229	8	103	260
179.art	8	39.2	616	8	39.2	616
183.quake	8	44.1	274	8	43.9	275
187.facerec	8	132	134	8	128	137
188.amp	8	285	71.7	8	285	71.7
189.lucas	8	142	130	8	142	130
191.fma3d	8	226	86.4	8	210	93.0
200.sixtrack	8	183	55.7	8	178	57.4
301.apsi	8	268	90.0	8	242	99.7

Hardware

CPU: POWER5+
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip (SMT on)
 CPU(s) orderable: 2,4
 Parallel: None
 Primary Cache: 64KBI+32KBD (on chip)/core
 Secondary Cache: 1920KB unified (on chip)/chip
 L3 Cache: 36MB unified (off-chip)/DCM, 2 DCM/SUT
 Other Cache: None
 Memory: 16x2GB
 Disk Subsystem: 2x36GB 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: -qpdl1/pdf2
 -O5 -blpdata -qalign=natural

Peak Optimization Flags
 168.wupwise: -qpdl1/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:      basepeak=1
178.galgel:    -O5 -blpdata -qessl -lessl
179.art:       -qpdf1/pdf2
               -O5 -blpdata -qhot=arraypad -Q -qalign=natural
183.equake:    -O5 -blpdata -lessl
187.facerec:   -O5 -lmass -qessl -lessl -blpdata -qsave
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 lpgg_regions=800 -o lpgg_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 > 7")) then let "MYCPU=7"; fi; bindprocessor \\$\\$ \\$MYCPU; \$command

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

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