



CFP2000 Result

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IBM Corporation
IBM eServer p5 575 (1500 MHz, 1 CPU)

SPECfp2000 = 2185
SPECfp_base2000 = 2050

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	77.3	2071	72.7	2201
171.swim	3100	111	2792	105	2943
172.mgrid	1800	86.8	2074	86.7	2076
173.applu	2100	110	1911	107	1954
177.mesa	1400	142	984	136	1029
178.galgel	2900	68.1	4256	47.7	6077
179.art	2600	33.5	7750	29.2	8916
183.quake	1300	32.5	4003	32.4	4010
187.facerec	1900	99.9	1901	95.2	1997
188.amp	2200	199	1107	199	1107
189.lucas	2000	64.7	3090	64.5	3099
191.fma3d	2100	157	1336	150	1397
200.sixtrack	1100	166	664	158	698
301.apsi	2600	193	1347	180	1442

Hardware

CPU: POWER5
 CPU MHz: 1500
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip (SMT off)
 CPU(s) orderable: 16
 Parallel: No
 Primary Cache: 64KBI+32KBD (on chip)/core
 Secondary Cache: 1920KB unified (on chip)/chip
 L3 Cache: 36MB unified (off-chip)/DCM, 8 DCM/SUT
 Other Cache: None
 Memory: 64x1GB
 Disk Subsystem: 2x36GB SCSI, 15K RPM
 Other Hardware: None

Software

Operating System: AIX 5L V5.3
 Compiler: XL C/C++ Enterprise Edition Version 7.0 for AIX
 XL Fortran Enterprise Edition V9.1 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 -blpdata -lmass
 C: -qpdl1/pdf2
 -O5 -blpdata -qalign=natural

Peak Optimization Flags

168.wupwise: F77=xlf90
 -q64 -O5 -blpdata -lmass -qalign=struct=natural -qfdpr
 fdpr -q -O3
 171.swim: F77=xlf90
 -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass
 172.mgrid: -O5 -lmass -qessl -lessl -blpdata -qsave



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Notes/Tuning Information (Continued)

```

173.applu: F77=xl f90
          -q64 -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass -qalign=struct=natural -qfdpr
          fdpr -q -O3
177.mesa: -qpdf1/pdf2
          -O3 -qarch=auto -qtune=auto -qipa=level=2
178.galgel: -O5 -blpdata -lmass -qessl -lessl -qfdpr
          fdpr -q -O3
179.art: -O5 -lhmu -blpdata -lmass
183.equake: -qpdf1/pdf2
          -O5 -blpdata -qalign=natural -D_ILS_MACROS
187.facerec: -O5 -blpdata -qfdpr -qalign=struct=natural
          fdpr -q -O3
188.amp: basepeak=1
189.lucas: -O5 -lmass -qessl -lessl -blpdata -qsave
191.fma3d: -qpdf1/pdf2
          -O5 -blpdata -qfdpr -qalign=struct=natural
          fdpr -q -O3
200.sixtrack: F77=xl f90
          -q64 -O5 -blpdata -lmass -qalign=struct=natural -qfdpr
          fdpr -q -O3
301.apsi: F77=xl f90
          -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

C: 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=2048 -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 > 31")) then let "MYCPU=31"; fi; bindprocessor \\$\$ \MYCPU; \$command

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

Fifteen cores were deconfigured and SMT disabled at the open-firmware prompt, using the command

```
boot -s cpu=1 -s smt_off
```

Use flags-description file IBM-20050822-AIX.txt.