



CFP2000 Result

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IBM Corporation

IBM eServer pSeries 650 Model 6M2 (1450 MHz, 8 CPU)

SPECfp_rate2000 = 82.4

SPECfp_rate_base2000 = 79.7

SPEC license #: 11 | Tested by: IBM, Austin, TX | Test date: Oct-2002 | Hardware Avail: Dec-2002 | Software Avail: Dec-2002

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	131	113	8	129	115
171.swim	8	382	75.3	8	386	74.6
172.mgrid	8	264	63.2	8	243	68.6
173.applu	8	319	61.1	8	308	63.3
177.mesa	8	195	66.6	8	162	80.2
178.galgel	8	138	195	8	135	199
179.art	8	329	73.3	8	329	73.3
183.quake	8	112	108	8	112	108
187.facerec	8	145	121	8	141	125
188.amp	8	304	67.1	8	304	67.1
189.lucas	8	266	69.9	8	262	70.8
191.fma3d	8	311	62.8	8	300	64.9
200.sixtrack	8	182	56.2	8	178	57.5
301.apsi	8	390	61.9	8	381	63.3

Hardware

CPU: POWER4+
CPU MHz: 1450
FPU: Integrated
CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip, 1 chip/SCM
CPU(s) orderable: 1,2,3,4 (order by # SCM)
Parallel: No
Primary Cache: 64KBI+32KBD (on chip) per core
Secondary Cache: 1536KB unified (on chip) per chip
L3 Cache: 32MB unified (off-chip) per SCM, 4 SCM in SUT
Other Cache: None
Memory: 64 GB
Disk Subsystem: 1x18.2 GB SCSI
Other Hardware: None

Software

Operating System: AIX 5L V5.2
Compiler: IBM C for AIX, Version 6.0
IBM XL FORTRAN for AIX, Version 8.1.0.1
Other Software: ESSL 3.3, MASS 3.0
File System: AIX/JFS
System State: Multi-User

Notes/Tuning Information

Portability Flags

-qfixed used in: wupwise, swim, mgrid, applu, galgel, sixtrack, apsi
-qsuffix=f=f90 used in: galgel, facerec, lucas, fma3d

Base Optimization Flags:

C:
-O5 -qalign=natural -blpdata -lmass
Fortran:
-O5 -qalign=natural -blpdata -lmass

Floating Point Peak Flags

168.wupwise
-O5 -qipa=partition=large
171.swim
-O4 -q64 -blpdata
172.mgrid



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Notes/Tuning Information (Continued)

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-05 -qarch=pwr3 -qtune=pwr3 -blpdata
173.applu
-03 -qarch=pwr3 -qtune=pwr3 -lmass -qhot -blpdata
177.mesa
-qpdf1/pdf2
fdpr -v -R3
-03 -qarch=pwr3 -qtune=pwr3 -qipa=level=2 -qalign=natural -blpdata
178.galgel
-qpdf1/pdf2
fdpr -v -R3
-05 -qalign=natural -qessl -lessl -lmass -blpdata
179.art
-04 -lhmu
183.quake
BASEPEAK = 1
187.facerec
fdpr -v -R3
-05 -lmass -blpdata
188.ammp
BASEPEAK = 1
189.lucas
-03 -q64 -blpdata
191.fma3d
-qpdf1/pdf2
-05 -qarch=pwr4 -qtune=pwr3 -lhmu -qalign=natural -blpdata
200.sixtrack
-qpdf1/pdf2
-05 -lmass
301.apsi
-05 -qarch=pwr4 -qtune=pwr3 -blpdata

SCM: Acronym for "Single-Chip Module"
SUT: Acronym for "System Under Test"

fpdr: Feedback directed program restructuring tool
C: IBM VAC++ invoked as xlc
Fortran 77 and 90: IBM XL Fortran for AIX invoked as xlf90.

/usr/spec2000 filesystem mounted with no JFS log file I/O.
APAR IY 35693 was applied to AIX to enable new hardware support.
ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
vmo -r -o lpgg_regions=256 -o lpgg_size=16777216 -o memory_affinity=1
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
shutdown -r
export MEMORY_AFFINITY=MCM

```