CFP2000 Result

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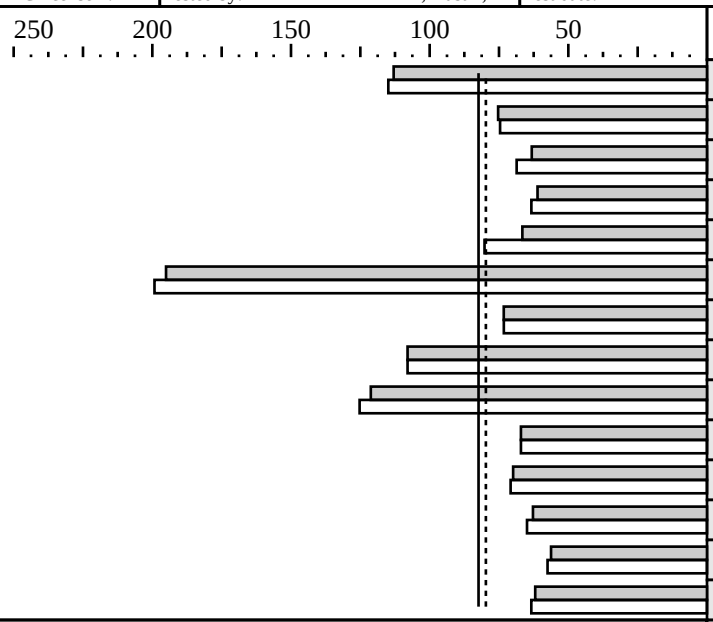
IBM Corporation

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.equake	8	112	108	8	112	108
187.facerec	8	145	121	8	141	125
188.ammp	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)

```
    -O5 -qarch=pwr3 -qtune=pwr3 -blpdata
  173.applu
    -O3 -qarch=pwr3 -qtune=pwr3 -lmass -qhot -blpdata
  177.mesa
    -qpdf1/pdf2
    fdpr -v -R3
    -O3 -qarch=pwr3 -qtune=pwr3 -qipa=level=2 -qalign=natural -blpdata
  178.galgel
    -qpdf1/pdf2
    fdpr -v -R3
    -O5 -qalign=natural -qessl -lessl -lmass -blpdata
  179.art
   -O4 -lhmu
  183.equake
    BASEPEAK = 1
  187.facerec
    fdpr -v -R3
    -O5 -lmass -blpdata
  188.ammp
    BASEPEAK = 1
  189.lucas
    -O3 -q64 -blpdata
  191.fma3d
    -qpdf1/pdf2
    -O5 -qarch=pwr4 -qtune=pwr3 -lhmu -qalign=natural -blpdata
  200.sixtrack
    -qpdf1/pdf2
    -O5 -lmass
  301.apsi
    -O5 -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 lgpg_regions=256 -o lgpg_size=16777216 -o memory_affinity=1
      chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
      shutdown -r
      export MEMORY_AFFINITY=MCM
```