CFP2000 Result

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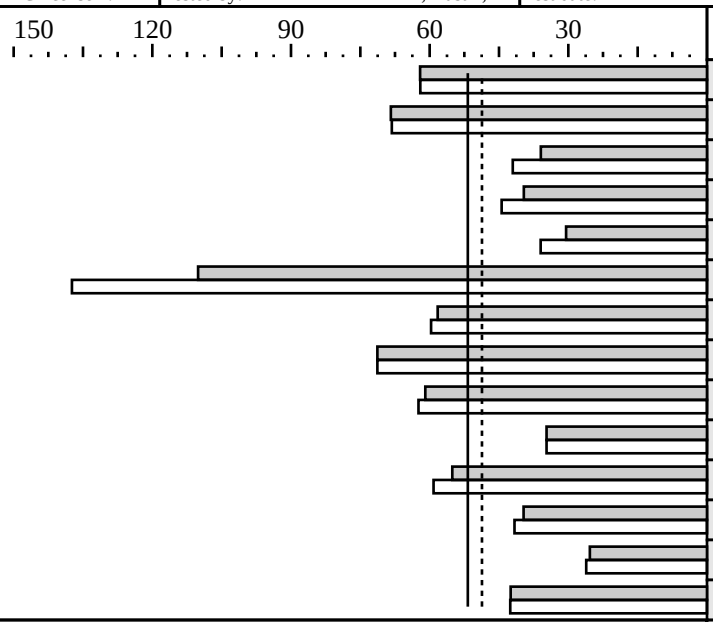
IBM Corporation

IBM eServer pSeries 655 Model 651 (1300 MHz, 4 CPU)

SPECfp_rate2000 = 51.7

SPECfp_rate_base2000 = 48.7

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	4	120	62.1	4	120	62.0
171.swim	4	210	68.4	4	211	68.2
172.mgrid	4	232	35.9	4	199	42.0
173.applu	4	246	39.6	4	219	44.4
177.mesa	4	213	30.5	4	181	36.0
178.galgel	4	122	110	4	97.9	137
179.art	4	207	58.3	4	202	59.7
183.equake	4	84.6	71.3	4	84.6	71.3
187.facerec	4	145	60.9	4	141	62.4
188.ammp	4	294	34.7	4	294	34.7
189.lucas	4	168	55.1	4	157	59.2
191.fma3d	4	246	39.7	4	234	41.6
200.sixtrack	4	201	25.3	4	195	26.1
301.apsi	4	284	42.5	4	283	42.6

Hardware

CPU:	POWER4
CPU MHz:	1300
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip, 4 chips/MCM
CPU(s) orderable:	1 (order by # MCM)
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip) per core
Secondary Cache:	1440KB unified (on chip) per chip
L3 Cache:	128MB unified (off-chip) per MCM, 1 MCM in SUT (4 chips per MCM)
Other Cache:	None
Memory:	16 GB
Disk Subsystem:	1x18.2 GB SCSI
Other Hardware:	None

Software

Operating System:	AIX 5L V5.1
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

    MCM: Acronym for "Multi-Chip Module"
    SUT: Acronym for "System Under Test"

    fpdr: Feedback directed program restructuring tool
    /usr/spec2000 filesystem mounted with no JFS log file I/O.
    APAR IY 35692 was applied to AIX to enable new hardware support.
    ulimits set to unlimited.
    C: IBM VAC++ invoked as xlc
    Fortran 77 and 90: IBM XL Fortran for AIX invoked as xlf90.
    Large page mode and memory affinity were set as follows:
      vmtune64 -g 16777216 -L 128 -y1
      chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
      bosboot -a
      shutdown -r
```