CFP2000 Result

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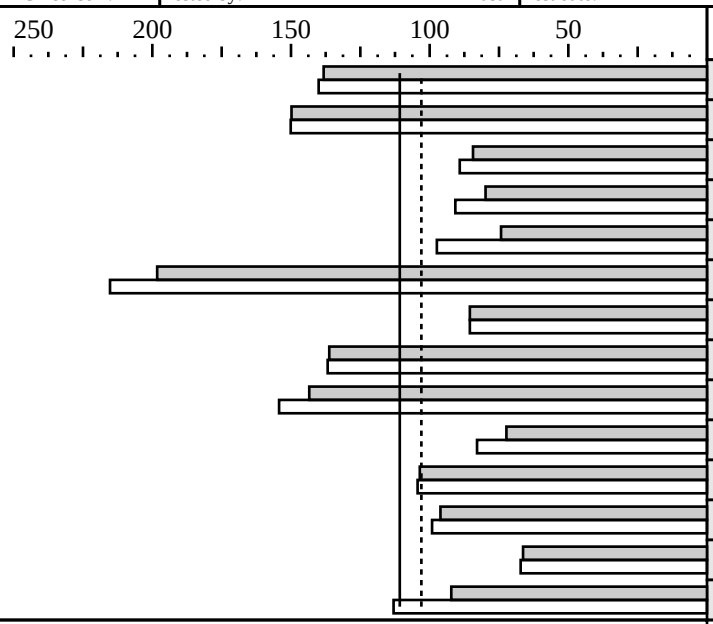
IBM Corporation

IBM eServer pSeries 655 (1700 MHz, 8 CPU)

SPECfp_rate2000 = 111

SPECfp_rate_base2000 = 103

SPEC license #: 11 | Tested by: IBM Austin | Test date: Dec-2003 | Hardware Avail: Feb-2004 | Software Avail: Oct-2003



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	107	138	8	106	140
171.swim	8	192	150	8	192	150
172.mgrid	8	198	84.4	8	187	89.2
173.applu	8	244	79.9	8	215	90.7
177.mesa	8	175	74.3	8	133	97.4
178.galgel	8	136	198	8	125	215
179.art	8	282	85.5	8	282	85.5
183.equake	8	88.6	136	8	88.2	137
187.facerec	8	123	143	8	114	154
188.ammp	8	282	72.3	8	246	82.9
189.lucas	8	179	104	8	178	104
191.fma3d	8	203	96.1	8	197	99.1
200.sixtrack	8	154	66.3	8	152	67.2
301.apsi	8	262	92.2	8	213	113

Hardware

CPU:	POWER4+
CPU MHz:	1700
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip, 4 chips/MCM
CPU(s) orderable:	4,8 (order by # cores)
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip) per core
Secondary Cache:	1536KB 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:	32 GB
Disk Subsystem:	2x36GB SCSI, 10K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.2 5765-E62 (05/2003)
Compiler:	IBM C for AIX, Version 6.0 IBM XL FORTRAN for AIX, Version 8.1.1.0 Other Software: ESSL 4.1.0.0, MASS 3.2.1
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:
  C:        -O5 -qalign=natural -blpdata -D_ILS_MACROS
  Fortran:  -O5 -qalign=natural -blpdata -lmass

Peak Optimization Flags
  168.wupwise:  -O5 -qipa=partition=large -q64 -qarch=pwr4 -qtune=pwr4
  171.swim:     -qpdf1/qpdf2 -O4 -blpdata -qarch=pwr4 -qtune=pwr4
  172.mgrid:    fdpr -v -R3
                -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -qalign=natural
  173.applu:    -O4 -qarch=pwr3 -qtune=pwr3 -blpdata
```

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Notes/Tuning Information (Continued)

```
  177.mesa:      -qpdf1/pdf2
                 fdpr -v -R3
                 -O3 -blpdata -qipa=level=2 -qalign=natural -qarch=pwr3 -qtune=pwr3
  178.galgel:    -qpdf1/pdf2
                 -O5 -blpdata -qessl -lessl -qarch=pwr4 -qtune=pwr4
  179.art:       basepeak = 1
  183.equake:    fdpr -v -R3
                 -O5 -blpdata -qalign=natural -qarch=pwr4 -qtune=pwr4 -qfdpr
  187.facerec:   -qpdf1/pdf2
                 fdpr -v -R3
                 -O5 -qarch=pwr3 -qtune=pwr3 -lmass -blpdata
  188.ammp:      -qpdf1/pdf2 -L/usr/vac/lib
                 fdpr -v -R3
                -O5 -blpdata -qalign=natural -qipa=partition=large -qarch=pwr4 -qtune=pwr4
  189.lucas:     -O3 -qarch=pwr3 -qtune=pwr3 -blpdata -qipa=level=2 -qalign=natural
  191.fma3d:    -O3 -lhmu -qarch=pwr3 -qtune=pwr3 -blpdata -qipa=level=2 -qalign=natural
  200.sixtrack: -O3 -qhot -qarch=pwr4 -qtune=pwr4
  301.apsi:      fdpr -v -R3
                 -O5 -lmass -qalign=natural -qessl -lessl -blpdata -qfdpr
                 -qarch=pwr4 -qtune=pwr4 -qsave


C:                  IBM VAC++ invoked as xlc
Fortran 77 and 90: IBM XL Fortran for AIX invoked as xlf90.

fpdr: Feedback directed program restructuring tool
ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
   vmo -r -o lgpg_regions=400 -o lgpg_size=16777216 -o memory_affinity=1
   chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
   shutdown -r
   export MEMORY_AFFINITY=MCM

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

Form used to submit "rate" runs:
   submit = let "MYCPU=$SPECUSERNUM"; bindprocessor $$ $MYCPU; $command
```