CFP2000 Result

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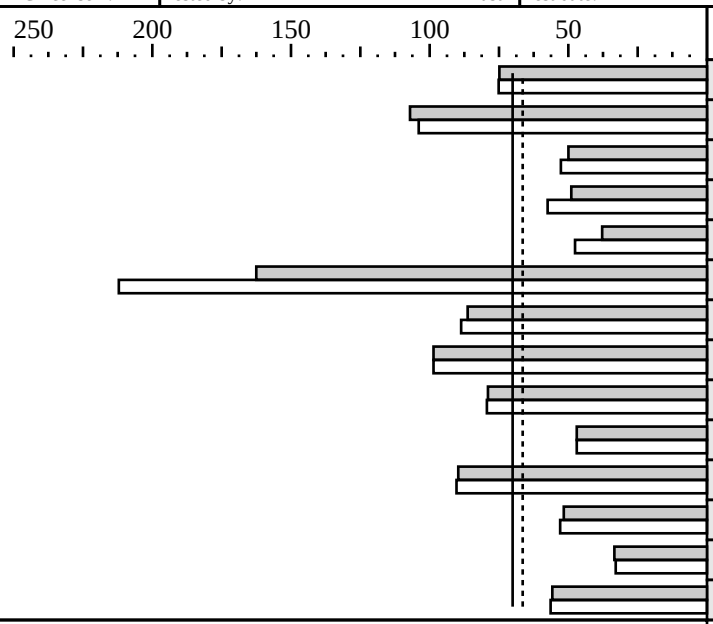
IBM Corporation

IBM eServer pSeries 655 (1700 MHz, 4 CPU)

SPECfp_rate2000 = 70.1

SPECfp_rate_base2000 = 66.5

SPEC license #: 11 | Tested by: IBM Austin | Test date: Sep-2003 | Hardware Avail: Jul-2003 | Software Avail: Oct-2003



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	99.2	74.9	4	98.8	75.1
171.swim	4	134	107	4	138	104
172.mgrid	4	167	50.0	4	159	52.7
173.applu	4	199	48.9	4	170	57.5
177.mesa	4	172	37.8	4	137	47.6
178.galgel	4	82.8	163	4	63.4	212
179.art	4	140	86.3	4	136	88.6
183.equake	4	61.2	98.6	4	61.2	98.6
187.facerec	4	112	79.0	4	111	79.4
188.ammp	4	217	47.0	4	217	47.0
189.lucas	4	103	89.7	4	103	90.3
191.fma3d	4	189	51.6	4	184	52.9
200.sixtrack	4	153	33.4	4	155	32.9
301.apsi	4	216	55.8	4	214	56.4

Hardware

CPU:	POWER4+
CPU MHz:	1700
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:	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:	16 GB
Disk Subsystem:	1x36GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.2
Compiler:	IBM C for AIX, Version 6.0 IBM XL FORTRAN for AIX, Version 8.1.1.0 Other Software: ESSL 3.3.0.5, MASS 3.0
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 -lmass
  Fortran:  -O5 -qalign=natural -blpdata -lmass

Peak Optimization Flags
  168.wupwise:  -O5 -qipa=partition=large
  171.swim:     -O4 -q64 -blpdata
  172.mgrid:    -O5 -qarch=pwr3 -qtune=pwr3 -blpdata
  173.applu:    -O3 -qarch=pwr3 -qtune=pwr3 -lmass -qhot -blpdata
  177.mesa:     -qpdf1/pdf2
```

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Notes/Tuning Information (Continued)

```
                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


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

fpdr: Feedback directed program restructuring tool
AIX maintenance fixes APAR IY49575 were applied to base operating system.
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"
```