CFP2000 Result

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IBM Corporation

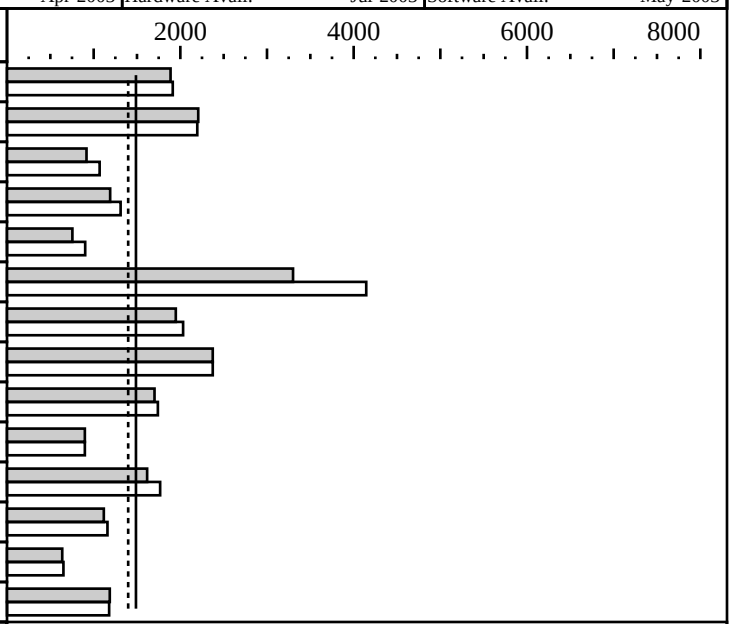
IBM eServer pSeries 655 (1500 MHz, 1 CPU)

SPECfp2000 = 1488

SPECfp_base2000 = 1398

SPEC license #: 11 | Tested by: IBM, Austin, TX | Test date: Apr-2003 | Hardware Avail: Jul-2003 | Software Avail: May-2003

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	84.8	1887	83.7	1913
171.swim	3100	140	2207	141	2196
172.mgrid	1800	196	917	168	1069
173.applu	2100	176	1190	160	1311
177.mesa	1400	186	755	155	902
178.galgel	2900	87.9	3300	70.0	4145
179.art	2600	133	1948	128	2032
183.equake	1300	54.8	2374	54.8	2374
187.facerec	1900	112	1702	109	1741
188.ammp	2200	245	898	245	898
189.lucas	2000	124	1617	113	1767
191.fma3d	2100	188	1117	181	1159
200.sixtrack	1100	173	637	169	651
301.apsi	2600	219	1186	221	1179



Hardware

CPU:	POWER4+
CPU MHz:	1500
FPU:	Integrated
CPU(s) enabled:	1 core, 4 chips, 2 cores/chip, 4 chips/MCM
CPU(s) orderable:	1 MCM (order by # MCM)
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip) per core
Secondary Cache:	1536KB unified (off chip) per chip
L3 Cache:	128MB unified (off-chip) per MCM, 1 MCM in SUT
Other Cache:	None
Memory:	32 GB
Disk Subsystem:	1x36GB SCSI, 10K 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 8.1.0.3 Other Software: ESSL 3.3, MASS 3.0
File System:	AIX/JFS
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

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"

    7 processors were deconfigured through the configuration menu.

    fpdr: Feedback directed program restructuring tool
    /usr/spec2000 filesystem mounted with no JFS log file I/O.
    APAR IY 43549 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:
    vmo -r -o lgpg_regions=32 -o lgpg_size=16777216 -o memory_affinity=1
      chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
      shutdown -r
      export MEMORY_AFFINITY=MCM
```