CFP2000 Result

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IBM Corporation

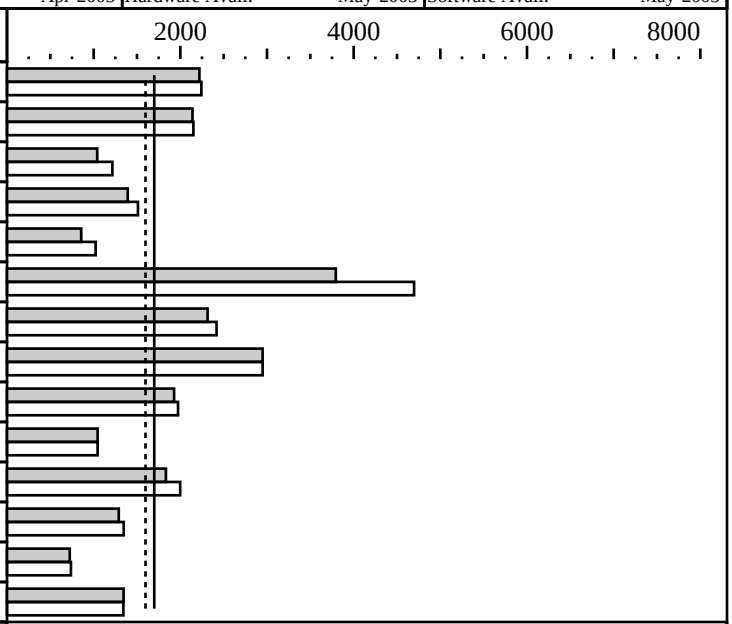
IBM eServer pSeries 690 Turbo (1700 MHz, 1 CPU)

SPECfp2000 = 1699

SPECfp_base2000 = 1598

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	72.1	2220	71.3	2243
171.swim	3100	145	2140	144	2151
172.mgrid	1800	173	1041	148	1216
173.applu	2100	151	1393	139	1511
177.mesa	1400	164	856	137	1023
178.galgel	2900	76.4	3794	61.7	4697
179.art	2600	112	2314	108	2418
183.equake	1300	44.1	2950	44.1	2950
187.facerec	1900	98.5	1928	96.3	1973
188.ammp	2200	210	1046	210	1046
189.lucas	2000	109	1834	100	1998
191.fma3d	2100	163	1290	156	1347
200.sixtrack	1100	152	724	149	738
301.apsi	2600	193	1345	194	1343



Hardware

CPU:	POWER4+
CPU MHz:	1700
FPU:	Integrated
CPU(s) enabled:	1 core, 4 chips, 2 cores/chip, 4 chips/MCM
CPU(s) orderable:	1,2,3,4 MCMs (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, 4 MCMs in SUT
Other Cache:	None
Memory:	64 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"

    31 processors were deconfigured through the configuration menu.
    6 memory-cards 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 36772 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
```