CFP2000 Result

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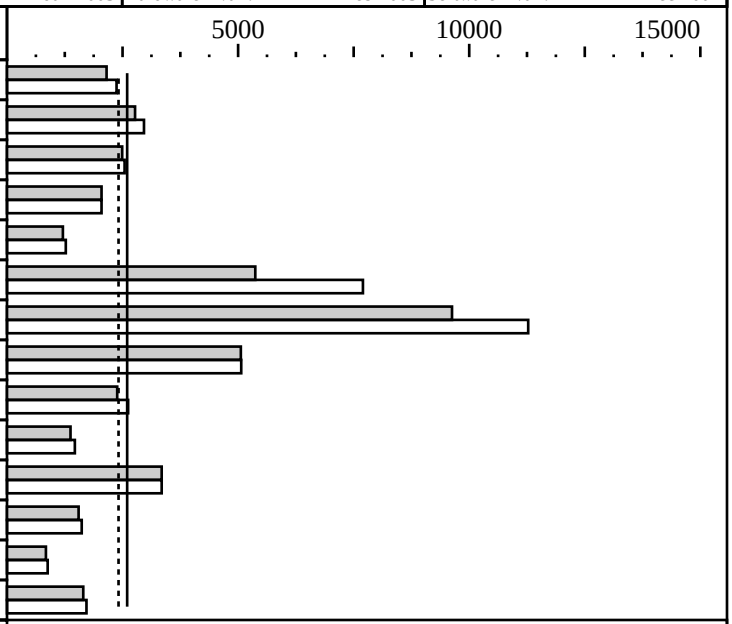
IBM Corporation
IBM eServer p5 575 (1900 MHz, 1 CPU)

SPECfp2000 = 2600

SPECfp_base2000 = 2413

SPEC license #: 11 | Tested by: IBM | Test date: Jan-2005 | Hardware Avail: Feb-2005 | Software Avail: Dec-2004

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	74.3	2154	67.5	2370
171.swim	3100	112	2770	105	2964
172.mgrid	1800	72.2	2492	70.8	2544
173.applu	2100	103	2045	103	2045
177.mesa	1400	116	1209	110	1272
178.galgel	2900	54.0	5372	37.7	7701
179.art	2600	27.0	9628	23.1	11276
183.equake	1300	25.7	5059	25.7	5067
187.facerec	1900	79.7	2384	72.5	2621
188.ammp	2200	160	1374	150	1468
189.lucas	2000	59.8	3346	59.8	3346
191.fma3d	2100	136	1549	130	1616
200.sixtrack	1100	131	842	125	880
301.apsi	2600	158	1650	151	1719



Hardware

CPU:	POWER5
CPU MHz:	1900
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip (SMT off)
CPU(s) orderable:	8
Parallel:	no
Primary Cache:	64KBI+32KBD (on chip)
Secondary Cache:	1920KB unified (on chip)
L3 Cache:	36MB unified (off-chip)/DCM, 8 DCM/SUT
Other Cache:	None
Memory:	32 GB
Disk Subsystem:	2x36GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition Version 7.0 for AIX XL Fortran Enterprise Edition V9.1 for AIX Other Software: ESSL 4.2
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:
  Fortran:    -O5 -blpdata -lmass
  C:          -qpdf1/pdf2
              -O5 -blpdata -qalign=natural

Peak Optimization Flags
  168.wupwise:  fdpr -q -O3
                -O5 -q64 -blpdata -lmass -qalign=struct=natural -qfdpr
  171.swim:     fdpr -q -O3
               -O5 -q64 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass -qalign=struct=natural -qfdpr
                 F77=xlf90
  172.mgrid:    -qpdf1/pdf2
```

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Notes/Tuning Information (Continued)

```
                -O5 -q64 -blpdata -lmass
  173.applu:    fdpr -q -O3
                -O5 -q64 -blpdata -qalign=struct=natural -qfdpr
  177.mesa:     -qpdf1/pdf2
                -O3 -qarch=pwr3 -qtune=pwr3 -qipa=level=2
  178.galgel:   fdpr -q -O3
                -O5 -blpdata -lmass -qessl -lessl -qfdpr
  179.art:      -O5 -lhmu -blpdata -lmass
  183.equake:   -qpdf1/pdf2
                -O5 -blpdata -lmass -qipa=partition=large -qmaxmem=-1
  187.facerec:  fdpr -q -O3
                -O5 -blpdata -lmass -qfdpr
  188.ammp:     -qpdf1/pdf2
                -O5 -q64 -blpdata -qalign=struct=natural
  189.lucas:    -O5 -blpdata -lmass
  191.fma3d:    fdpr -q -O3
                -O5 -blpdata -qalign=struct=natural -qfdpr
  200.sixtrack: fdpr -q -O3
                -O5 -blpdata -lmass -qfdpr
                F77=xlf90
  301.apsi:     -O5 -blpdata -lmass -qessl -lessl -qsave
                F77=xlf90

APAR IY62267 was applied to AIX 5L V5.3 to achieve Mantainence Level 1.

SMT:  Acronym for "Simultaneous Multi-Threading". A processor technology that allows
      the simultaneous execution of multiple thread contexts within a single processor
      core. (Enabled by default)
DCM:  Acronym for "Dual-Chip Module" (one dual-core processor chip + one L3-cache chip)
      For the 575, only one core is active per chip.
SUT:  Acronym for "System Under Test"
ESSL: Engineering and Scientific Subroutine Library

C:           IBM XL C for AIX invoked as xlc
Fortran 77:  IBM XL Fortran for AIX invoked as xlf90 unless explicitly reassigned
Fortran 90:  IBM XL Fortran for AIX invoked as xlf

ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
    vmo -r -o lgpg_regions=512 -o lgpg_size=16777216 -o memory_affinity=1
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    reboot -q
    export MEMORY_AFFINITY=MCM
One core was deconfigured and SMT disabled at the open-firmware prompt, using the
command
    boot -s cpu=1 -s smt_off
```