CFP2000 Result

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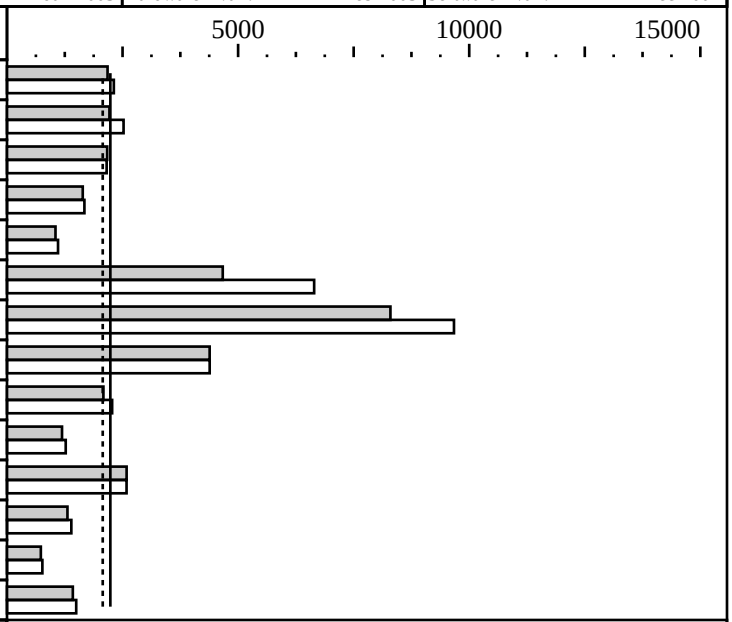
IBM Corporation
IBM eServer p5 510 (1650 MHz, 1 CPU)

SPECfp2000 = 2236

SPECfp_base2000 = 2071

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	73.5	2176	69.2	2311
171.swim	3100	140	2216	123	2522
172.mgrid	1800	83.0	2168	83.5	2156
173.applu	2100	128	1639	125	1675
177.mesa	1400	133	1049	127	1104
178.galgel	2900	62.1	4668	43.6	6645
179.art	2600	31.3	8295	26.9	9670
183.equake	1300	29.7	4384	29.6	4385
187.facerec	1900	91.1	2086	83.5	2275
188.ammp	2200	185	1190	173	1270
189.lucas	2000	77.3	2588	77.3	2587
191.fma3d	2100	161	1308	151	1392
200.sixtrack	1100	150	732	144	765
301.apsi	2600	183	1424	174	1497



Hardware

CPU:	POWER5
CPU MHz:	1650
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip (SMT off)
CPU(s) orderable:	1,2
Parallel:	no
Primary Cache:	64KBI+32KBD (on chip)
Secondary Cache:	1920KB unified (on chip)
L3 Cache:	36MB unified (off-chip)/DCM, 1 DCM/SUT
Other Cache:	None
Memory:	8x4GB
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
  301.apsi:     -O5 -blpdata -lmass -qessl -lessl -qsave

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)
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
```