CFP2000 Result

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IBM Corporation

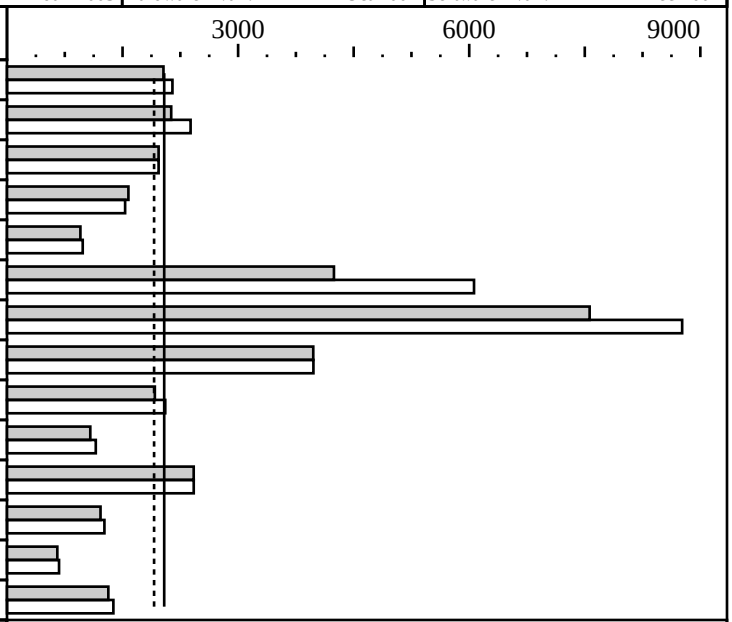
IBM eServer p5 520 Express (1500 MHz, 1 CPU)

SPECfp2000 = 2041

SPECfp_base2000 = 1909

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	78.8	2031	74.5	2148
171.swim	3100	145	2131	130	2383
172.mgrid	1800	91.5	1968	91.5	1968
173.applu	2100	133	1576	137	1533
177.mesa	1400	147	953	142	983
178.galgel	2900	68.3	4244	47.8	6062
179.art	2600	34.4	7563	29.7	8764
183.equake	1300	32.7	3976	32.7	3978
187.facerec	1900	99.0	1919	92.5	2054
188.ammp	2200	203	1081	191	1152
189.lucas	2000	82.5	2423	82.5	2424
191.fma3d	2100	173	1214	166	1265
200.sixtrack	1100	168	653	163	676
301.apsi	2600	198	1315	188	1381



Hardware

CPU:	POWER5
CPU MHz:	1500
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip (SMT off)
CPU(s) orderable:	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:	8x2GB
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:    basepeak=1
```

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Notes/Tuning Information (Continued)

```
  173.applu:    fdpr -q -O3
                -O5 -q64 -blpdata -qalign=struct=natural -qfdpr
                F77=xlf90
  177.mesa:     -qpdf1/pdf2
                -O3 -qarch=auto -qtune=auto -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=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=400 -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
```