CFP2000 Result

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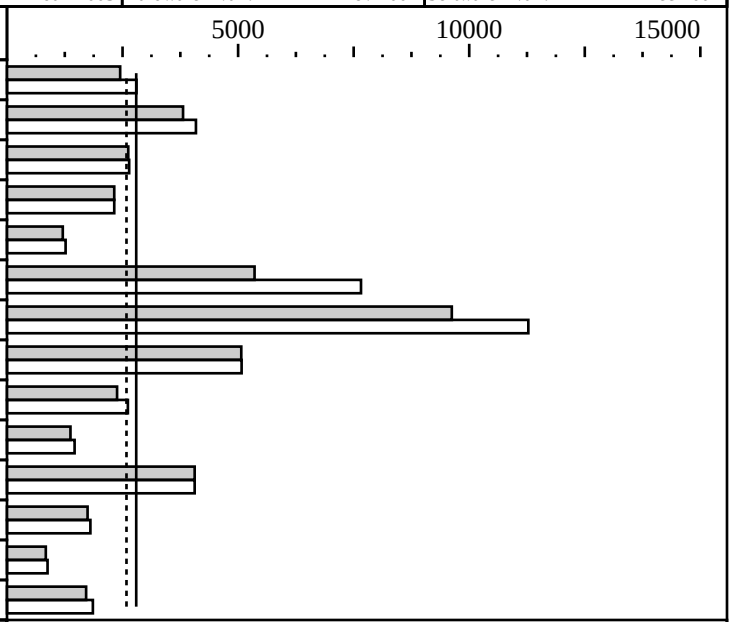
IBM Corporation
IBM eServer p5 595 (1900 MHz, 1 CPU)

SPECfp2000 = 2796

SPECfp_base2000 = 2585

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	65.4	2448	57.1	2800
171.swim	3100	81.4	3809	75.8	4088
172.mgrid	1800	68.6	2623	68.1	2643
173.applu	2100	90.5	2320	90.5	2320
177.mesa	1400	116	1207	110	1268
178.galgel	2900	54.1	5356	37.9	7659
179.art	2600	27.0	9623	23.1	11279
183.equake	1300	25.6	5068	25.6	5076
187.facerec	1900	79.8	2381	72.7	2615
188.ammp	2200	160	1373	150	1462
189.lucas	2000	49.3	4060	49.3	4060
191.fma3d	2100	120	1743	116	1804
200.sixtrack	1100	131	839	125	877
301.apsi	2600	152	1712	140	1858



Hardware

CPU:	POWER5
CPU MHz:	1900
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip (SMT off)
CPU(s) orderable:	16,24,32,40,48,56,64
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip)
Secondary Cache:	1920KB unified (on chip)
L3 Cache:	36MB unified (off-chip)/chip, 1 chip/MCM, 8 MCM/SUT
Other Cache:	None
Memory:	256 GB DDR2
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 -lhmu -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:    basepeak=1
  177.mesa:     -qpdf1/pdf2
                -O3 -qarch=auto -qtune=auto -qipa=level=2
  178.galgel:   fdpr -q -O3
                -O5 -blpdata -lmass -qessl -lessl -qfdpr -qalign=struct=natural
  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:    basepeak=1
  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)
MCM:  Acronym for "Multi-Chip Module" (four dual-core processor chips + four L3-cache chips)
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=12288 -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
```