CFP2000 Result

IBM Corporation

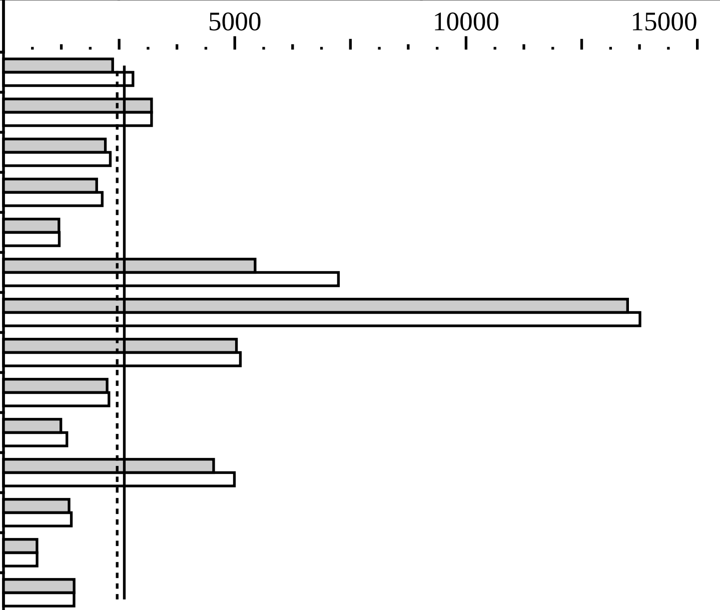
IBM System p5 550Q (1650 MHz, 1 CPU)

SPECfp2000 = 2612

SPECfp_base2000 = 2458

SPEC license #: 11	Tested by: IBM Austin	Test date: Aug-2006	Hardware Avail: Aug-2006	Software Avail: Aug-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	67.8	2360	57.2	2799
171.swim	3100	96.9	3201	96.9	3201
172.mgrid	1800	81.7	2202	78.0	2309
173.applu	2100	104	2014	98.4	2134
177.mesa	1400	117	1198	116	1205
178.galgel	2900	53.3	5439	40.0	7241
179.art	2600	19.3	13493	18.9	13760
183.equake	1300	25.8	5036	25.4	5121
187.facerec	1900	84.8	2240	83.3	2280
188.ammp	2200	177	1240	161	1371
189.lucas	2000	44.0	4543	40.1	4992
191.fma3d	2100	148	1417	143	1466
200.sixtrack	1100	152	724	152	726
301.apsi	2600	170	1527	171	1525



Hardware

CPU:	POWER5+
CPU MHz:	1650
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 2 cores/chip (SMT off)
CPU(s) orderable:	4,8 cores
Parallel:	No
Primary Cache:	64 KB I + 32 KB D on chip per core
Secondary Cache:	1920 KB I+D on chip per chip
L3 Cache:	36 MB I+D off chip per chip
Other Cache:	None
Memory:	64 GB (16x4 GB)
Disk Subsystem:	1x73GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition Version 8.0 for AIX XL Fortran Enterprise Edition Version 10.1 for AIX Other Software: ESSL 4.2.0.4
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:  -O5 -qsave -blpdata -lhmu -lmass
  171.swim:     basepeak=1
  172.mgrid:    -qpdf1/pdf2
                -O4 -qipa=partition=large -q64 -blpdata
  173.applu:    -O5 -qarch=pwr3 -qtune=pwr3 -qalign=struct=natural -qfdpr -q64 -blpdata
                 fdpr -q -O3
```

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Notes/Tuning Information (Continued)

```
177.mesa:     -qpdf1/pdf2
               -O5 -qfdpr
               fdpr -q -O3
178.galgel:   -qpdf1/pdf2
              -O5 -qfdpr -lhmu -blpdata -lmass -qessl -lessl
              fdpr -q -O3
179.art:      -qpdf1/pdf2
              -O5 -qhot=arraypad -Q -qalign=natural -blpdata -lhmu
183.equake:   -qpdf1/pdf2
              -O3 -qarch=auto -qtune=auto -qipa=level=2 -blpdata
187.facerec:  -O5 -qsave -blpdata
188.ammp:     -O5 -qalign=natural -qfdpr -blpdata -lhmu
              fdpr -q -O3
189.lucas:    -O3 -qarch=auto -qtune=auto -qfdpr -blpdata -qessl -lessl
              fdpr -q -O3
191.fma3d:    -qpdf1/pdf2
             -O3 -qarch=auto -qtune=auto -qipa=level=2 -q64 -lhmu -blpdata -lmass
200.sixtrack: -qpdf1/pdf2
              -O4 -qfdpr
              fdpr -q -O3
301.apsi:     -O5
```

The installed OS level is AIX 5L for POWER Version 5.3 with the 5300-05 Recommended Technology Level.
The installed C/C++ compiler is XL C/C++ Enterprise Edition Version 8.0 for AIX with the March 2006 PTF.
The installed Fortran copiler is XL Fortran Enterprise Edition Version 10.1 with the May 2006 AIX PTF.

```
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)
SUT:  Acronym for "System Under Test"
ESSL: Engineering and Scientific Subroutine Library
PTF:  IBM identifier for "Program Fix Level"

ANSI C89:       IBM XL C for AIX invoked as xlc
Fortran 77:     IBM XL Fortran for AIX invoked as xlf90
Fortran 90:     IBM XL Fortran for AIX invoked as xlf90

ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
    vmo -r -o lgpg_regions=128 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    bosboot -aD
    shutdown -rF
    export MEMORY_AFFINITY=MCM

The following config-file entry was used to assign each benchmark process to a core:
     submit = bindprocessor $$ $SPECUSERNUM; $command
The "bindprocessor" AIX command binds a process to a CPU core.
Seven cores were deconfigured and SMT disabled using the AIX commands
     smtctl -m off -w boot
     bosboot -aD
     shutdown -rF
     drmgr -r -c cpu
     drmgr -r -c cpu
     drmgr -r -c cpu
```

Notes/Tuning Information (Continued)

```
drmgr -r -c cpu
drmgr -r -c cpu
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```