CFP2000 Result

IBM Corporation

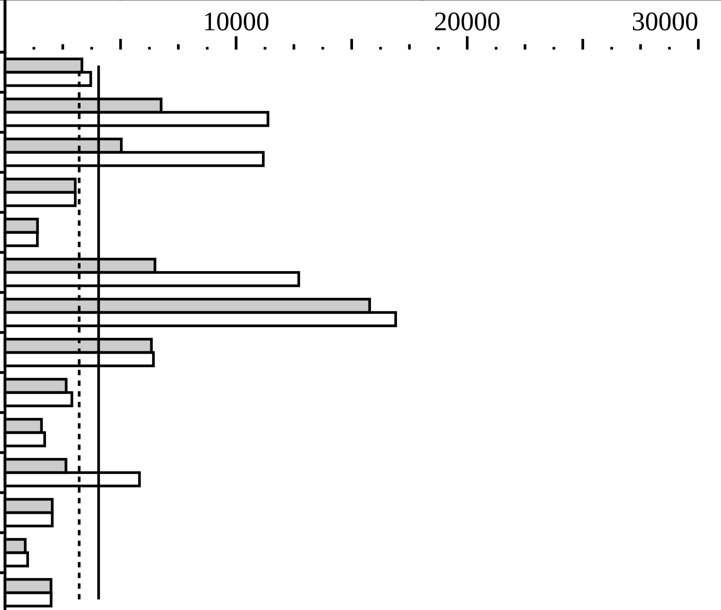
IBM System p5 550 (2100 MHz, 4 CPU)

SPECfp2000 = 4051

SPECfp_base2000 = 3210

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	48.1	3329	43.1	3709
171.swim	3100	45.9	6755	27.2	11378
172.mgrid	1800	35.8	5033	16.1	11176
173.applu	2100	69.1	3040	69.1	3040
177.mesa	1400	99.5	1407	99.9	1401
178.galgel	2900	44.7	6488	22.8	12710
179.art	2600	16.5	15778	15.4	16904
183.equake	1300	20.5	6336	20.2	6423
187.facerec	1900	71.8	2647	65.7	2893
188.ammp	2200	139	1579	128	1716
189.lucas	2000	75.8	2638	34.4	5818
191.fma3d	2100	103	2045	103	2045
200.sixtrack	1100	126	876	112	980
301.apsi	2600	131	1990	130	1996



Hardware

CPU:	POWER5+
CPU MHz:	2100
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip (SMT off)
CPU(s) orderable:	2,4 cores
Parallel:	Yes
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, 2 chips per SUT
Other Cache:	None
Memory:	64 GB (16x4 GB)
Disk Subsystem:	2x73GB 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 -qsmp -lhmu -blpdata
  C:          -qpdf1/pdf2
              -O5 -blpdata -qalign=natural

Peak Optimization Flags
  168.wupwise:  -O5 -qsmp -qsave -blpdata -lhmu -lmass
  171.swim:     -O5 -qsmp -lhmu -lmass
  172.mgrid:    -qpdf1/pdf2
                -O4 -qsmp -qipa=partition=large -q64 -blpdata
  173.applu:    -O5 -qsmp -blpdata -lmass
  177.mesa:     -qpdf1/pdf2
```

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Notes/Tuning Information (Continued)

```
                    -O5 -qsmp -blpdata
   178.galgel:      -qpdf1/pdf2
                    -O5 -qsmp -qfdpr -qalign=struct=natural -lhmu -blpdata
                        -lmass -qessl -lesslsmp
                    fdpr -q -O3
   179.art:         -O5 -lhmu -blpdata
   183.equake:      -qpdf1/pdf2
                    -O5 -qhot=level=0 -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:       basepeak=1
   200.sixtrack:    -O3 -qarch=auto -qtune=auto -qfdpr
                    fdpr -q -O3
   301.apsi:        -O5 -qsmp -lhmu -blpdata -lmass
```

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 June 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)
ESSL: Engineering and Scientific Subroutine Library

```
C:               IBM XL C for AIX invoked as xlc_r
Fortran 77:      IBM XL Fortran for AIX invoked as xlf90_r
Fortran 90:      IBM XL Fortran for AIX invoked as xlf90_r
```

ulimits set to unlimited.
Large page mode, memory affinity, MATMUL and OMP threading were set and SMT was disabled as follows:

```
    vmo -r -o lgpg_regions=512 -o lgpg_size=16777216
    smtctl -m off -w boot
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    bosboot -a
    shutdown -rF
    export MEMORY_AFFINITY=MCM
    export XLFRTEOPTS=intrinthds=1
    export XLSMPOPTS=spins=0:yields=0:startproc=0:stride=1
    export OMP_NUM_THREADS=4
```

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.