CFP2000 Result

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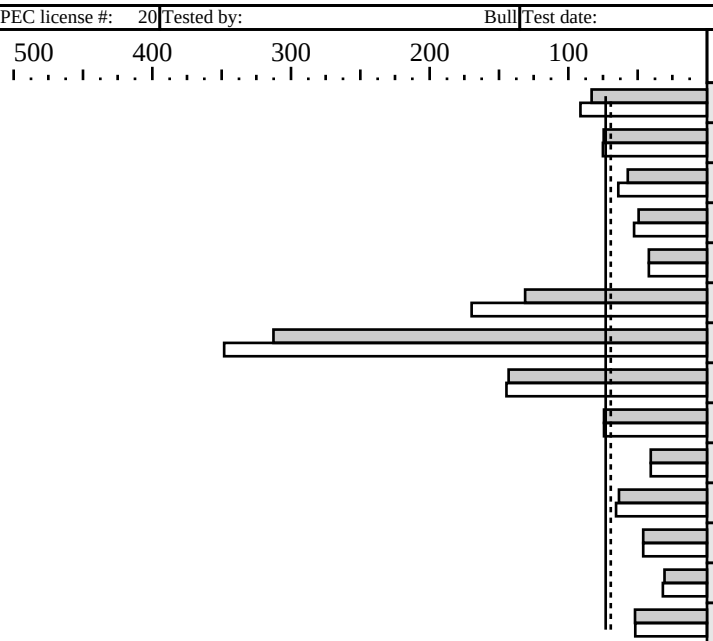
Bull
Escala PL250R+ (2100 MHz, 4 CPU)

SPECfp_rate2000 = 73.1

SPECfp_rate_base2000 = 69.4

SPEC license #: 20 | Tested by: Bull | Test date: Feb-2007 | Hardware Avail: Feb-2006 | Software Avail: Dec-2006



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	89.2	83.2	4	81.3	91.3
171.swim	4	193	74.5	4	192	75.1
172.mgrid	4	146	57.1	2	65.3	64.0
173.applu	4	198	49.3	4	185	52.6
177.mesa	4	155	41.9	4	155	41.9
178.galgel	4	103	131	2	39.6	170
179.art	4	38.6	313	4	34.6	348
183.equake	4	42.2	143	4	41.7	145
187.facerec	4	119	74.3	4	119	74.3
188.ammp	4	252	40.6	4	252	40.6
189.lucas	4	146	63.5	2	70.8	65.6
191.fma3d	4	212	46.0	4	212	46.0
200.sixtrack	4	167	30.6	4	160	31.8
301.apsi	4	232	51.9	4	233	51.7

Hardware

CPU:	POWER5+
CPU MHz:	2100
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip (SMT on)
CPU(s) orderable:	1 chip
Parallel:	no
Primary Cache:	64KBI+32KBD (on chip)per core
Secondary Cache:	1920KB unified (on chip) per chip
L3 Cache:	36MB unified off chip per chip
Other Cache:	None
Memory:	32 GB (8x4 GBB)
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 with the December 2006 PTF XL Fortran Enterprise Edition Version 10.1 for AIX with the November 2006 PTF
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:     -q64 -O5 -blpdata
  172.mgrid:    users=2
                -qpdf1/pdf2
                -O4 -qipa=partition=large -q64 -blpdata
  173.applu:    -qpdf1/pdf2
```

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Notes/Tuning Information (Continued)

```
                -O5 -qarch=pwr3 -qtune=pwr3 -qalign=struct=natural -q64 -blpdata
                 fdpr -q -O3
  177.mesa:      basepeak=yes
  178.galgel:   users=2
                -qpdf1/pdf2
                -O4 -qfdpr -lhmu -blpdata -lmass -qessl -lessl
                fdpr -q -O3
  179.art:      -O5 -lhmu -blpdata
  183.equake:   -qpdf1/pdf2
                -O3 -qarch=auto -qtune=auto -qipa=level=2 -blpdata
  187.facerec:  basepeak=yes
  188.ammp:     basepeak=yes
  189.lucas:    users=2
                -O3 -qarch=auto -qtune=auto -qfdpr -blpdata -qessl -lessl
                fdpr -q -O3
  191.fma3d:    basepeak=yes
  200.sixtrack: -qpdf1/pdf2
                -O5 -qfdpr -qalign=struct=natural
                fdpr -q -O3
  301.apsi:     -O5
```

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-04 Recommended Maintenence package.

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"

```
Extended C:     IBM XL C for AIX invoked as cc
ANSI C89:       IBM XL C for AIX invoked as xlc
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 was set as follows:

```
    vmo -r -o lgpg_regions=800 -o lgpg_size=16777216
    bosboot -aD
    shutdown -rF
```

The following config-file entry was used to assign each benchmark process to a core:

```
submit = let "MYCPU=2*$SPECUSERNUM"; if (("$MYCPU > 3"))
then let "MYCPU-=3"; fi; bindprocessor $$ $MYCPU; $command
```

The "bindprocessor" AIX command binds a process to a CPU core.