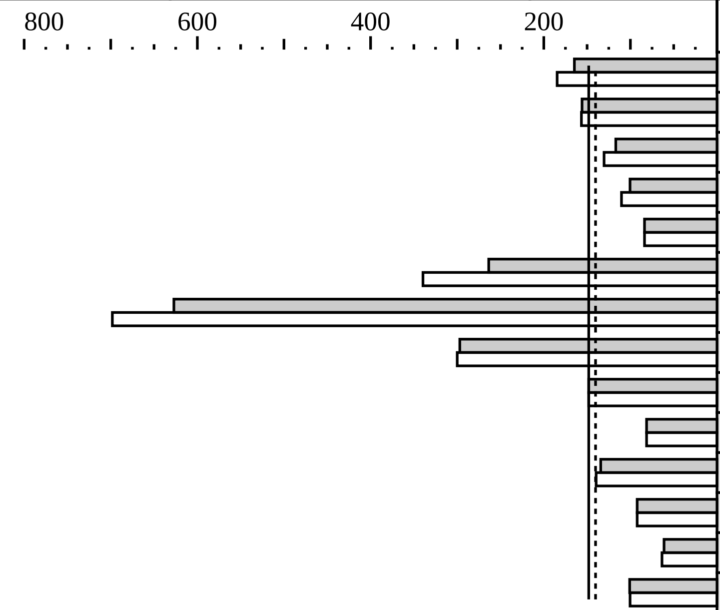
CFP2000 Result

Bull
Escala PL450R+ (2100 MHz, 4 CPU)

SPECfp_rate2000 = 148
SPECfp_rate_base2000 = 140

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	90.2	165	8	80.4	185
171.swim	8	185	156	8	184	157
172.mgrid	8	143	117	4	64.0	130
173.applu	8	194	100	8	177	110
177.mesa	8	155	83.7	8	155	83.7
178.galgel	8	102	264	4	39.6	340
179.art	8	38.5	627	8	34.6	698
183.equake	8	40.6	297	8	40.2	300
187.facerec	8	119	148	8	119	148
188.ammp	8	251	81.3	8	251	81.3
189.lucas	8	138	134	4	66.5	140
191.fma3d	8	211	92.2	8	211	92.2
200.sixtrack	8	167	61.2	8	161	63.5
301.apsi	8	239	101	8	240	100

Hardware

CPU:	POWER5+
CPU MHz:	2100
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip (SMT on)
CPU(s) orderable:	1, 2 chips
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 (8x4GB)
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 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=4
                -qpdf1/pdf2
                -O4 -qipa=partition=large -q64 -blpdata
  173.applu:    -qpdf1/pdf2
```

CFP2000 Result

Bull Escala PL450R+ (2100 MHz, 4 CPU)	SPECfp_rate2000 = 148 SPECfp_rate_base2000 = 140

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

Notes/Tuning Information (Continued)

```
                 -O5 -qarch=pwr3 -qtune=pwr3 -qalign=struct=natural -q64 -blpdata
                  fdpr -q -O3
   177.mesa:      basepeak=yes
   178.galgel:   users=4
                 -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=4
                 -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 5300-05 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 > 7")) notes450= then let "MYCPU-=7"; fi; bindprocessor $$ $MYCPU; $command
```

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