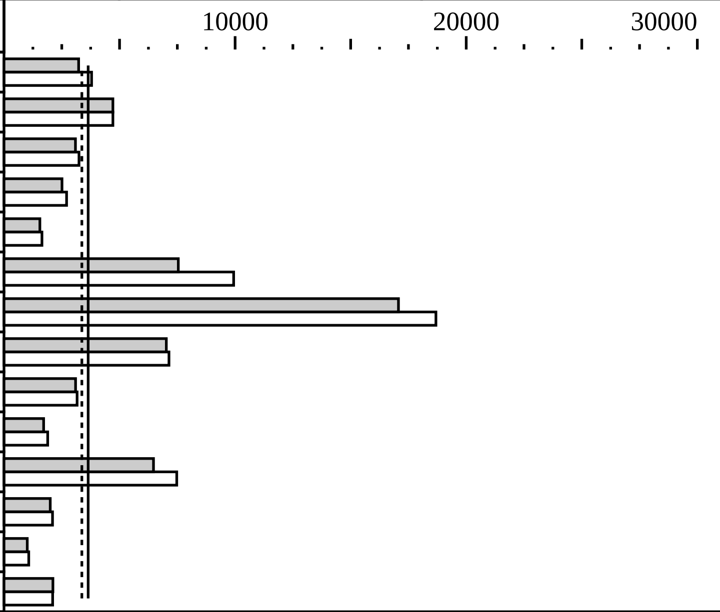
CFP2000 Result

IBM Corporation
IBM System p5 595 (2300 MHz, 1 CPU)

SPECfp2000 = 3642
SPECfp_base2000 = 3369

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	49.5	3230	42.2	3790
171.swim	3100	65.8	4712	65.8	4712
172.mgrid	1800	58.2	3092	55.5	3245
173.applu	2100	83.7	2509	77.5	2708
177.mesa	1400	90.2	1552	85.3	1642
178.galgel	2900	38.5	7542	29.2	9937
179.art	2600	15.2	17068	13.9	18689
183.equake	1300	18.5	7023	18.2	7138
187.facerec	1900	61.4	3097	60.1	3163
188.ammp	2200	128	1715	116	1891
189.lucas	2000	30.9	6469	26.8	7475
191.fma3d	2100	105	2001	100	2099
200.sixtrack	1100	109	1006	103	1071
301.apsi	2600	123	2117	124	2105



Hardware

CPU:	POWER5+
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 2 cores/chip (SMT off)
CPU(s) orderable:	16,32,48,64 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:	256 GB (64x4 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 -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:    -qpdf1/pdf2
                -O4 -q64 -blpdata
```

CFP2000 Result

IBM Corporation

IBM System p5 595 (2300 MHz, 1 CPU)

SPECfp2000 =	3642
SPECfp_base2000 =	3369

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

Notes/Tuning Information (Continued)

```
    177.mesa:     -qpdf1/pdf2
                  -O4 -qalign=natural
    178.galgel:   -qpdf1/pdf2
                  -O5 -qfdpr -qalign=struct=natural -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:  -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: -O3 -qarch=auto -qtune=auto -qfdpr
                  fdpr -q -O3
    301.apsi:     -O5 -qhot=arraypad -Q -qalign=struct=natural
```

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=8192 -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 = let "MYCPU=2*$SPECUSERNUM"; if (("$MYCPU > 127")) then let "MYCPU-=127"; fi; bindprocessor $$ $MYCPU; $command
```

The "bindprocessor" AIX command binds a process to a CPU core.
Sixty-three cores were deconfigured and SMT disabled at the open-firmware prompt, using the command

```
boot -s cpu=1 -s smt_off
```