CFP2000 Result

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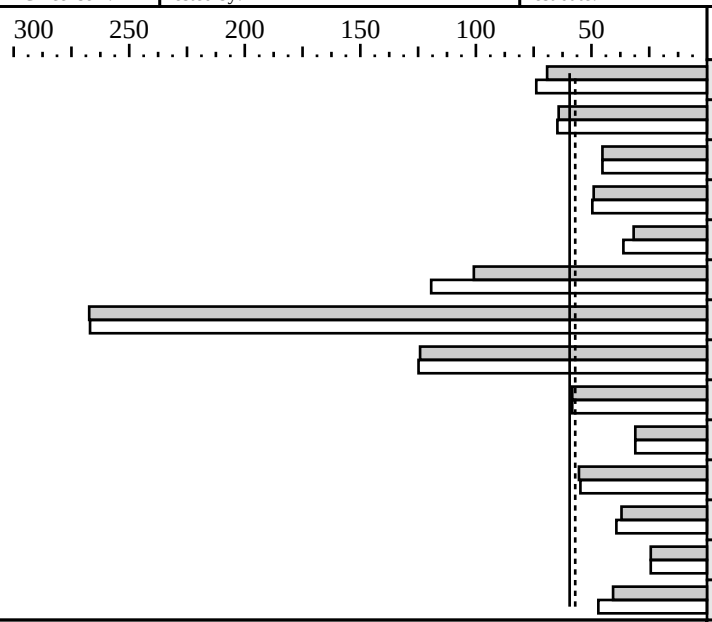
IBM Corporation

IBM System p5 505 (1650 MHz, 2 CPU)

SPECfp_rate2000 = 59.4

SPECfp_rate_base2000 = 57.0

SPEC license #: 11 | Tested by: IBM | Test date: Sep-2005 | Hardware Avail: Oct-2005 | Software Avail: Oct-2005



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	107	69.2	4	101	73.9
171.swim	4	224	64.2	4	222	64.7
172.mgrid	4	185	45.2	4	185	45.2
173.applu	4	199	49.0	4	196	49.6
177.mesa	4	205	31.7	4	180	36.2
178.galgel	4	133	101	4	113	119
179.art	4	45.1	267	4	45.2	267
183.equake	4	48.6	124	4	48.3	125
187.facerec	4	151	58.3	4	151	58.3
188.ammp	4	329	31.0	4	329	31.0
189.lucas	4	167	55.4	4	169	54.8
191.fma3d	4	263	37.0	4	249	39.2
200.sixtrack	4	210	24.3	4	210	24.3
301.apsi	4	297	40.6	4	257	47.0

Hardware

CPU:	POWER5
CPU MHz:	1650
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip (SMT on)
CPU(s) orderable:	2
Parallel:	None
Primary Cache:	64KBI+32KBD (on chip)/core
Secondary Cache:	1920KB unified (on chip)/chip
L3 Cache:	36MB unified (off-chip)/DCM, 1 DCM/SUT
Other Cache:	None
Memory:	8x2GB
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 4.2.0.2
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:  -qpdf1/pdf2
                -O5 -blpdata -qfdpr -qalign=struct=natural
                fdpr -q -O3
  171.swim:     F77=xlf
                -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass
  172.mgrid:    basepeak=1
```

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Notes/Tuning Information (Continued)

```
  173.applu:    -O5 -blpdata -lmass
  177.mesa:     -qpdf1/pdf2
                -O5 -blpdata -qalign=natural -Dfloor=__floor
  178.galgel:   -O5 -blpdata -qessl -lessl
  179.art:      -qpdf1/pdf2
                -O5 -blpdata -qhot=arraypad -Q -qalign=natural
  183.equake:   -O5 -blpdata -lessl
  187.facerec:  basepeak=1
  188.ammp:     basepeak=1
  189.lucas:    -O5 -blpdata -lmass
  191.fma3d:    -qpdf1/pdf2
                -O5 -blpdata -qfdpr -qalign=struct=natural
                fdpr -q -O3
  200.sixtrack: basepeak=1
  301.apsi:     -O5 -lmass -qessl -lessl -blpdata -qsave
```

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-03 Recommended Maintenance 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"
ESSL: Engineering and Scientific Subroutine Library

Extended C: IBM XL C for AIX invoked as cc
ANSI C89: 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 and memory affinity were set as follows:

```
    vmo -r -o lgpg_regions=400 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    reboot -q
    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 > 3")) then let "MYCPU-=3"; fi; bindprocessor $$ $MYCPU; $command
```

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

Use flags-description file IBM-20050919-AIX.txt.