# CFP2000 Result

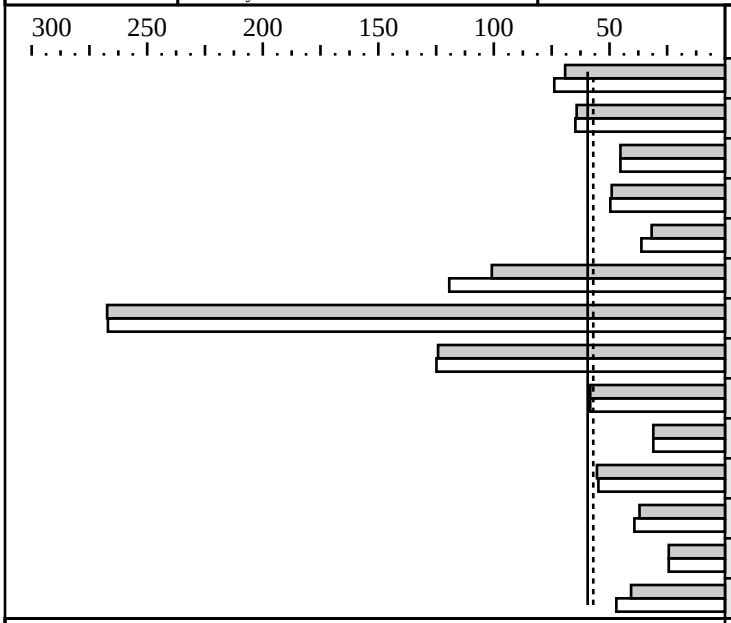


## IBM Corporation
## IBM System p5 505 (1650 MHz, 2 CPU)

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<br>XL Fortran Enterprise Edition Version 10.1 for AIX<br>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
```

## 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.