# CFP2000 Result



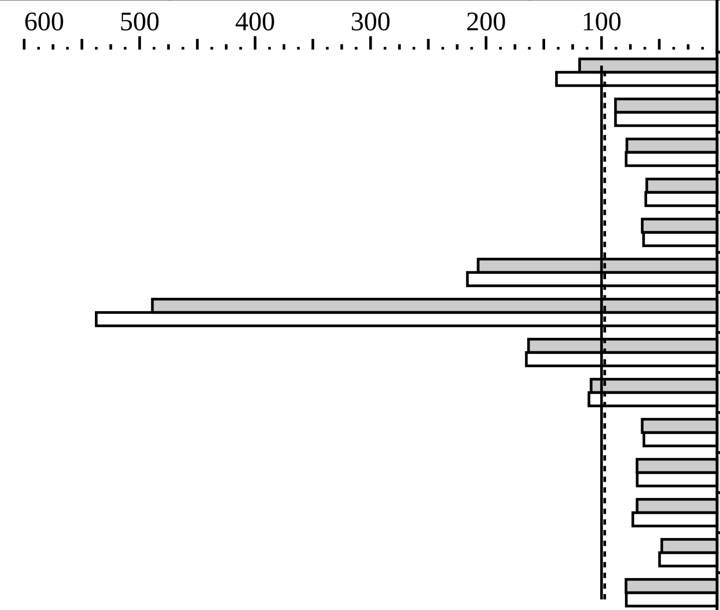
## IBM Corporation

IBM System p5 505Q (1650 MHz, 4 CPU)

SPECfp_rate2000 = 100.0

SPECfp_rate_base2000 = 97.2

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




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 168.wupwise | 8 | 125 | 119 | 8 | 107 | 139 |
| 171.swim | 8 | 327 | 87.9 | 8 | 327 | 87.9 |
| 172.mgrid | 8 | 214 | 78.0 | 8 | 212 | 78.7 |
| 173.applu | 8 | 320 | 60.8 | 8 | 316 | 61.7 |
| 177.mesa | 8 | 201 | 64.7 | 8 | 204 | 63.6 |
| 178.galgel | 8 | 130 | 207 | 8 | 125 | 216 |
| 179.art | 8 | 49.3 | 489 | 8 | 44.9 | 538 |
| 183.equake | 8 | 73.9 | 163 | 8 | 73.1 | 165 |
| 187.facerec | 8 | 162 | 109 | 8 | 159 | 111 |
| 188.ammp | 8 | 315 | 64.8 | 8 | 323 | 63.3 |
| 189.lucas | 8 | 268 | 69.3 | 8 | 269 | 69.1 |
| 191.fma3d | 8 | 282 | 69.2 | 8 | 267 | 72.9 |
| 200.sixtrack | 8 | 213 | 47.8 | 8 | 205 | 49.7 |
| 301.apsi | 8 | 306 | 78.8 | 8 | 307 | 78.5 |

### Hardware

| | |
|---|---|
| CPU: | POWER5+ |
| CPU MHz: | 1650 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip (SMT on) |
| CPU(s) orderable: | 4 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, 2 chips per SUT |
| Other Cache: | None |
| Memory: | 16 GB (8x2 GB) |
| 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 4.2.0.4 |
| 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:    -O5 -qarch=pwr3 -qtune=pwr3 -qalign=struct=natural -qfdpr -q64 -blpdata
                fdpr -q -O3
```

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|---|---|---|---|---|

### Notes/Tuning Information (Continued)

```
   177.mesa:     -qpdf1/pdf2
                  -O5 -qfdpr
                  fdpr -q -O3
   178.galgel:   -qpdf1/pdf2
                -O5 -qfdpr -lhmu -qalign=struct=natural -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
```

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, memory affinity and MATMUL threading were set as follows:
    vmo -r -o lgpg_regions=800 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    bosboot -aD
    shutdown -rF
    export MEMORY_AFFINITY=MCM
    export XLFRTEOPTS=intrinthds=1

The following config-file entry was used to assign each benchmark process to a core:
     submit = bindprocessor $$ $SPECUSERNUM; $command
The "bindprocessor" AIX command binds a process to a CPU core.
```