# CFP2000 Result

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## IBM Corporation

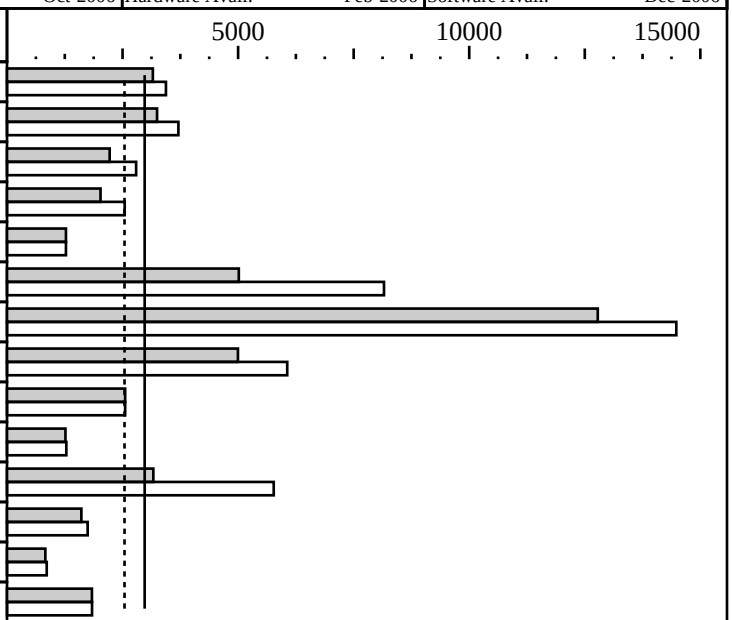
IBM System p5 575 ( 1900 Mhz, 1 CPU, SLES)

SPECfp2000 = 2979

SPECfp_base2000 = 2543

SPEC license #: 11 | Tested by: IBM Austin | Test date: Oct-2006 | Hardware Avail: Feb-2006 | Software Avail: Dec-2006

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|---|---|---|---|---|---|
| 168.wupwise | 1600 | 50.7 | 3155 | 46.5 | 3439 |
| 171.swim | 3100 | 95.5 | 3246 | 83.6 | 3708 |
| 172.mgrid | 1800 | 81.0 | 2221 | 64.4 | 2794 |
| 173.applu | 2100 | 104 | 2023 | 82.5 | 2546 |
| 177.mesa | 1400 | 110 | 1275 | 110 | 1275 |
| 178.galgel | 2900 | 57.8 | 5015 | 35.6 | 8156 |
| 179.art | 2600 | 20.3 | 12781 | 18.0 | 14480 |
| 183.equake | 1300 | 26.0 | 4997 | 21.4 | 6062 |
| 187.facerec | 1900 | 74.3 | 2556 | 74.3 | 2556 |
| 188.ammp | 2200 | 174 | 1265 | 171 | 1284 |
| 189.lucas | 2000 | 63.2 | 3166 | 34.7 | 5770 |
| 191.fma3d | 2100 | 131 | 1609 | 120 | 1745 |
| 200.sixtrack | 1100 | 133 | 830 | 128 | 859 |
| 301.apsi | 2600 | 142 | 1837 | 141 | 1840 |




### Hardware

| | |
|---|---|
| CPU: | POWER5+ |
| CPU MHz: | 1900 |
| FPU: | Integrated |
| CPU(s) enabled: | 1 core, 1 chip, 2 cores/chip (SMT off) |
| CPU(s) orderable: | 8,16 core |
| 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 unified off chip per chip |
| Other Cache: | None |
| Memory: | 64 GB (32x2GB) |
| Disk Subsystem: | 1x73GB SCSI, 15K RPM |
| Other Hardware: | |

### Software

| | |
|---|---|
| Operating System: | SLES<br>SUSE Linux Enterprise Server 10 (ppc) VERSION = 10 w/2.6.16.21-0.8-ppc64 Linux kernel |
| Compiler: | IBM XL C/C++ Advanced Edition V8.0.1 for Linux<br>IBM XL Fortran Advanced Edition V10.1.1 for Linux |
| | Other software:<br>- IBM Engineering and Scientific Subroutine Library (ESSL) for Linux - Version 4.2.5 |
| File System: | reiserfs |
| System State: | Multi-User |

## Notes/Tuning Information

```
+FDO
    Feedback directed optimization enabled by:  PASS1=-qpdf1  PASS2=-qpdf2

FP compilers
   C: invoked as xlc
   Fortran 77 and Fortran 90: invoked as xlf90, except as noted below

FP 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

FP Base Optimization Flags:
  C:       +FDO -O5
  Fortran: +FDO -O5
```

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## Notes/Tuning Information (Continued)

```
Floating Point Peak Flags

168.wupwise
    +FDO -O5 -qsave -lmass
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
171.swim
    +FDO -O5
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
172.mgrid
    +FDO -O4 -q64
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
173.applu
    +FDO -O5 -q64
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
177.mesa
    basepeak=1
178.galgel
    Fortran invoked as xlf90_r
    +FDO -O5 -qessl -lessl -lmass
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
179.art
    +FDO -O5
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
183.equake
    +FDO -O5
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
187.facerec
    basepeak=1
188.ammp
    +FDO -O3 -qalign=linuxppc
189.lucas
    +FDO -O3 -qarch=auto -qtune=auto
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
191.fma3d
    +FDO -O5
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
200.sixtrack
    +FDO -O3 -qarch=auto -qtune=auto
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
301.apsi
    Fortran invoked as xlf90_r
    +FDO -O5 -qessl
    -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
    extra_libs = -lessl


System Settings:
-- ulimit stack size set to unlimited


SMT: Acronym for 'Simultaneous Multi-Threading'.  A processor technology that allows
     the simultaneous execution of multiple thread contexts within a single processor
     core. SMT is enabled by default.

Large pages reserved as follows by root user:
    echo 30 > /proc/sys/vm/nr_hugepages
```

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## Notes/Tuning Information (Continued)

```
System configured with libhugetlbfs library for application access to large pages
Environment variables set as follows:
    export HUGETLB_MORECORE=yes

Linux booted with the options:
       maxcpus=1 smt-enabled=off

Each process was bound to a cpu using submit= with the taskset command
   submit = taskset -p -c $SPECUSERNUM $$ >/dev/null ; $command
```