**IBM Corporation**
**IBM System p5 505 (2100 Mhz, 1 CPU, SLES)**

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio | Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|-----------|----------------|--------------|------------|---------|-------|-----------|----------------|--------------|------------|---------|-------|-------|
| 168.wupwise | 1600 | 47.3 | 3379 | 41.0 | 3902 |
| 171.swim | 3100 | 91.2 | 3398 | 73.9 | 4194 |
| 172.mgrid | 1800 | 75.8 | 2375 | 58.4 | 3082 |
| 173.applu | 2100 | 96.6 | 2173 | 72.9 | 2879 |
| 177.mesa | 1400 | 97.8 | 1431 | 97.8 | 1431 |
| 178.galgel | 2900 | 52.1 | 5561 | 32.0 | 9066 |
| 179.art | 2600 | 18.1 | 14340 | 15.9 | 16367 |
| 183.equake | 1300 | 24.2 | 5366 | 19.3 | 6730 |
| 187.facerec | 1900 | 67.4 | 2819 | 67.4 | 2819 |
| 188.ammp | 2200 | 158 | 1392 | 156 | 1415 |
| 189.lucas | 2000 | 58.2 | 3437 | 34.6 | 5785 |
| 191.fma3d | 2100 | 121 | 1738 | 111 | 1899 |
| 200.sixtrack | 1100 | 120 | 916 | 116 | 949 |
| 301.apsi | 2600 | 127 | 2043 | 127 | 2044 |

**Hardware**
- CPU: POWER5+
- CPU MHz: 2100
- FPU: Integrated
- CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (SMT off)
- CPU(s) orderable: 1.2 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 I+D off chip per chip
- Other Cache: None
- Memory: 16 GB (8x2GB)
- Disk Subsystem: 1x73GB SCSI, 15K RPM
- Other Hardware: None

**Software**
- Operating System: SUSE Linux Enterprise Server 10 (ppc) VERSION = 10 w/2.6.16-21.0-ppc64 Linux kernel
- Compiler: IBM XL C/C++ Advanced Edition V8.0.1 for Linux
- IBM XL Fortran Advanced Edition V10.0.1 for Linux
- Other software: IBM Engineering and Scientific Subroutine Library (ESSL) for Linux - Version 4.2.5
- File System: reiserfs
- System State: Multi-User

**Notes/Tuning Information**
- 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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SPECfp2000 = 3293  
SPECfp_base2000 = 2773

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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SPECfp_base2000 = 2773

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

This result was measured on an IBM System p5 510. IBM System p5 505 and IBM System p5 510 (2-core version) are electronically equivalent.