# CFP2000 Result

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## IBM Corporation

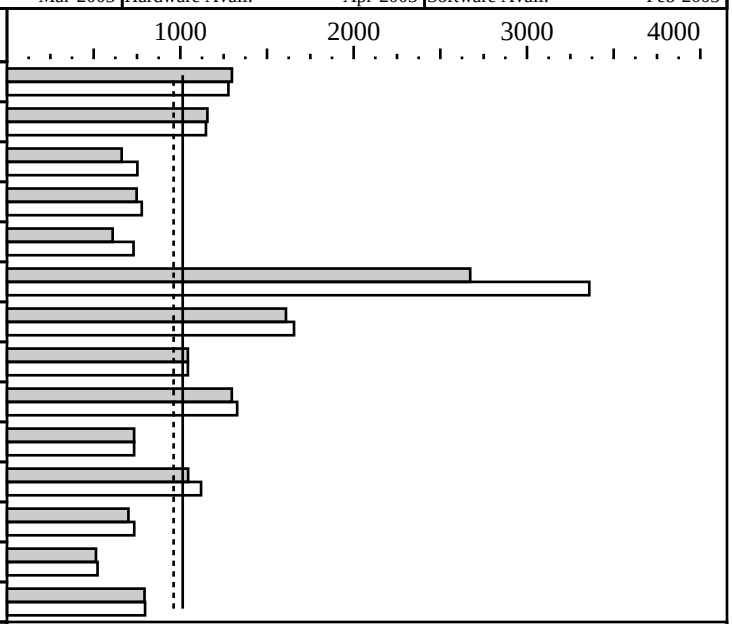
IBM eServer pSeries 630 Model 6E4 (1200 MHz, 1 CPU)

SPECfp2000 = 1014

SPECfp_base2000 = 961

SPEC license #: 11 | Tested by: IBM, Austin, TX | Test date: Mar-2003 | Hardware Avail: Apr-2003 | Software Avail: Feb-2003

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|---|---|---|---|---|---|
| 168.wupwise | 1600 | 123 | 1298 | 125 | 1277 |
| 171.swim | 3100 | 268 | 1156 | 270 | 1148 |
| 172.mgrid | 1800 | 272 | 662 | 239 | 752 |
| 173.applu | 2100 | 281 | 748 | 270 | 777 |
| 177.mesa | 1400 | 230 | 610 | 192 | 730 |
| 178.galgel | 2900 | 109 | 2672 | 86.3 | 3359 |
| 179.art | 2600 | 162 | 1609 | 157 | 1656 |
| 183.equake | 1300 | 125 | 1044 | 125 | 1044 |
| 187.facerec | 1900 | 147 | 1297 | 143 | 1328 |
| 188.ammp | 2200 | 300 | 733 | 300 | 733 |
| 189.lucas | 2000 | 191 | 1045 | 179 | 1120 |
| 191.fma3d | 2100 | 300 | 701 | 286 | 734 |
| 200.sixtrack | 1100 | 214 | 513 | 211 | 522 |
| 301.apsi | 2600 | 328 | 793 | 326 | 797 |




### Hardware

| | |
|---|---|
| CPU: | POWER4+ |
| CPU MHz: | 1200 |
| FPU: | Integrated |
| CPU(s) enabled: | 1 core, 1 chip, 2 cores/chip, 1 chip/SCM |
| CPU(s) orderable: | 1,2,4 (order by # cores) |
| Parallel: | No |
| Primary Cache: | 64KBI+32KBD (on chip) per core |
| Secondary Cache: | 1536KB unified (on chip) per chip |
| L3 Cache: | 8MB unified (off-chip) per SCM, 1 SCM in SUT |
| Other Cache: | None |
| Memory: | 8 GB |
| Disk Subsystem: | 1x36GB SCSI |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | AIX 5L V5.2 PTF 2 |
| Compiler: | IBM C for AIX, Version 6.0<br>IBM XL FORTRAN for AIX, Version 8.1.0.3<br>Other Software: ESSL 3.3, MASS 3.0 |
| File System: | AIX/JFS |
| 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:
  C:
  -O5 -qalign=natural -blpdata -lmass
  Fortran:
  -O5 -qalign=natural -blpdata -lmass

Floating Point Peak Flags
168.wupwise
  -O5 -qipa=partition=large
171.swim
  -O4 -q64 -blpdata
172.mgrid
```

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## Notes/Tuning Information (Continued)

```
    -O5 -qarch=pwr3 -qtune=pwr3 -blpdata
  173.applu
    -O3 -qarch=pwr3 -qtune=pwr3 -lmass -qhot -blpdata
  177.mesa
    -qpdf1/pdf2
    fdpr -v -R3
    -O3 -qarch=pwr3 -qtune=pwr3 -qipa=level=2 -qalign=natural -blpdata
  178.galgel
    -qpdf1/pdf2
    fdpr -v -R3
    -O5 -qalign=natural -qessl -lessl -lmass -blpdata
  179.art
   -O4 -lhmu
  183.equake
    BASEPEAK = 1
  187.facerec
    fdpr -v -R3
    -O5 -lmass -blpdata
  188.ammp
    BASEPEAK = 1
  189.lucas
    -O3 -q64 -blpdata
  191.fma3d
    -qpdf1/pdf2
    -O5 -qarch=pwr4 -qtune=pwr3 -lhmu -qalign=natural -blpdata
  200.sixtrack
    -qpdf1/pdf2
    -O5 -lmass
  301.apsi
    -O5 -qarch=pwr4 -qtune=pwr3 -blpdata

    SCM: Acronym for "Single-Chip Module"
    SUT: Acronym for "System Under Test"

    1 processor was deconfigured through the configuration menu.
    The 1-way pSeries 630 machine contains 1 CPU board.

    fpdr: Feedback directed program restructuring tool
    /usr/spec2000 filesystem mounted with no JFS log file I/O.
    APAR IY 38292 was applied to AIX to enable new hardware support.
    ulimits set to unlimited.
    C: IBM VAC++ invoked as xlc
    Fortran 77 and 90: IBM XL Fortran for AIX invoked as xlf90.
    Large page mode and memory affinity were set as follows:
    vmo -r -o lgpg_regions=32 -o lgpg_size=16777216 -o memory_affinity=1
      chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
      shutdown -r
      export MEMORY_AFFINITY=MCM
```