



CFP2000 Result

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IBM Corporation

IBM eServer OpenPower 710 (1650MHz, 1 CPU, Linux)

SPECfp2000 = 1919

SPECfp_base2000 = 1828

SPEC license #: 11 | Tested by: IBM | Test date: Jan-2005 | Hardware Avail: Feb-2005 | Software Avail: Mar-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	81.3	1968	75.6	2115
171.swim	3100	146	2129	143	2170
172.mgrid	1800	101	1774	101	1774
173.applu	2100	143	1470	145	1451
177.mesa	1400	157	893	151	926
178.galgel	2900	73.1	3966	52.3	5542
179.art	2600	29.9	8696	29.9	8696
183.quake	1300	49.7	2617	44.2	2941
187.facerec	1900	100	1891	92.7	2049
188.amp	2200	200	1101	200	1101
189.lucas	2000	97.4	2054	97.4	2054
191.fma3d	2100	167	1260	167	1260
200.sixtrack	1100	147	748	147	748
301.apsi	2600	199	1306	191	1358

Hardware

CPU: POWER5
 CPU MHz: 1650
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (SMT off)
 CPU(s) orderable: 1,2
 Parallel: No
 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: 8x2 GB
 Disk Subsystem: 1X73GB SCSI, 15K RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux AS 4
 Compiler: XL Fortran Enterprise Edition Version 9.1 for Linux
 XL C/C++ Enterprise Edition Version 7.0 for Linux
 Other Software: IBM ESSL for Linux on POWER,
 Version 4 Release 2
 File System: EXT2
 System State: Multi-User, run level 3

Notes/Tuning Information

Portability Flags

-qfixed used in: wupwise, swim, mgrid, applu, galgel, sixtrack, apsi
 -qsuffix=f=f90 used in: galgel, facerec, lucas, fma3d

Base Optimization Flags:

C:
 -O5 -qpdf1/pdf2
 Fortran:
 -O5 -qpdf1/pdf2

Floating Point Peak Flags

168.wupwise
 -O5 -qarch=pwr3 -qtune=pwr3
 171.swim
 -O3 -qarch=pwr5 -qtune=pwr5 -qhot
 172.mgrid



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Notes/Tuning Information (Continued)

```
basepeak=1
173.applu
  -O3 -qarch=pwr4 -qtune=pwr4
177.mesa: -qpdf1/pdf2
  -O4 -qarch=pwr4 -qtune=pwr4
178.galgel
  "Fortran compiler invoked as xlf_r"
  -O5 -qessl -lessl
179.art:
  basepeak=1
183.quake
  -O5 -qarch=pwr5 -qtune=pwr5
187.facerec: -qpdf1/pdf2
  -O3 -qarch=pwr5 -qtune=pwr5 -qhot
188.ammp
  basepeak=1
189.lucas
  basepeak=1
191.fma3d:
  basepeak=1
200.sixtrack
  -O3 -qarch=pwr5 -qtune=pwr5
301.apsi
  "Fortran compiler invoked as xlf_r"
  -O5 -qarch=pwr5 -qtune=pwr5 -qessl -lessl
```

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

Stack size set to unlimited using "ulimit -s unlimited"

C: IBM XL C/C++ for Linux invoked as xlc

Fortran: IBM XL Fortran for Linux invoked as xlf90 unless explicitly reassigned

Fortran: IBM XL Fortran for Linux invoked as xlf_r where noted

Benchmark was run in a 1 CPU partition created using the Hardware Management Console cleanpdf used with -qpdf1/pdf2 to erase the information in the PDF directory if any exists to ensure no feedback information is reused between compilations.

Flag file: IBM-20050209-Linux.txt