



CFP2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

IBM Corporation
IBM eServer p5 595 (1900 MHz, 1 CPU)

SPECfp2000 = 2796
SPECfp_base2000 = 2585

SPEC license #: 11 | Tested by: IBM | Test date: Jan-2005 | Hardware Avail: Nov-2004 | Software Avail: Dec-2004

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	65.4	2448	57.1	2800	
171.swim	3100	81.4	3809	75.8	4088	
172.mgrid	1800	68.6	2623	68.1	2643	
173.applu	2100	90.5	2320	90.5	2320	
177.mesa	1400	116	1207	110	1268	
178.galgel	2900	54.1	5356	37.9	7659	
179.art	2600	27.0	9623	23.1	11279	
183.quake	1300	25.6	5068	25.6	5076	
187.facerec	1900	79.8	2381	72.7	2615	
188.amp	2200	160	1373	150	1462	
189.lucas	2000	49.3	4060	49.3	4060	
191.fma3d	2100	120	1743	116	1804	
200.sixtrack	1100	131	839	125	877	
301.apsi	2600	152	1712	140	1858	

Hardware

CPU: POWER5
CPU MHz: 1900
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 1 core/chip (SMT off)
CPU(s) orderable: 16,24,32,40,48,56,64
Parallel: No
Primary Cache: 64KBI+32KBD (on chip)
Secondary Cache: 1920KB unified (on chip)
L3 Cache: 36MB unified (off-chip)/chip, 1 chip/MCM, 8 MCM/SUT
Other Cache: None
Memory: 256 GB DDR2
Disk Subsystem: 2x36GB SCSI, 15K RPM
Other Hardware: None

Software

Operating System: AIX 5L V5.3
Compiler: XL C/C++ Enterprise Edition Version 7.0 for AIX
XL Fortran Enterprise Edition V9.1 for AIX
Other Software: ESSL 4.2
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: fdpr -q -O3
-O5 -q64 -blpdata -lmass -qalign=struct=natural -qfdpr
171.swim: fdpr -q -O3
-O5 -q64 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass -qalign=struct=natural -qfdpr
F77=xl f90
172.mgrid: -qpdf1/pdf2



CFP2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

IBM Corporation

IBM eServer p5 595 (1900 MHz, 1 CPU)

SPECfp2000 = 2796

SPECfp_base2000 = 2585

SPEC license #: 11 | Tested by: IBM | Test date: Jan-2005 | Hardware Avail: Nov-2004 | Software Avail: Dec-2004

Notes/Tuning Information (Continued)

```

-05 -q64 -blpdata -lmass
173.applu: basepeak=1
177.mesa: -qpdf1/pdf2
          -03 -qarch=auto -qtune=auto -qipa=level=2
178.galgel: fdpr -q -03
          -05 -blpdata -lmass -qessl -lessl -qfdpr -qalign=struct=natural
179.art: -05 -lhmu -blpdata -lmass
183.earthquake: -qpdf1/pdf2
                -05 -blpdata -lmass -qipa=partition=large -qmaxmem=-1
187.facerec: fdpr -q -03
                -05 -blpdata -lmass -qfdpr
188.ammp: -qpdf1/pdf2
           -05 -q64 -blpdata -qalign=natural
189.lucas: basepeak=1
191.fma3d: fdpr -q -03
           -05 -blpdata -qalign=struct=natural -qfdpr
200.sixtrack: fdpr -q -03
              -05 -blpdata -lmass -qfdpr
              F77=xlfx90
301.apsi: -05 -blpdata -lmass -qessl -lessl -qsave
           F77=xlfx90

```

APAR IY62267 was applied to AIX 5L V5.3 to achieve Maintenance Level 1.

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)

MCM: Acronym for "Multi-Chip Module" (four dual-core processor chips + four L3-cache chips)

SUT: Acronym for "System Under Test"

ESSL: Engineering and Scientific Subroutine Library

C: IBM XL C for AIX invoked as xlc

Fortran 77: IBM XL Fortran for AIX invoked as xlf90 unless explicitly reassigned

Fortran 90: IBM XL Fortran for AIX invoked as xlf

ulimits set to unlimited.

Large page mode and memory affinity were set as follows:

```

vmo -r -o lpgg_regions=12288 -o lpgg_size=16777216 -o memory_affinity=1
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
reboot -q
export MEMORY_AFFINITY=MCM

```

One core was deconfigured and SMT disabled at the open-firmware prompt, using the command

```
boot -s cpu=1 -s smt_off
```