CFP2000 Result

Copyright ©1999-2005, Standard Performance Evaluation Corporation

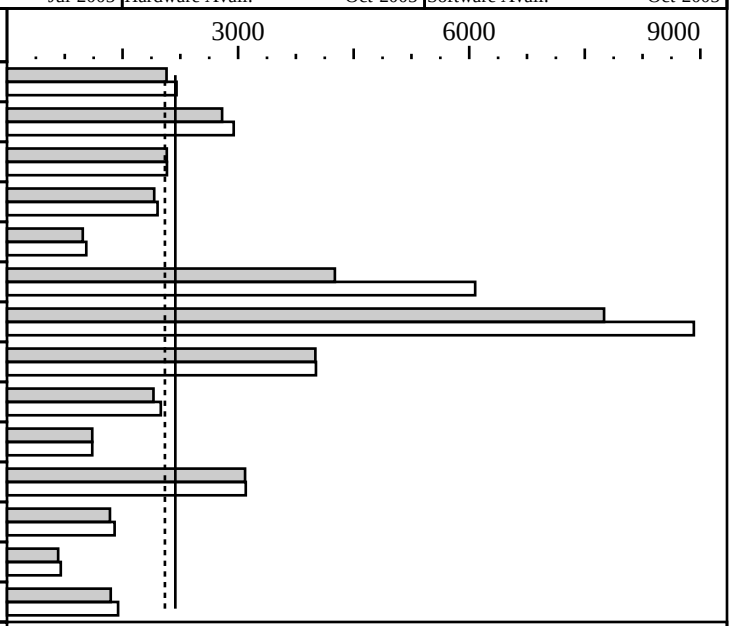
IBM Corporation
IBM eServer p5 575 (1500 MHz, 1 CPU)

SPECfp2000 = 2185

SPECfp_base2000 = 2050

SPEC license #: 11 | Tested by: IBM | Test date: Jul-2005 | Hardware Avail: Oct-2005 | Software Avail: Oct-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	77.3	2071	72.7	2201
171.swim	3100	111	2792	105	2943
172.mgrid	1800	86.8	2074	86.7	2076
173.applu	2100	110	1911	107	1954
177.mesa	1400	142	984	136	1029
178.galgel	2900	68.1	4256	47.7	6077
179.art	2600	33.5	7750	29.2	8916
183.equake	1300	32.5	4003	32.4	4010
187.facerec	1900	99.9	1901	95.2	1997
188.ammp	2200	199	1107	199	1107
189.lucas	2000	64.7	3090	64.5	3099
191.fma3d	2100	157	1336	150	1397
200.sixtrack	1100	166	664	158	698
301.apsi	2600	193	1347	180	1442



Hardware

CPU:	POWER5
CPU MHz:	1500
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip (SMT off)
CPU(s) orderable:	16
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip)/core
Secondary Cache:	1920KB unified (on chip)/chip
L3 Cache:	36MB unified (off-chip)/DCM, 8 DCM/SUT
Other Cache:	None
Memory:	64x1GB
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 4.2.0.2
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 -blpdata -lmass
  C:          -qpdf1/pdf2
              -O5 -blpdata -qalign=natural

Peak Optimization Flags
  168.wupwise:  F77=xlf90
                -q64 -O5 -blpdata -lmass -qalign=struct=natural -qfdpr
                fdpr -q -O3
  171.swim:     F77=xlf90
                -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass
  172.mgrid:    -O5 -lmass -qessl -lessl -blpdata -qsave
```

Copyright ©1999-2005, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

```
  173.applu:    F77=xlf90
               -q64 -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass -qalign=struct=natural -qfdpr
                fdpr -q -O3
  177.mesa:     -qpdf1/pdf2
                -O3 -qarch=auto -qtune=auto -qipa=level=2
  178.galgel:   -O5 -blpdata -lmass -qessl -lessl -qfdpr
                fdpr -q -O3
  179.art:      -O5 -lhmu -blpdata -lmass
  183.equake:   -qpdf1/pdf2
                -O5 -blpdata -qalign=natural -D_ILS_MACROS
  187.facerec:  -O5 -blpdata -qfdpr -qalign=struct=natural
                fdpr -q -O3
  188.ammp:     basepeak=1
  189.lucas:    -O5 -lmass -qessl -lessl -blpdata -qsave
  191.fma3d:    -qpdf1/pdf2
                -O5 -blpdata -qfdpr -qalign=struct=natural
                fdpr -q -O3
  200.sixtrack: F77=xlf90
                -q64 -O5 -blpdata -lmass -qalign=struct=natural -qfdpr
                fdpr -q -O3
  301.apsi:     F77=xlf90
                -O5 -lmass -qessl -lessl -blpdata -qsave


The installed OS level is AIX 5L for POWER version 5.3 with the 5300-03 Recommended Maintenance package.

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

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 lgpg_regions=2048 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    reboot -q
    export MEMORY_AFFINITY=MCM

The following config-file entry was used to assign each benchmark process to a core:
   submit = let "MYCPU=2*$SPECUSERNUM"; if (("$MYCPU > 31")) then let "MYCPU-=31"; fi; bindprocessor $$ $MYCPU; $command
The "bindprocessor" AIX command binds a process to a CPU core.
Fifteen cores were deconfigured and SMT disabled at the open-firmware prompt, using the
command
                 boot -s cpu=1 -s smt_off

Use flags-description file IBM-20050822-AIX.txt.
```