CFP2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

IBM Corporation

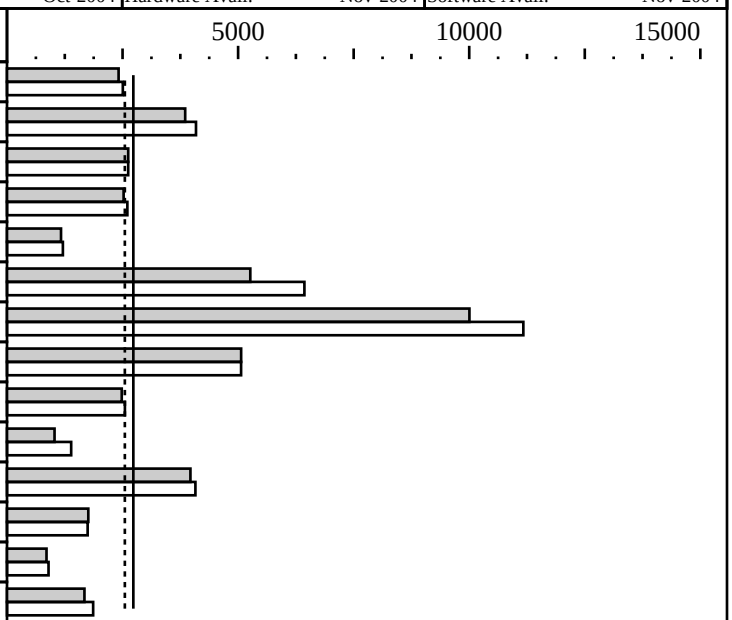
IBM eServer p5 595 (1900 MHz, 1 CPU)

SPECfp2000 = 2733

SPECfp_base2000 = 2549

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	66.3	2414	63.9	2506
171.swim	3100	80.4	3855	75.8	4089
172.mgrid	1800	68.6	2623	68.6	2622
173.applu	2100	83.2	2523	80.6	2604
177.mesa	1400	120	1169	116	1209
178.galgel	2900	55.1	5264	45.1	6434
179.art	2600	26.0	10004	23.3	11171
183.equake	1300	25.7	5066	25.7	5064
187.facerec	1900	76.5	2482	74.5	2551
188.ammp	2200	214	1029	158	1388
189.lucas	2000	50.4	3968	49.1	4076
191.fma3d	2100	119	1759	120	1745
200.sixtrack	1100	129	855	122	899
301.apsi	2600	155	1675	139	1864



Hardware

CPU:	POWER5
CPU MHz:	1900
FPU:	Integrated
CPU(s) enabled:	64 cores, 32 chips, 2 cores/chip (SMT off)
CPU(s) orderable:	16,24,32,40,48,56,64
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip)/core
Secondary Cache:	1920KB unified (on chip)/chip
L3 Cache:	36MB unified (off-chip)/chip, 4 chips/MCM, 8 MCMs/SUT
Other Cache:	None
Memory:	256 GB DDR2
Disk Subsystem:	3x36GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition V7.0 for AIX XL Fortran Enterprise Edition V9.1 for AIX Other Software: ESSL for AIX V4.2
File System:	AIX/JFS2
System State:	Multi-user

Notes/Tuning Information

```
Tested by IBM
  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:          -qpdf1/pdf2
                -O5 -blpdata -lmass
    Fortran:    -qpdf1/pdf2
                -O5 -blpdata -lmass

  Peak Optimization Flags:
     168.wupwise:    -O5
     171.swim:       -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass
                     F77=xlf
```

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

```
   172.mgrid:      -qpdf1/pdf2
                   -O5 -blpdata -lmass
   173.applu:      -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass
                   F77=xlf
   177.mesa:       -qpdf1/pdf2
                   -O5
   178.galgel:     -O5 -blpdata -qessl -lessl
   179.art:        -O5 -lmass -qessl -lessl -blpdata -qsave
   183.equake:     -qpdf1/pdf2
                   -O5 -blpdata -lmass
   187.facerec:    -O3 -qhot -qarch=pwr5 -qtune=pwr5 -qfdpr
                   fdpr -R3
   188.ammp:       -qpdf1/pdf2
                   -O5 -blpdata -qalign=natural -D_ILS_MACROS
   189.lucas:      -O5 -blpdata -lmass
   191.fma3d:      -qpdf1/pdf2
                   -O5 -blpdata -qalign=natural -qhot=arraypad -Q
   200.sixtrack:   -O3 -qhot -qarch=pwr5 -qtune=pwr5 -qfdpr
                   fdpr -R3
   301.apsi:       -O5 -lmass -qessl -lessl -blpdata -qsave


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)
     This system contains 8 MCMs.
SUT: Acronym for "System Under Test"
ESSL: Engineering and Scientific Subroutine Library

C:       IBM XL C for AIX invoked as xlc
Fortran: IBM XL Fortran for AIX invoked as xlf90

APAR IY60349 was applied to AIX to enable new hardware support.
ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
   vmo -r -o lgpg_regions=7000 -o lgpg_size=16777216 -o memory_affinity=1
   chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
   shutdown -r
   export MEMORY_AFFINITY=MCM

SMT was disabled at the open-firmware prompt, using the command
          boot -s smt_off
The following config-file entry was used to assign each benchmark process to a core:
   use_submit_for_speed = 1
   submit = let "MYCPU=$SPECUSERNUM"; bindprocessor $$ $MYCPU; $command
The "bindprocessor" AIX command binds a process to a CPU core.
```