



CFP2000 Result

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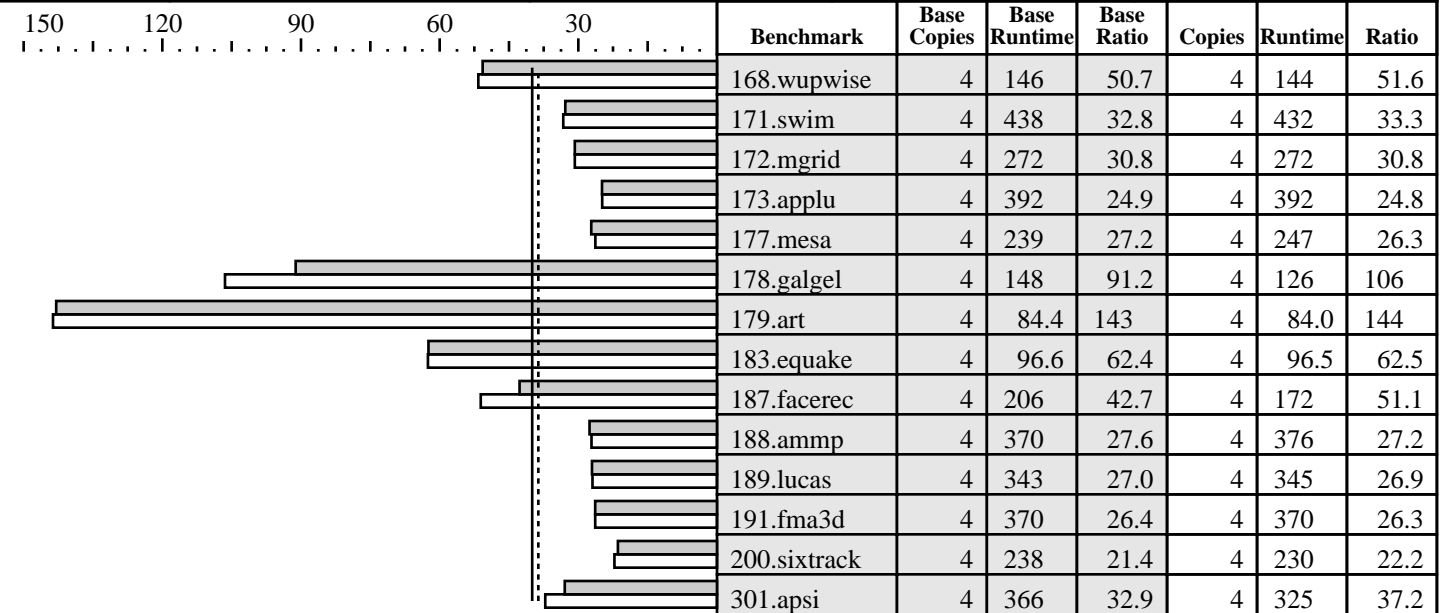
IBM Corporation

IBM eServer p5 520 Express (1500 MHz, 2 CPU)

SPECfp_rate2000 = 40.0

SPECfp_rate_base2000 = 38.7

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



Hardware

CPU: POWER5
 CPU MHz: 1500
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip (SMT on)
 CPU(s) orderable: 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: 8x2GB
 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 -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=xlf90
 172.mgrid: basepeak=1



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Notes/Tuning Information (Continued)

```

173.applu:  fdpr -q -O3
            -O5 -q64 -blpdata -qalign=struct=natural -qfdpr
            F77=xlf90
177.mesa:   -qpdl1/pdf2
            -O3 -qarch=auto -qtune=auto -qipa=level=2
178.galgel: fdpr -q -O3
            -O5 -blpdata -lmass -qessl -lessl -qfdpr
179.art:    -O5 -lhmu -blpdata -lmass
183.earthquake: -qpdl1/pdf2
            -O5 -blpdata -lmass -qipa=partition=large -qmaxmem=-1
187.facerec: fdpr -q -O3
            -O5 -blpdata -lmass -qfdpr
188.ammp:   -qpdl1/pdf2
            -O5 -q64 -blpdata -qalign=natural
189.lucas:  -O5 -blpdata -lmass
191.fma3d:  fdpr -q -O3
            -O5 -blpdata -qalign=struct=natural -qfdpr
200.sixtrack: fdpr -q -O3
            -O5 -blpdata -lmass -qfdpr
301.apsi:   -O5 -blpdata -lmass -qessl -lessl -qsave

```

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)

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 lpgg_regions=400 -o lpgg_size=16777216 -o memory_affinity=1
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=\$SPECUSERNUM"; bindprocessor \$\$ \$MYCPU; $command
```

The "bindprocessor" AIX command binds a process to a CPU core.