CFP2000 Result

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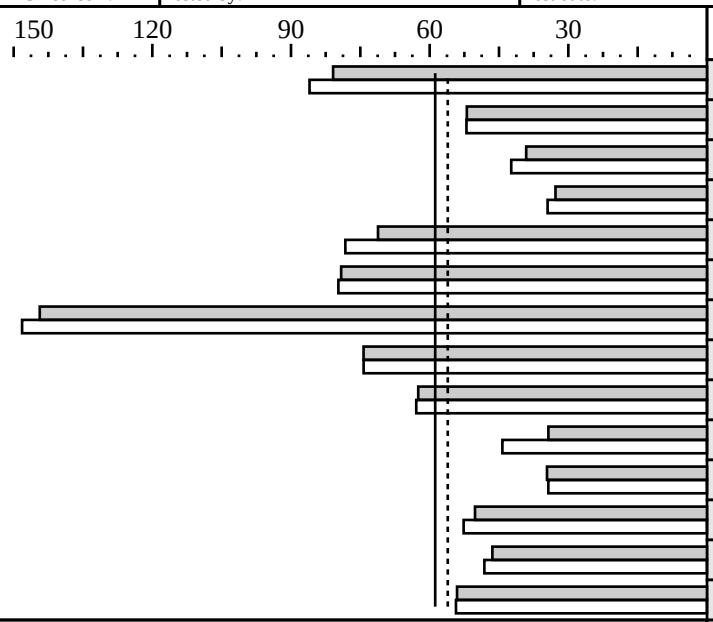
IBM Corporation

IBM BladeCenter JS21 (2500 MHz, 4 CPU)

SPECfp_rate2000 = 58.8

SPECfp_rate_base2000 = 56.1

SPEC license #: 11 | Tested by: IBM | Test date: Jan-2006 | Hardware Avail: Mar-2006 | Software Avail: Mar-2006



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	91.8	80.9	4	86.3	86.0
171.swim	4	277	52.0	4	276	52.0
172.mgrid	4	214	39.1	4	197	42.4
173.applu	4	297	32.8	4	283	34.5
177.mesa	4	91.3	71.2	4	83.0	78.2
178.galgel	4	170	79.1	4	169	79.7
179.art	4	83.6	144	4	81.4	148
183.equake	4	81.2	74.3	4	81.2	74.3
187.facerec	4	141	62.5	4	140	62.9
188.ammp	4	297	34.3	4	231	44.3
189.lucas	4	268	34.6	4	270	34.3
191.fma3d	4	194	50.2	4	185	52.7
200.sixtrack	4	110	46.4	4	106	48.2
301.apsi	4	223	54.1	4	222	54.3

Hardware

CPU:	IBM PowerPC 970MP
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	4
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip)/core
Secondary Cache:	1MB unified (on chip)/core
L3 Cache:	None
Other Cache:	None
Memory:	4x2GB PC2-4200 533MHz ECC Chipkill DDR2
Disk Subsystem:	2x 73GB 10,000 rpm 2.5" SFF Serial Attached SCSI
Other Hardware:	BladeCenter H

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition Version 8.0 for AIX XL Fortran Enterprise Edition Version 10.1 for AIX Other Software: ESSL 4.2.0.4
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:  -O5 -qsave -blpdata -lhmu -qenablevmx -lmass
  171.swim:     -qpdf1/pdf2
                -O4 -qfdpr -blpdata
                fdpr -q -O3
  172.mgrid:    -qpdf1/pdf2
                -O4 -q64 -blpdata
```

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Notes/Tuning Information (Continued)

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


The installed OS level is AIX 5L for POWER version 5.3 with the 5300-04 Recommended Technology Level.

ESSL: Engineering and Scientific Subroutine Library

ANSI C89:       IBM XL C for AIX invoked as xlc
Fortran 77:     IBM XL Fortran for AIX invoked as xlf90
Fortran 90:     IBM XL Fortran for AIX invoked as xlf90

ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
    vmo -r -o lgpg_regions=200 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    shutdown -rF
    export MEMORY_AFFINITY=MCM

The following config-file entry was used to assign each benchmark process to a core:
     submit = bindprocessor $$ $SPECUSERNUM; $command
The "bindprocessor" AIX command binds a process to a CPU core.
```