CFP2000 Result

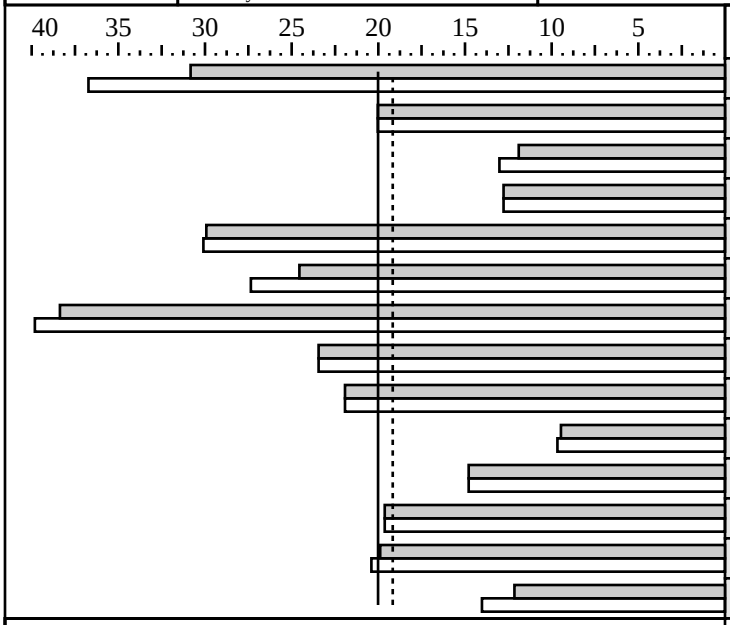
IBM Corporation

IBM eServer BladeCenter JS20 (2200 MHz, 2 CPU)

SPECfp_rate2000 = 20.0

SPECfp_rate_base2000 = 19.2

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	120	30.8	2	101	36.7
171.swim	2	359	20.0	2	359	20.0
172.mgrid	2	351	11.9	2	321	13.0
173.applu	2	381	12.8	2	381	12.8
177.mesa	2	109	29.9	2	108	30.1
178.galgel	2	274	24.6	2	246	27.4
179.art	2	157	38.4	2	152	39.8
183.equake	2	129	23.5	2	129	23.5
187.facerec	2	201	21.9	2	201	21.9
188.ammp	2	539	9.46	2	528	9.67
189.lucas	2	314	14.8	2	314	14.8
191.fma3d	2	248	19.6	2	248	19.6
200.sixtrack	2	128	19.9	2	125	20.4
301.apsi	2	497	12.1	2	430	14.0

Hardware

CPU:	PowerPC 970
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	2 cores, 2 chips, 1 core/chip
CPU(s) orderable:	1,2
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip)/chip
Secondary Cache:	512KB unified (on chip)/chip
L3 Cache:	None
Other Cache:	None
Memory:	4x1 GB
Disk Subsystem:	1x40GB 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 -qalign=natural
    Fortran:    -qpdf1/pdf2
                -O5 -blpdata -lmass

  Peak Optimization Flags:
     168.wupwise:    -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass
                     F77=xlf
     171.swim:       basepeak=1
```

Notes/Tuning Information (Continued)

```
   172.mgrid:      -qpdf1/pdf2
                   -O5 -qessl -lessl
   173.applu:      basepeak=1
   177.mesa:       -qpdf1/pdf2
                   -O5 -blpdata -qalign=natural
   178.galgel:     -O5 -lmass -qessl -lessl -blpdata -qsave
   179.art:        -qpdf1/pdf2
                   -O5 -lhmu -qalign=natural
   183.equake:     basepeak=1
   187.facerec:    basepeak=1
   188.ammp:       -qpdf1/pdf2
                   -O5 -blpdata -qalign=natural -D_ILS_MACROS
   189.lucas:      basepeak=1
   191.fma3d:      basepeak=1
   200.sixtrack:   -O3 -qarch=pwr4 -qtune=pwr4
   301.apsi:       -O5 -lmass -qessl -lessl -blpdata -qsave


C:        IBM XL C for AIX invoked as xlc
Fortran : IBM XL Fortran for AIX invoked as xlf90
ESSL:     Engineering and Scientific Subroutine Library

APAR IY 62532 was applied to AIX to enable new hardware support.
APAR PQ 95435 was applied to ESSL to enable new hardware support.
ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
   vmo -r -o lgpg_regions=200 -o lgpg_size=16777216 -o memory_affinity=1
   chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
   shutdown -r
   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.
```