CFP2000 Result

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IBM Corporation

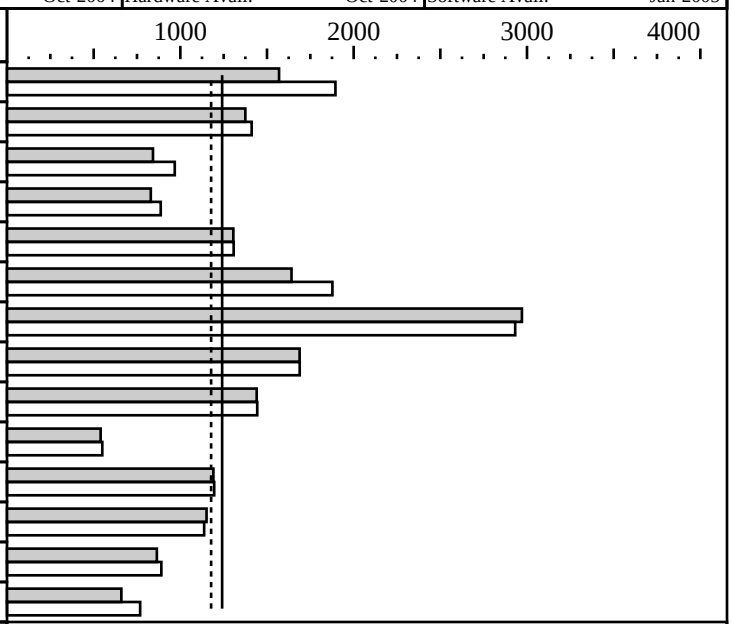
IBM eServer BladeCenter JS20 (2200 MHz, 1 CPU)

SPECfp2000 = 1241

SPECfp_base2000 = 1178

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	102	1570	84.4	1895
171.swim	3100	225	1375	220	1412
172.mgrid	1800	214	842	186	968
173.applu	2100	253	830	237	887
177.mesa	1400	107	1306	107	1308
178.galgel	2900	177	1641	154	1877
179.art	2600	87.5	2971	88.7	2932
183.equake	1300	77.0	1688	77.0	1689
187.facerec	1900	132	1441	132	1444
188.ammp	2200	407	540	400	550
189.lucas	2000	168	1191	167	1195
191.fma3d	2100	182	1151	185	1137
200.sixtrack	1100	127	865	124	890
301.apsi	2600	394	660	338	768



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
     171.swim:       -O3 -qhot -qarch=pwr5 -qtune=pwr5 -qfdpr
                     fdpr -R3
```

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Notes/Tuning Information (Continued)

```
   172.mgrid:      -qpdf1/pdf2
                   -O5 -qessl -lessl
   173.applu:      -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass
                   F77=xlf
   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:     -qpdf1/pdf2
                   -O5 -blpdata -qalign=natural -qhot=arraypad -Q
   187.facerec:    -pdf1/pdf2
                   -O5 -blpdata -qalign=natural -qhot=arraypad -Q
   188.ammp:       -qpdf1/pdf2
                   -O5 -blpdata -qalign=natural -D_ILS_MACROS
   189.lucas:      -O5 -lmass -qessl -lessl -blpdata -qsave
   191.fma3d:      -qpdf1/pdf2
                   -O5 -blpdata -lmass
   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 $USER
   shutdown -r
   export MEMORY_AFFINITY=MCM
The following config-file entry was used to assign each benchmark process to a core:
   use_submit_for_speed = 1
   submit = let "MYCPU=$SPECUSERNUM"; bindprocessor $$ $MYCPU; $command
The "bindprocessor" AIX command binds a process to a CPU core.
```