



CFP2000 Result

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IBM Corporation

IBM eServer pSeries 690 Turbo (1700 MHz, 32 CPU)

SPECfp_rate2000 = 372

SPECfp_rate_base2000 = 358

SPEC license #: 11 | Tested by: IBM, Austin, TX | Test date: Apr-2003 | Hardware Avail: May-2003 | Software Avail: May-2003

				Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
1200	900	600	300	168.wupwise	32	124	479	32	120	497
				171.swim	32	310	372	32	310	371
				172.mgrid	32	229	292	32	210	318
				173.applu	32	289	270	32	273	286
				177.mesa	32	170	306	32	143	364
				178.galgel	32	142	759	32	133	812
				179.art	32	345	280	32	337	287
				183.equake	32	119	404	32	119	404
				187.facerec	32	130	542	32	128	551
				188.amp	32	281	291	32	281	291
				189.lucas	32	212	351	32	209	356
				191.fma3d	32	244	320	32	240	325
				200.sixtrack	32	160	255	32	152	268
				301.apsi	32	281	344	32	279	346

Hardware

CPU: POWER4+
CPU MHz: 1700
FPU: Integrated
CPU(s) enabled: 32 cores, 16 chips, 2 cores/chip, 4 chips/MCM
CPU(s) orderable: 1,2,3,4 (order by # MCM)
Parallel: No
Primary Cache: 64KBI+32KBD (on chip) per core
Secondary Cache: 1536KB unified (on chip) per chip
L3 Cache: 128MB unified (off-chip) per MCM, 4 MCMs in SUT (4 chips per MCM)
Other Cache: None
Memory: 256 GB
Disk Subsystem: 1x36GB SCSI, 10K RPM
Other Hardware: None

Software

Operating System: AIX 5L V5.2
Compiler: IBM C for AIX, Version 6.0
IBM XL FORTRAN for AIX, Version 8.1.0.3
Other Software: ESSL 3.3, MASS 3.0
File System: AIX/JFS
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:

C:
-O5 -qalign=natural -blpdata -lmass
Fortran:
-O5 -qalign=natural -blpdata -lmass

Floating Point Peak Flags

168.wupwise
-O5 -qipa=partition=large
171.swim
-O4 -q64 -blpdata
172.mgrid



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Notes/Tuning Information (Continued)

```
-O5 -qarch=pwr3 -qtune=pwr3 -blpdata
173.applu
-O3 -qarch=pwr3 -qtune=pwr3 -lmass -qhot -blpdata
177.mesa
-qpdf1/pdf2
fdpr -v -R3
-O3 -qarch=pwr3 -qtune=pwr3 -qipa=level=2 -qalign=natural -blpdata
178.galgel
-qpdf1/pdf2
fdpr -v -R3
-O5 -qalign=natural -qessl -lessl -lmass -blpdata
179.art
-O4 -lhmu
183.quake
BASEPEAK = 1
187.facerec
fdpr -v -R3
-O5 -lmass -blpdata
188.ammp
BASEPEAK = 1
189.lucas
-O3 -q64 -blpdata
191.fma3d
-qpdf1/pdf2
-O5 -qarch=pwr4 -qtune=pwr3 -lhmu -qalign=natural -blpdata
200.sixtrack
-qpdf1/pdf2
-O5 -lmass
301.apsi
-O5 -qarch=pwr4 -qtune=pwr3 -blpdata
```

MCM: Acronym for "Multi-Chip Module"

SUT: Acronym for "System Under Test"

fpdr: Feedback directed program restructuring tool
/usr/spec2000 filesystem mounted with no JFS log file I/O.
APAR IY 36772 was applied to AIX to enable new hardware support.
ulimits set to unlimited.
C: IBM VAC++ invoked as xlc
Fortran 77 and 90: IBM XL Fortran for AIX invoked as xlf90.
Large page mode and memory affinity were set as follows:
vmo -r -o lgpg_regions=1024 -o lgpg_size=16777216 -o memory_affinity=1
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE \$USER
shutdown -r
export MEMORY_AFFINITY=MCM