



CFP2000 Result

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IBM

eServer 325, 2.0 GHz Opteron, 64-bit pgi, SuSE SLES8 Linux

SPECfp_rate2000 = 14.3

SPECfp_rate_base2000 = 14.1

SPEC license #: 11 | Tested by: IBM, Research Triangle Park, NC | Test date: Sep-2003 | Hardware Avail: Oct-2003 | Software Avail: Jul-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	120	15.5	1	120	15.5
171.swim	1	165	21.8	1	165	21.8
172.mgrid	1	166	12.6	1	162	12.9
173.applu	1	199	12.3	1	197	12.4
177.mesa	1	95.8	16.9	1	90.6	17.9
178.galgel	1	136	24.7	1	137	24.6
179.art	1	209	14.4	1	207	14.6
183.equake	1	101	14.9	1	98.6	15.3
187.facerec	1	151	14.6	1	151	14.6
188.amp	1	199	12.8	1	195	13.1
189.lucas	1	164	14.2	1	162	14.3
191.fma3d	1	170	14.4	1	170	14.4
200.sixtrack	1	221	5.77	1	221	5.77
301.apsi	1	248	12.2	1	248	12.2

Hardware

CPU: AMD Opteron 246
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip
 CPU(s) orderable: 1,2
 Parallel: No
 Primary Cache: 64KBI + 64KBD on chip
 Secondary Cache: 1024KB(I+D) on chip
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 4x512MB PC2700 Reg ECC DDR SDRAM CL2.5
 Disk Subsystem: 1 x 40GB IDE
 Other Hardware: None

Software

Operating System: SuSE Linux 8.0 SLES 64 bit Kernel 2.4.19-249 (SP2)
 Compiler: PGI Fortran 5.0-1 and SuSE gcc33 optional compiler (from SLES8 SP2)
 File System: Linux/reiserfs
 System State: Multi-user SuSE Run level 5

Notes/Tuning Information

Tested by IBM Corporation

pgf90 is the PGI Fortran compiler
 gcc is the SuSE optional gcc33 package C compiler (from SLES8 SP2)
 +FDO: PASS1=-fprofile-arcs PASS2=-fbranch-probabilities
 ONESTEP is used for all base and peak runs

Portability:

178.galgel: -Mfixed

Baseline Fortran: pgf90 -fastsse -Mipa=fast

Baseline C: gcc -O3 -funroll-all-loops +FDO

Peak tuning:

168.wupwise: basepeak=true

171.swim: basepeak=true

172.mgrid: -fast -Mipa=fast

173.applu: -fast -Mipa=fast

177.mesa: -O3 -funroll-all-loops -finline-limit=2000 +FDO

178.galgel: -fastsse -Mipa=fast -O3

179.art: -O3 -funroll-all-loops -ffast-math -finline-limit=1500 +FDO



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Notes/Tuning Information (Continued)

```
183.equake:      -O3 -funroll-all-loops -ffast-math -finline-limit=2000
187.facerec:    -fastsse -Mipa=fast -O3
188.ammp:       -O3 -funroll-all-loops -ffast-math -finline-limit=2000 +FDO
189.lucas:      -fastsse -Mipa=fast -Mnosmart
191.fma3d:      basepeak=true
200.sixtrack:   basepeak=true
301.apsi:       basepeak=true
Set the following BIOS parameters:
DRAM Interleave = AUTO
```