CFP2000 Result

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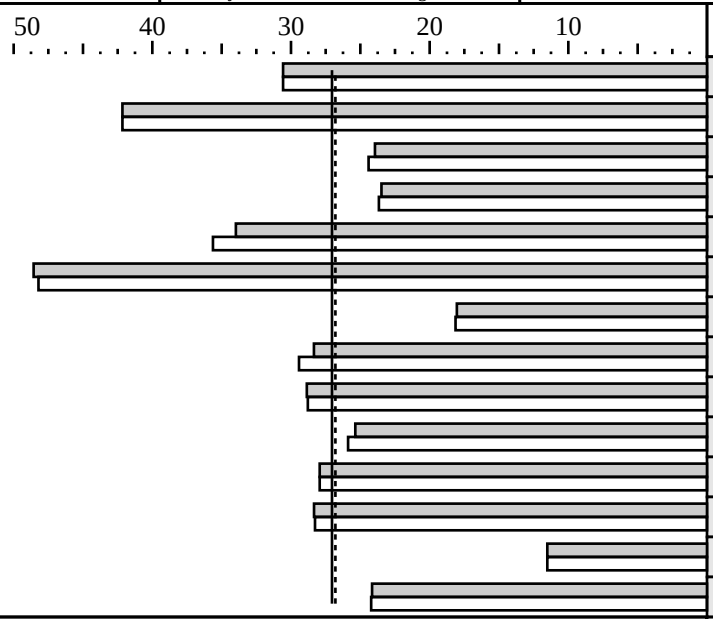
IBM Corporation

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

SPECfp_rate2000 = 27.0

SPECfp_rate_base2000 = 26.8

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	121	30.6	2	121	30.6
171.swim	2	171	42.2	2	171	42.2
172.mgrid	2	174	23.9	2	171	24.4
173.applu	2	208	23.5	2	206	23.7
177.mesa	2	95.6	34.0	2	91.2	35.6
178.galgel	2	139	48.6	2	140	48.2
179.art	2	334	18.0	2	333	18.1
183.equake	2	106	28.3	2	103	29.4
187.facerec	2	153	28.9	2	153	28.8
188.ammp	2	201	25.4	2	197	25.9
189.lucas	2	166	27.9	2	166	27.9
191.fma3d	2	172	28.3	2	172	28.3
200.sixtrack	2	222	11.5	2	222	11.5
301.apsi	2	250	24.2	2	249	24.2

Hardware

CPU:	AMD Opteron (TM)
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	2 cores, 2 chips, 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:	2 x 1024MB + 4 x 512MB PC2700 Reg ECC DDR SDRAM CL2.5
Disk Subsystem:	1 x 38GB 10Krpm SCSI
Other Hardware:	None

Software

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

Notes/Tuning Information

```
+FDO: PASS1=-fprofile-arcs PASS2=-fbranch-probabilities
fdo_pre0 = rm -f *.da *.life analyz_prbrob.out
pgf90 is the PGI Fortran compiler
gcc is the SuSE optional gcc33 package C compiler (from SLES8 SP2)
Portability:
  178.galgel:         -Mfixed
Baseline: C        -O3 -funroll-all-loops +FD0
Baseline: Fortran pgf90 -fastsse  -Mipa=fast
Peak tuning:
  168.wupwise:    basepeak=true
  171.swim:       basepeak=true
  172.mgrid:      pgf90 -fast -Mipa=fast
  173.applu:      pgf90 -fast -Mipa=fast
  177.mesa:       gcc -O3 -finline-limit=2000 -funroll-all-loops +FDO
  178.galgel:     pgf90 -fastsse -Mipa=fast,align
  179.art:        gcc -O3 -funroll-all-loops -ffast-math -finline-limit=1500 +FDO
  183.equake:     gcc -O3 -funroll-all-loops -ffast-math -finline-limit=2000
```

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Notes/Tuning Information (Continued)

```
    187.facerec:    pgf90 -fastsse -Mipa=fast,align
    188.ammp:        gcc -O3 -funroll-all-loops -ffast-math -finline-limit=2000 +FDO
    189.lucas:      basepeak=true
    191.fma3d:      pgf90 -fastsse -Mipa=fast -Mnosmart
    200.sixtrack:   basepeak=true
    301.apsi:       pgf90 -fastsse -Mipa=fast -O3
  ONESTEP is used for all base and peak runs
  Set the following BIOS parameters
  BIOS: M1E108AUS 07/14/03
    DRAM Interleave = AUTO
    Node Interleave = Disabled
    ACPI SRAT       = Enabled
```