SPEC® CFP2006 Result

Supermicro
Motherboard H8DM3-2

SPECfp_rate2006 = NA
SPECfp_rate_base2006 = NA

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Sep-2007
Hardware Availability: Oct-2007
Software Availability: Oct-2007

SPEC has determined that this result was not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the processor vendor reported that the processor would not meet the SPEC OSG requirements for continued availability.

Cycles

| 410.bwaves |
| 416.gamess |
| 433.milc  |
| 434.zeusmp |
| 435.gromacs|
| 436.cactusADM |
| 437.leslie3d |
| 444.namd  |
| 447.dealII |
| 450.soplex |
| 453.povray |
| 454.calculix |
| 459.chem3d |
| 465.tonto  |
| 470.lbm   |
| 481.wrf  |
| 482.sphinx3 |
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### Hardware

- **CPU Name:** AMD Opteron 2350
- **CPU Characteristics:**
  - CPU MHz: 2000
  - FPU: Integrated
  - CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
  - CPU(s) orderable: 1 to 2 chips
  - Primary Cache: 64 KB I + 64 KB D on chip per core
  - Secondary Cache: 512 KB I+D on chip per core
  - L3 Cache: 2 MB I+D on chip per chip
  - Other Cache: None
  - Memory: 16 GB (8x 2GB, PC2-5300 CL5 DDR2)
  - Disk Subsystem: 1x SATA, 500 GB, 7200 RPM
  - Other Hardware: None

### Software

- **Operating System:** SuSE Linux Enterprise Server 10 SP1 64-bit kernel
- **Compiler:**
  - The Portland Group (PGI)
  - PGI pgcc 7.1-0 C Compiler
  - PGI pgCC 7.1-0 C++ Compiler
  - PathScale Compiler Suite, Release 3.0
- **Auto Parallel:** No
- **File System:** ReiserFS
- **System State:** Multi-user, run level 3
- **Base Pointers:** 32/64-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** SmartHeap 8.0 32-bit Library for Linux

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SPEC fp_rate_base2006 = NA

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Results Table

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</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

ulimit -l 2457600' was used to set environment locked pages in memory quantity
numactl -C coreN was used to bind copies to the cores
Set vm/nr_hugepages=1200 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

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General Notes
Product description located as of http://www.supermicro.com/Aplus/motherboard/Opteron2000/MCP55/H8DM3-2.cfm

Base Compiler Invocation

C benchmarks:
pgcc

C++ benchmarks:
pgcpp

Fortran benchmarks:
pgf95

Benchmarks using both Fortran and C:
pgcc pgf95

Base Portability Flags

410. bwaves: -DSPEC_CPU_LP64
411. bames: -DSPEC_CPU_LP64
431. miles: -DSPEC_CPU_LP64
434. zeusmp: -DSPEC_CPU_LP64
435. gromacs: -DSPEC_CPU_LP64 -Mnomain
436. cactusADM: -DSPEC_CPU_LP64 -Mnomain
437. Leslie3d: -DSPEC_CPU_LP64
444. namd: -DSPEC_CPU_LP64 -Mnomain
447. dealII: -DSPEC_CPU_LP64
453. pstyle: -DSPEC_CPU_LP64
454. calcifx: -DSPEC_CPU_LP64 -Mnomain
459. GemsFDTD: -DSPEC_CPU_LP64
465. tonto: -DSPEC_CPU_LP64
470. lbm: -DSPEC_CPU_LP64
481. wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482. sphinx3: -DSPEC_CPU_LP64
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Base Optimization Flags

C benchmarks:
- fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:448
- tp barcelona-64 -Bstatic_pgi

C++ benchmarks:
- fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:448
  --zc_eh -tp barcelona-64 -Bstatic_pgi

Fortran benchmarks:
- fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:448
- tp barcelona-64 -Bstatic_pgi

Benchmarks using both Fortran and C:
- fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:448
  -tp barcelona-64 -Bstatic_pgi

Base Other Flags

C benchmarks:
- w

C++ benchmarks:
- w

Fortran benchmarks:

Benchmarks using both Fortran and C:
- w

Peak Compiler Invocation

C benchmarks (except as noted below):
pathcc

Continued on next page
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Peak Compiler Invocation (Continued)

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<td>C++ benchmarks (except as noted below):</td>
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<td>434.zeusmp</td>
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<td>Benchmarks using both Fortran and C (except as noted below):</td>
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<td>436.cactusADM</td>
<td>pathcc pathf95</td>
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Peak Portability Flags

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<td>436.cactusADM</td>
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<td>437.tiled3d</td>
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<td>481.wrf</td>
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Continued on next page
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Peak Portability Flags (Continued)

482.sphinx3: -DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:

433.milc: -Mfpi(pass 1) -Mipa=inline(pass 2) -Mipa=inline(pass 2) -Mipa=inline(pass 2) -Mipa=noarg(pass 2) -Mfprelaxed -Mm32=4 -Msafe_lastval=4 -Msmartalloc=huge:448 -tp barcelona-64 -fstatic_pgi

470.lbm: -Ofast

482.sphinx3: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -OPT:O3 -WOPT:aggstr=0 -m32

C++ benchmarks:

444.namd: -fast -Mfprelaxed -Mm32=4 -Msafe_lastval=4 -Msmartalloc=huge:448 --zc_eh -tp barcelona-64 -Mnodepchk -Mprefetch -Msafe_lastval=4 -Msmartalloc=huge:448 -tp barcelona-64

447.dealII: -Ofast -INLINE:aggressive=on -OPT:malloc_alg=1 -m32 -fno-exceptions

450.soplex: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1 -LNO:minvariant=off -LNO:prefetch=1 -fno-exceptions

453.povray: basepeak = yes

Fortran benchmarks:

410.bwaves: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -OPT:O3 -OPT:IEEE_arith=3 -LNO:blocking=off -LNO:ignore_feedback=off

Continued on next page
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Peak Optimization Flags (Continued)

416.games: -fb_create fbdata(pass 1) -fb_opt fbdata (pass 2) -O2 
-OPT:Ofast -OPT:ro=3 -OPT:unroll_size=256

434.zeusmp: basepeak = yes

437.leslie3d: -Ofast -OPT:malloc_alg=1

459.GemsFDTD: -Ofast -LNO:fixture=2 -LNO:prefetch=0

465.tonto: -fast -O4 -Mfprelaxed -Mipa=fast 
-Mipa=inline -Mvect=noaltcode -tp barcelona-64 -Bstatic_pgi

Benchmarks using both Fortran and C:

435.gromacs: -fast -Mfpapprox=rsqrt -Mipa=fast -Mipa=inline -Mfprelaxed 
-Msmartalloc=huge:448 -tp barcelona-64 -Bstatic_pgi

436.cactusADM: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-AN:prefetch=3 -LNO:prefetch_ahead=5 -LNO:ou_prod_max=10 
-LNO:full_unroll=5 -ipa

454.calculix: basepeak = yes

481.wrf: -fast -Mfprelaxed -Msmartalloc=huge:448 -Mvect=noaltcode 
-tp barcelona-64 -Bstatic_pgi

Peak Other Flags

C benchmarks:

433.milc: -w

C++ benchmarks (except as noted below):

-w

447.dealII: -static

Continued on next page
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Peak Other Flags (Continued)

450.soplex: No flags used

Fortran benchmarks:

434.zeusmp: -w
465.tonto: -w

Benchmarks using both Fortran and C (except as noted below):

- w

436.cactusADM: No flags used

The flags file that was used to format this result can be browsed at http://www.spec.org/cpu2006/flags/amd814GH-flags.20090714.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/amd814GH-flags.20090714.01.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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