SPEC® CFP2006 Result

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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.

Copies
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.GemsFDTD
465.tonto
470.lbm
481.wrf
482.sphinx3

Not Available

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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)
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

Not Available

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA
416.gamess	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
433.milc	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
434.zeusmp	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
435.gromacs	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
436.cactusADM	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
437.leslie3d	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
444.namd	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
447.dealII	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
450.soplex	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
453.povray	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
454.calculix	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
459.GemsFDTD	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
465.tonto	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
470.lbm	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
481.wrf	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA
482.sphinx3	8	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA

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' 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
416.gamess: -DSPEC_CPU_LP64
433.milc: -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
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -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

Not Available

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Not Available

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

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.

Not Available

Peak Compiler Invocation (Continued)

433.milc: `pgcc`

C++ benchmarks (except as noted below):
`pathCC`

444.namd: `pgcpp`

453.povray: `pgcpp`

Fortran benchmarks (except as noted below):
`pathf95`

434.zeusmp: `pgf95`

465.tonto: `pgf95`

Benchmarks using both Fortran and C (except as noted below):
`pgcc pgf95`

436.cactusADM: `pathcc pathf95`

Peak Portability Flags

410.bwaves: `-DSPEC_CPU_LP64`
416.gamess: `-DSPEC_CPU_LP64`
434.zeusmp: `-DSPEC_CPU_LP64`
435.gromacs: `-DSPEC_CPU_LP64 -Mnomain`
436.cactusADM: `-DSPEC_CPU_LP64 -fno-second-underscore`
437.leslie3d: `-DSPEC_CPU_LP64`
444.namd: `-DSPEC_CPU_LP64`
453.povray: `-DSPEC_CPU_LP64`
454.calculix: `-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`

Continued on next page

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.

Peak Portability Flags (Continued)

482.sphinx3: -DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:

433.milc: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2) -Mipa=noarg(pass 2) -Mpfo -fast -O4 -Mdse -Mfprelaxed -Msmartalloc=huge:448 -tp barcelona-64 -Bstatic_pgi

470.lbm: -Ofast

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

C++ benchmarks:

444.namd: -fast -Mfprelaxed -Msmartalloc=huge:448 --zc_eh -tp barcelona-64 -Mnodepchk -Mprefetch -Msafe_lastval -Msafeptr=static -Mstride0 -Munroll=n:4 -Mvect=noidiom -Mvect=prefetch -Bstatic_pgi

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) -m32 -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:Ofast -OPT:IEEE_arith=3 -LNO:blocking=off -LNO:ignore_feedback=off

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Not Available

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Not Available

Peak Optimization Flags (Continued)

416.gamess: -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:fis_fus=2 -LNO:prefetch=0

465.tonto: -fast -O4 -Mprerelaxed -Msmartalloc=huge:448 -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
-LNO:prefetch=3 -LNO:prefetch_ahead=5 -LNO:ou_prod_max=10
-LNO:full_unroll=5 -ipa

454.calculix: basepeak = yes

481.wrf: -fast -Mprerelaxed -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

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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/amd8514GH-flags.20090714.01.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/amd8514GH-flags.20090714.01.xml`

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.1.
Report generated on Tue Sep 13 11:30:07 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 November 2007.

Not Available