SPEC® CFP2006 Result

ASUS Computer International
(Test Sponsor: Advanced Micro Devices)

ASUS KFSN4-DRE, AMD Opteron 2350

SPECfp®_rate2006 = NA

SPECfp_rate_base2006 = NA

CPU2006 license: 49
Test sponsor: Advanced Micro Devices
Tested by: Advanced Micro Devices

Test date: Aug-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 submitter reported that the result 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

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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, 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 (8x2GB, DDR2-667 CL5 ECC Reg D[illegible])
Disk Subsystem:	SATA, 250 GB, 7200 RPM
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10 SP1 64-bit kernel
Compiler:	The Portland Group (PGI) PGI pgf90 7.1-0 Fortran Compiler PGI pgcc 7.1-0 C Compiler QLogic PathScale Compiler Suite PathScale pathf95 3.0 Fortran Compiler PathScale pathcc 3.0 C Compiler PathScale pathCC 3.0 C++ Compiler
Auto Parallel:	No
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	none

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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	8	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

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

Operating System Notes

```
'ulimit -s unlimited' was used to set environment stack size
'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
Environment variable PGI_HUGE_PAGES set to 150
```

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General Notes

```
The tested system can be assembled using a
TRUE550 550W ATX12V power supply.
```

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

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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:
```
-w
```

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)

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`
433.milc: `-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

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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`(pass 2) `-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` [illegible] `-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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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:fission=2 -LNO:prefetch=0`

465.tonto: `-fast -O4 -Mfprelaxed -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 -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`

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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/amd8314GH-flags.20090714.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/amd8314GH-flags.20090714.xml

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

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