SPEC® CFP2006 Result

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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.

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)
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	Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak 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
```

Not Available

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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
```

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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`
        `-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`

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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 -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/amd814GH-flags.20090714.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/amd814GH-flags.20090714.xml

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

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