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.

CPSV2006 license: 49
Test sponsor: Advanced Micro Devices
Tested by: Advanced Micro Devices

SPECf_rate2006 = NA
SPECf_rate_base2006 = NA

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

Copies Not Available
ASUS KFSN4-DRE, AMD Opteron 2350

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name: AMD Opteron 2350</td>
<td>Operating System: SuSE Linux Enterprise Server 10 SP1 64-bit kernel</td>
</tr>
<tr>
<td>CPU Characteristics:</td>
<td>Compiler:</td>
</tr>
<tr>
<td>CPU MHz: 2000</td>
<td>The Portland Group (PGI)</td>
</tr>
<tr>
<td>FPU: Integrated</td>
<td>PGI pgf90 7.1-0 Fortran Compiler</td>
</tr>
<tr>
<td>CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip</td>
<td>PGI pgcc 7.1-0 C Compiler</td>
</tr>
<tr>
<td>CPU(s) orderable: 1, 2 chips</td>
<td>QLogic PathScale Compiler Suite</td>
</tr>
<tr>
<td>Primary Cache: 64 KB I + 64 KB D on chip per core</td>
<td>PathScale pathf95 3.0 Fortran Compiler</td>
</tr>
<tr>
<td>Secondary Cache: 512 KB I+D on chip per core</td>
<td>PathScale pathcc 3.0 C Compiler</td>
</tr>
<tr>
<td>L3 Cache: 2 MB I+D on chip per chip</td>
<td>PathScale pathCC 3.0 C++ Compiler</td>
</tr>
<tr>
<td>Other Cache: None</td>
<td>Auto Parallel: No</td>
</tr>
<tr>
<td>Memory: 16 GB (8x2GB, DDR2-667 CL5 ECC Reg)</td>
<td>File System: ReiserFS</td>
</tr>
<tr>
<td>Disk Subsystem: SATA, 250 GB, 7200 RPM</td>
<td>System State: Multi-user, run level 3</td>
</tr>
<tr>
<td>Other Hardware: None</td>
<td>Base Pointers: 64-bit</td>
</tr>
<tr>
<td></td>
<td>Peak Pointers: 32/64-bit</td>
</tr>
</tbody>
</table>

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.
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th>Peak</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Copies</td>
<td>Seconds</td>
</tr>
<tr>
<td>410.bwaves</td>
<td>8</td>
<td>NA</td>
</tr>
<tr>
<td>416.gamess</td>
<td>8</td>
<td>NA</td>
</tr>
<tr>
<td>433.milc</td>
<td>8</td>
<td>NA</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>8</td>
<td>NA</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>8</td>
<td>NA</td>
</tr>
</tbody>
</table>
| 436.cactusADM | 8 | NA | NA | NA | NA | NA | NA | 8 | NA | NA | NA | NA

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
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

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.

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
412.ffmpeg: -DSPEC_CPU_LP64
434.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64
435.milc: -DSPEC_CPU_LP64
436.dealII: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
454.GemsFDTD: -DSPEC_CPU_LP64
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
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.

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 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
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Tested by: Advanced Micro Devices

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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: pathc pathf

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64 -Mnomain
435.gromacs: -DSPEC_CPU_LP64 -Mnomain
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.milc: -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 CFP2006 Result

ASUS Computer International
(Test Sponsor: Advanced Micro Devices)
ASUS KFSN4-DRE, AMD Opteron 2350

SPECfp_rate2006 = NA
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Test sponsor: Advanced Micro Devices
Tested by: Advanced Micro Devices

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Peak Portability Flags (Continued)

482.sphinx3: -DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:

433.milc: -Mpfi(pass 1) -Mipa=inline(pass 2) -Mipa=inline(pass 2) -Mipa=noarg(pass 2) -Mipa=fast -O4 -Mdse
-Mfprelaxed -Msmartalloc=large: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=large: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
-LO:prefetch=off -LNO:minvariant=off

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
-LO:ignore_feedback=off

Continued on next page
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.

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:fission=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
-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

Continued on next page
SPEC CFP2006 Result

ASUS Computer International
(Test Sponsor: Advanced Micro Devices)

ASUS KFSN4-DRE, AMD Opteron 2350

SPECfp_rate2006 = NA
SPECfp_rate_base2006 = NA

<table>
<thead>
<tr>
<th>CPU2006 license:</th>
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</table>

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.

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):

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

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