SPEC® CINT2006 Result

ASUS Computer International
(Test Sponsor: Advanced Micro Devices)

ASUS KFSN4-DRE, AMD Opteron 2360 SE

SPECint®_rate2006 = NC

SPECint_rate_base2006 = NC

CPU2006 license: 49		**Test date:**	Sep-2007
Test sponsor:	Advanced Micro Devices	**Hardware Availability:**	Dec-2007
Tested by:	Advanced Micro Devices	**Software Availability:**	Nov-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 3 month availability requirement in the SPEC CPU2006 run rules due to a change in the availability date of the processor.

	Copies
400.perlbench	
401.bzip2	
403.gcc	
429.mcf	
445.gobmk	
456.hmmer	
458.sjeng	
462.libquantum	
464.h264ref	
471.omnetpp	
473.astar	
483.xalancbmk	

Hardware

CPU Name:	AMD Opteron 2360 SE
CPU Characteristics:	
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	2 chips
Primary Cache:	64 KB I + 64 KB D on chip per core

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Software

Operating System:	Red Hat Enterprise Linux AS Release 5 Update 1 64-bit kernel
Compiler:	The Portland Group (PGI) PGI pgcc 7.1-0 C Compiler PGI pgCC 7.1-0 C++ Compiler The PathScale Compiler v3.0 PathScale pathcc 3.0 C Compiler PathScale pathCC 3.0 C++ Compiler

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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 Reg Dual Rank)
Disk Subsystem:	1x250GB SATA, 7200 RPM
Other Hardware:	None

Auto Parallel:	No
File System:	ext3
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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
401.bzip2	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
403.gcc	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
429.mcf	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
445.gobmk	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
456.hmmer	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
458.sjeng	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
462.libquantum	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
464.h264ref	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
471.omnetpp	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
473.astar	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC
483.xalancbmk	8	NC	NC	NC	NC	NC	NC	8	NC	NC	NC	NC	NC	NC

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

Operating System Notes

```
'ulimit -s unlimited' used to set environment stack size
'ulimit -l 2457600' was used to set environment lock pages 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 test system can be assembled using an
Antec TRUE550 550W 12V power supply.
```

Base Compiler Invocation

C benchmarks:
`pgcc`

C++ benchmarks:
`pgcpp`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
445.gobmk: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
464.h264ref: `-DSPEC_CPU_LP64`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Base Optimization Flags

C benchmarks:
`-fast -Mipa=fast -Mipa=inline -Mipa=noarg -Mfprelaxed`
`-Msmartalloc=huge:840 -tp barcelona-64 -Bstatic_pgi`

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

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Base Other Flags

C benchmarks:
`-w`

C++ benchmarks:
`-w`

Peak Compiler Invocation

C benchmarks (except as noted below):
`pgcc`

400.perlbench: `pathcc`

403.gcc: `pathcc`

445.gobmk: `pathcc`

464.h264ref: `pathcc`

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

483.xalancbmk: `pathCC`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
445.gobmk: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`

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Peak Portability Flags (Continued)

464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast -LNO:opt=0

401.bzip2: -Mpfi(pass 1) -Mpfo(pass 2) -fast -O4 -Msmartalloc=huge:448 -tp barcelona-64 -Bstatic_pgi

403.gcc: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -m32 -O3 -OPT:Ofast

429.mcf: -fastsse -Mipa=fast -Mipa=inline:1 -Msmartalloc=huge:420 -tp barcelona -Bstatic_pgi

445.gobmk: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -OPT:alias=disjoint -LNO:simd=0 -LNO:minvariant=off -WOPT:retype_expr=on

456.hmmer: -fast -Msmartalloc=huge:448 -Mfprelaxed -Msafeptr -Mipa=const -Mipa=ptr -Mipa=arg -tp barcelona-64 -Bstatic_pgi

458.sjeng: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline:1(pass 2) -Mipa=noarg(pass 2) -Mpfo(pass 2) -fast -Msmartalloc=huge:448 -Mfprelaxed -tp barcelona-64 -Bstatic_pgi

462.libquantum: -fast -Mfprelaxed -Msmartalloc=huge:448 -Munroll=m:4 -Mipa=fast -Mipa=inline -Mipa=noarg -Bstatic_pgi

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Peak Optimization Flags (Continued)

464.h264ref: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O3`
`-IPA:plimit=20000 -OPT:alias=disjoint -LNO:prefetch=0`

C++ benchmarks:

471.omnetpp: `basepeak = yes`

473.astar: `basepeak = yes`

483.xalancbmk: `-Ofast -m32 -OPT:unroll_times_max=8`
`-L/cpu2006/work/cpu2006/SmartHeap -lsmartheap`

Peak Other Flags

C benchmarks (except as noted below):
`-W`

400.perlbench: `No flags used`

403.gcc: `No flags used`

445.gobmk: `No flags used`

[illegible]: `No flags used`

C++ benchmarks (except as noted below):
`-W`

483.xalancbmk: `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`

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

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

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