



SPEC® CFP2006 Result

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Hewlett-Packard Company

ProLiant ML350 G5
(3.16 GHz, Intel Xeon processor X5460)

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

~~Specfp_rate2006 = NC~~

~~Specfp_rate_base2006 = NC~~

Test date: Jan-2008

Hardware Availability: Jan-2008

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 system.

Hardware

CPU Name: Intel Xeon X5460
CPU Characteristics: 3.16 GHz, 2x6 MB L2 shared, 1333 MHz system bus
CPU MHz: 3166
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 12 MB I+D on chip per chip / 6 MB shared / 2 cores
L3 Cache: None
Other Cache: None
Memory: 32 GB (8x4 GB PC2-6300F CL5)
Disk Subsystem: 1x72 GB 15 K SAS
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1
Kernel 2.6.16.46-0.12-smp
Compiler: Intel C++ Compiler for applications running on IA-32 and Intel 64, Version 10.1
Build 20070913 Package ID: l_cc_p_10.1.008
Intel Fortran Compiler for applications running on IA-32 and Intel 64, Version 10.1
Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel: Yes
File System: ext2
System State: Multi-user run level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: binutils-2.17.50

Non-compliant



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Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	NC	NC	NC	NC	NC	NC	2	NC	NC	NC	NC	NC	NC	NC	NC
416.gamess	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
433.milc	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
434.zeusmp	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
435.gromacs	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
436.cactusADM	4	NC	NC	NC	NC	NC	NC	1	NC	NC	NC	NC	NC	NC	NC	NC
437.leslie3d	4	NC	NC	NC	NC	NC	NC	2	NC	NC	NC	NC	NC	NC	NC	NC
444.namd	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
447.dealII	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
450.soplex	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
453.povray	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
454.calculix	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
459.GemsFDTD	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
465.tonto	4	NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
470.lbm	4	NC	NC	NC	NC	NC	NC	2	NC	NC	NC	NC	NC	NC	NC	NC
481.wrf		NC	NC	NC	NC	NC	NC	4	NC	NC	NC	NC	NC	NC	NC	NC
482.splices		NC	NC	NC	NC	NC	NC	2	NC	NC	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' was used to set the stacksize to unlimited prior to run
 '/usr/bin/taskset' used to bind processes to CPUs
 OMP_NUM_THREADS set to number of cores
 KMP_AFFINITY set to physical,0
 KMP_STACKSIZE set to 64M



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Platform Notes

BIOS configuration:

Power Regulator set to Static High Performance Mode
Adjacent Sector Prefetch Disabled
Hardware Prefetcher Disabled

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.xz: -DSPEC_CPU_LP64
455.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
455.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leap3d: -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 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASING_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

(except as noted below):
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

450.snlc: icc

C++ benchmarks (except as noted below):
icpc

450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

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Peak Compiler Invocation (Continued)

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib
-I/opt/intel/fc/10.1.008/include

Benchmarks using both Fortran and C:

icc ifort

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 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

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Peak Optimization Flags (Continued)

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

404.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Obo
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

455.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Obo
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll12
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll -aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-fp-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-fp-flags.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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