



SPEC® CFP2006 Result

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Fujitsu

PRIMERGY RX4770 M1, Intel Xeon E7-4850 v2, 2.30 GHz

SPECfp®_rate2006 = 10

SPECfp_rate_base2006 = NC

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2014

Hardware Availability: Jun-2014

Software Availability: Sep-2013

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Fujitsu or Intel.

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		Software	
CPU Name:	Intel Xeon E7-4850 v2	Operating System:	Red Hat Enterprise Linux Server release 6.5 (Santiago)
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz		2.6.32-431.el6.x86_64
CPU MHz:	2300	Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
FPU:	Integrated	Auto Parallel:	No
CPU(s) enabled:	24 cores, 2 chips, 12 cores/chip, 2 threads/core	File System:	ext4
CPU(s) orderable:	2,4 chips	System State:	Run level 5 (multi-user)
Primary Cache:	32 KB I + 32 KB D on chip per core	Base Pointers:	32/64-bit
Secondary Cache:	256 KB I+D on chip per core	Peak Pointers:	32/64-bit
L3 Cache:	24 MB I+D on chip per chip	Other Software:	None
Other Cache:	None		
Memory:	512 GB (32 x 16 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CAS 9)		
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM		
Other Hardware:	None		



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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	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
416.gamess	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
433.milc	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
434.zeusmp	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
435.gromacs	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
436.cactusADM	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
437.leslie3d	48	NC	NC	NC	NC	NC	NC	24	NC	NC	NC	NC	NC	NC	NC	NC
444.namd	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
447.dealII	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
450.soplex	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
453.povray	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
454.calculix	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
459.GemsFDTD	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
465.tonto	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
470.lbm	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
481.wrf	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC	NC	NC
482.sphinx3	48	NC	NC	NC	NC	NC	NC	48	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.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"



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Platform Notes

BIOS configuration:
Energy Performance = Performance

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/SPECcpu2006-MONITOR/lib:/SPECcpu2006-MONITOR/libs/64:/SPECcpu2006-MONITOR/sh"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
For information about Fujitsu please visit: <http://www.fujitsu.com>

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

```
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
 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 -nofor_main
 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
```

Base Optimization Flags

C benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

C++ benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

Fortran benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch
```

Benchmarks using both Fortran and C:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```



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Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

423.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -auto-ilp32

470.lbm: basepeak = yes

422.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -fno-alias -auto-ilp32

447.dealII: basepeak = yes

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Peak Optimization Flags (Continued)

450.soplex: basepeak = yes

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -unroll14 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll12
-inline-level=0 -scalar-ep-

434.zeusmp: basepeak = yes

437.leslie3d: -xAVX -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll14 -auto
-inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xAVX -ipo -O3 -no-prec-div -auto-ilp32



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The flags files that were used to format this result can be browsed at:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-1-linux64-revB.html>
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.xml>
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.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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