SPEC® CFP2006 Result

Fujitsu

PRIMERGY TX1330 M1, Intel Xeon E3-1275L v3, 2.70 GHz

$SPECfp^®_rate2006 = $ 142

$SPECfp_rate_base2006 = $ 138

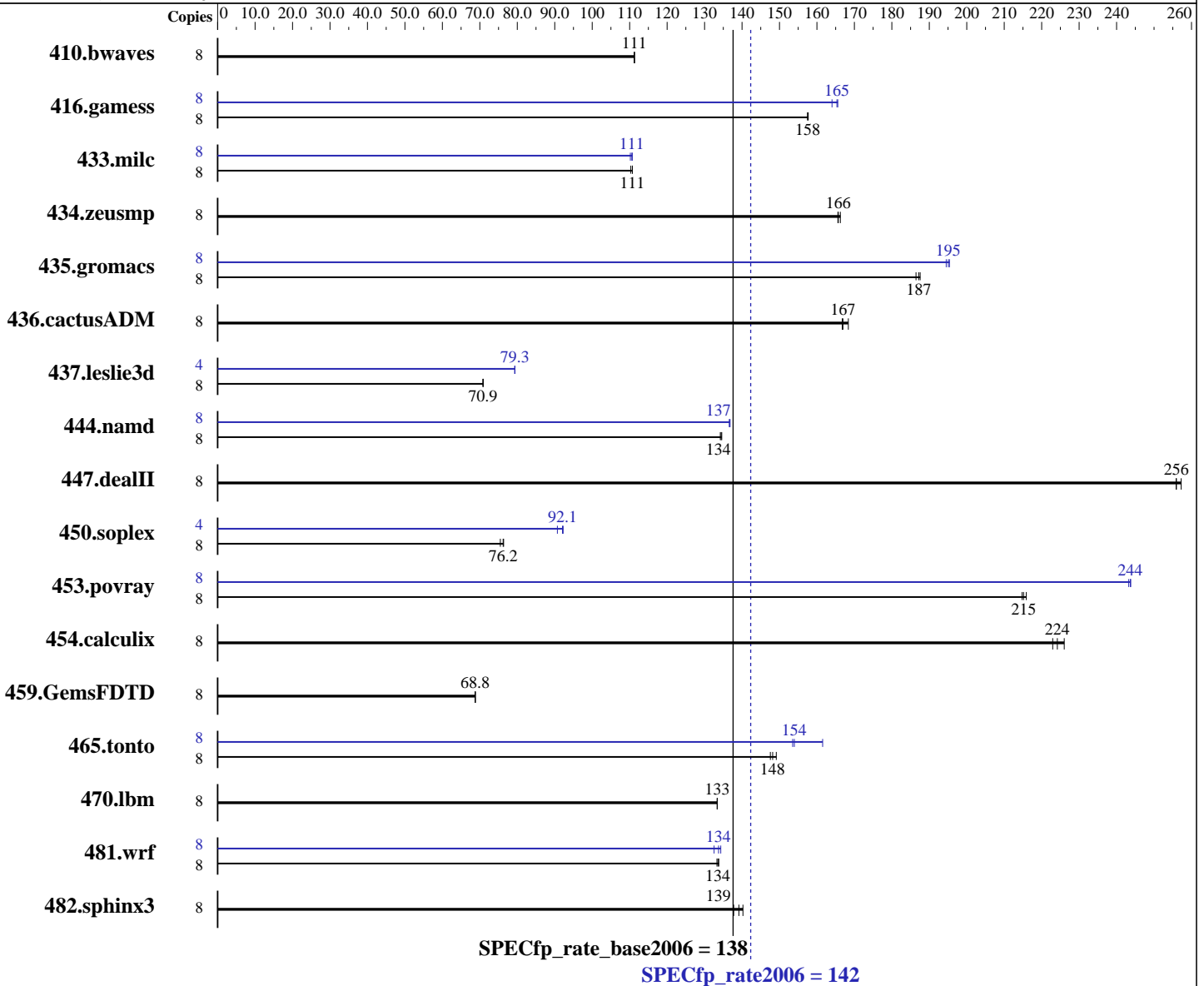| Benchmark	Copies	Result
410.bwaves	8	111
416.gamess	8	165
416.gamess	8	158
433.milc	8	111
433.milc	8	111
434.zeusmp	8	166
435.gromacs	8	195
435.gromacs	8	187
436.cactusADM	8	167
437.leslie3d	4	79.3
437.leslie3d	8	70.9
444.namd	8	137
444.namd	8	134
447.dealII	8	256
450.soplex	4	92.1
450.soplex	8	76.2
453.povray	8	244
453.povray	8	215
454.calculix	8	224
459.GemsFDTD	8	68.8
465.tonto	8	154
465.tonto	8	148
470.lbm	8	133
481.wrf	8	134
481.wrf	8	134
482.sphinx3	8	139

SPECfp_rate_base2006 = 138

SPECfp_rate2006 = 142

Hardware

CPU Name: Intel Xeon E3-1275L v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
CPU MHz: 2700
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
CPU(s) orderable: 1 chip
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
2.6.32-431.el6.x86_64
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
Auto Parallel: No
File System: ext4

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CPU2006 license: 19		**Test date:**	Jul-2014
Test sponsor: Fujitsu		**Hardware Availability:**	Jul-2014
Tested by: Fujitsu		**Software Availability:**	Nov-2013

L3 Cache:	8 MB I+D on chip per chip	System State:	Run level 5 (multi-user)
Other Cache:	None	Base Pointers:	32/64-bit
Memory:	32 GB (4 x 8 GB 2Rx8 PC3L-12800E-11, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	**977**	**111**	977	111	977	111	8	**977**	**111**	977	111	977	111
416.gamess	8	**994**	**158**	993	158	994	158	8	955	164	**947**	**165**	946	166
433.milc	8	663	111	**663**	**111**	666	110	8	**664**	**111**	667	110	663	111
434.zeusmp	8	**439**	**166**	438	166	440	166	8	**439**	**166**	438	166	440	166
435.gromacs	8	**305**	**187**	306	186	305	188	8	294	195	292	195	**293**	**195**
436.cactusADM	8	573	167	**573**	**167**	568	168	8	573	167	**573**	**167**	568	168
437.leslie3d	8	1061	70.9	**1061**	**70.9**	1061	70.9	4	474	79.4	**474**	**79.3**	474	79.3
444.namd	8	478	134	477	135	**477**	**134**	8	469	137	**470**	**137**	470	137
447.dealII	8	**358**	**256**	356	257	358	256	8	**358**	**256**	356	257	358	256
450.soplex	8	884	75.5	**875**	**76.2**	874	76.3	4	368	90.7	362	92.2	**362**	**92.1**
453.povray	8	198	215	197	216	**198**	**215**	8	175	243	175	244	**175**	**244**
454.calculix	8	296	223	292	226	**294**	**224**	8	296	223	292	226	**294**	**224**
459.GemsFDTD	8	1233	68.8	1235	68.7	**1234**	**68.8**	8	1233	68.8	1235	68.7	**1234**	**68.8**
465.tonto	8	533	148	528	149	**531**	**148**	8	**511**	**154**	513	154	487	162
470.lbm	8	824	133	824	133	**824**	**133**	8	824	133	824	133	**824**	**133**
481.wrf	8	668	134	**669**	**134**	670	133	8	665	134	674	133	**668**	**134**
482.sphinx3	8	1132	138	1112	140	**1120**	**139**	8	1132	138	1112	140	**1120**	**139**

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"

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"

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General Notes (Continued)

```
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
```

Fortran benchmarks:
```
ifort -m64
```

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

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 -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
```

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CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2014

Hardware Availability: Jul-2014

Software Availability: Nov-2013

Base Optimization Flags

C benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Peak Compiler Invocation

C benchmarks:
```
icc    -m64
```

C++ benchmarks (except as noted below):
```
icpc   -m64
```
```
  450.soplex: icpc -m32
```

Fortran benchmarks:
```
ifort -m64
```

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

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
   437.leslie3d: -DSPEC_CPU_LP64
     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
```

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Peak Portability Flags (Continued)

```
    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
```

Peak Optimization Flags

C benchmarks:

```
    433.milc: -xCORE-AVX2(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

482.sphinx3: basepeak = yes

C++ benchmarks:

```
    444.namd: -xCORE-AVX2(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

```
   450.soplex: -xCORE-AVX2(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-malloc-options=3
```

```
   453.povray: -xCORE-AVX2(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) -unroll4
               -ansi-alias
```

Fortran benchmarks:

410.bwaves: basepeak = yes

```
   416.gamess: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
               -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
               -inline-level=0 -scalar-rep-
```

434.zeusmp: basepeak = yes

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Peak Optimization Flags (Continued)

437.leslie3d: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20130924.html

You can also download the XML flags sources 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.20130924.xml

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

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