SPEC® CFP2006 Result
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Fujitsu

PRIMERGY TX200 S6, Intel Xeon E5649, 2.53 GHz

$SPECfp^{®}\_rate2006 =$ 119

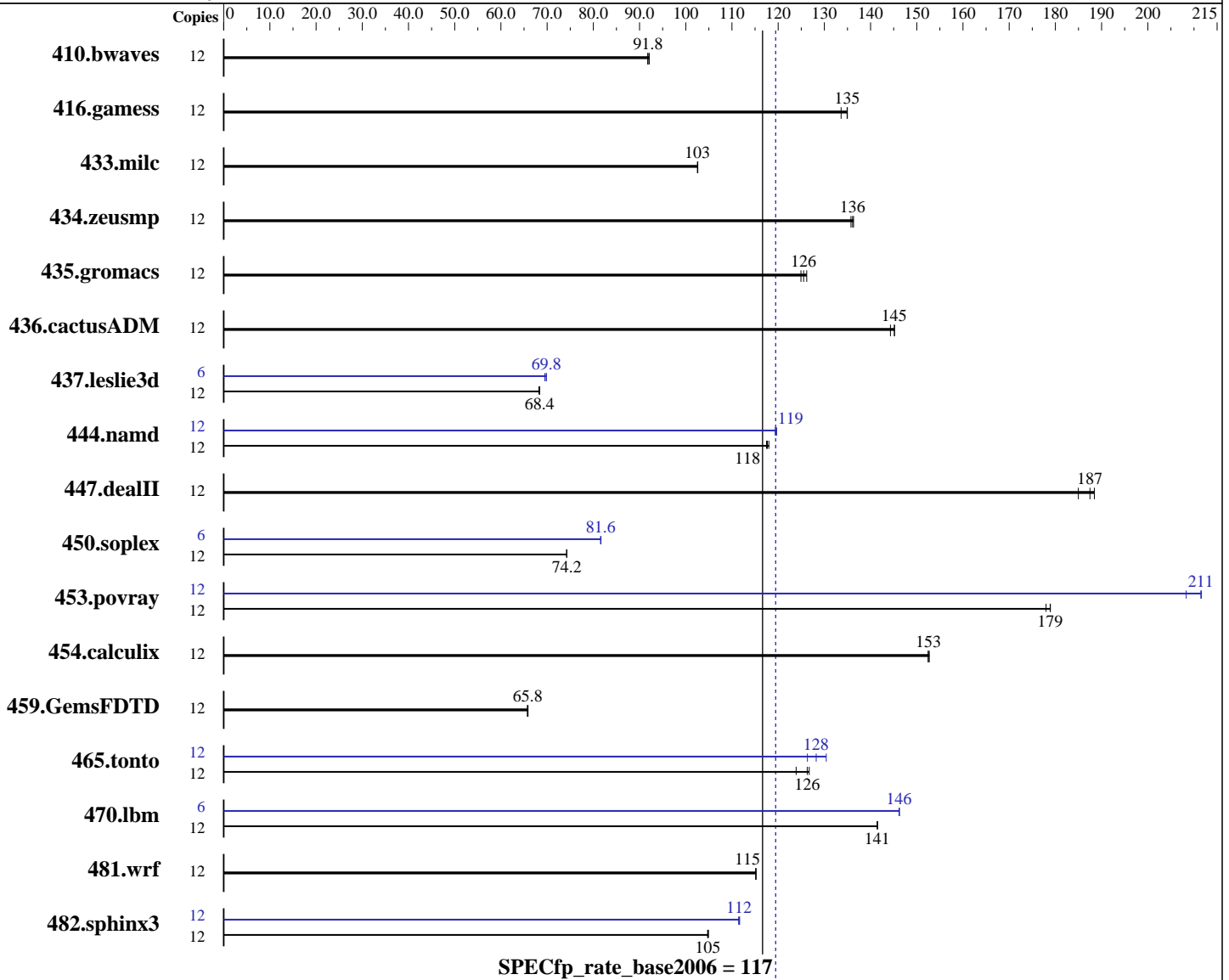$SPECfp\_rate\_base2006 =$ 117

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Dec-2010
Hardware Availability: Jul-2010
Software Availability: Nov-2010

Copies	Benchmark	Result
12	410.bwaves	91.8
12	416.gamess	135
12	433.milc	103
12	434.zeusmp	136
12	435.gromacs	126
12	436.cactusADM	145
6	437.leslie3d	69.8
12	437.leslie3d	68.4
12	444.namd	119
12	444.namd	118
12	447.dealII	187
6	450.soplex	81.6
12	450.soplex	74.2
12	453.povray	211
12	453.povray	179
12	454.calculix	153
12	459.GemsFDTD	65.8
12	465.tonto	128
12	465.tonto	126
6	470.lbm	146
12	470.lbm	141
12	481.wrf	115
12	482.sphinx3	112
12	482.sphinx3	105

SPECfp_rate_base2006 = 117

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Hardware

CPU Name: Intel Xeon E5649
CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz
CPU MHz: 2533
FPU: Integrated
CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core

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Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.0.082 Build 20101006
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 64-bit

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L3 Cache:	12 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	none
Memory:	24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC)		
Disk Subsystem:	1 x SAS, 300 GB, 10000 RPM		
Other Hardware:	--		

Results Table

| Benchmark | Base | | | | | | Peak | | | | | | |
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	12	1771	92.1	**1776**	**91.8**	1777	91.8	12	1771	92.1	**1776**	**91.8**	1777	91.8
416.gamess	12	1758	134	**1741**	**135**	1741	135	12	1758	134	**1741**	**135**	1741	135
433.milc	12	1074	103	1074	103	**1074**	**103**	12	1074	103	1074	103	**1074**	**103**
434.zeusmp	12	801	136	**802**	**136**	804	136	12	801	136	**802**	**136**	804	136
435.gromacs	12	679	126	686	125	**683**	**126**	12	679	126	686	125	**683**	**126**
436.cactusADM	12	988	145	**988**	**145**	994	144	12	988	145	**988**	**145**	994	144
437.leslie3d	12	1654	68.2	**1649**	**68.4**	1649	68.4	6	811	69.5	808	69.8	**808**	**69.8**
444.namd	12	819	117	816	118	**818**	**118**	12	806	119	804	120	**806**	**119**
447.dealII	12	729	188	**732**	**187**	742	185	12	729	188	**732**	**187**	742	185
450.soplex	12	1348	74.3	1348	74.2	**1348**	**74.2**	6	**613**	**81.6**	613	81.6	613	81.7
453.povray	12	357	179	359	178	**357**	**179**	12	**302**	**211**	306	208	302	212
454.calculix	12	649	152	**649**	**153**	648	153	12	649	152	**649**	**153**	648	153
459.GemsFDTD	12	1937	65.7	**1936**	**65.8**	1933	65.9	12	1937	65.7	**1936**	**65.8**	1933	65.9
465.tonto	12	**935**	**126**	953	124	932	127	12	935	126	**921**	**128**	905	130
470.lbm	12	1165	142	**1166**	**141**	1166	141	6	564	146	**564**	**146**	564	146
481.wrf	12	1164	115	**1164**	**115**	1164	115	12	1164	115	**1164**	**115**	1164	115
482.sphinx3	12	2229	105	**2232**	**105**	2233	105	12	**2096**	**112**	2094	112	2099	111

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

Submit Notes

```
   The config file option 'submit' was used.
    numactl was used to bind copies to the cores
```

Operating System Notes

```
    'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
    Large pages were not enabled for this run
```

Platform Notes

```
    BIOS configuration:
    Data Reuse Optimization = Disable
```

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General Notes

For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on SLES 10 SP1 with Binutils 2.18.50.0.7.20080502

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
```

Base Optimization Flags

C benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -ansi-alias

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -ansi-alias

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Base Optimization Flags (Continued)

Fortran benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div
```

Benchmarks using both Fortran and C:
```
-xSSE4.2 -ipo -O3 -no-prec-div -ansi-alias
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc    -m64
```

482.sphinx3: `icc -m32`

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
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

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Peak Optimization Flags

C benchmarks:

     433.milc: `basepeak = yes`

     470.lbm: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
           `-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3`
           `-ansi-alias -opt-prefetch -auto-ilp32`

     482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2`

C++ benchmarks:

     444.namd: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
           `-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias`
           `-auto-ilp32`

     447.dealII: `basepeak = yes`

     450.soplex: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
           `-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3`

     453.povray: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
           `-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias`

Fortran benchmarks:

     410.bwaves: `basepeak = yes`

     416.gamess: `basepeak = yes`

     434.zeusmp: `basepeak = yes`

     437.leslie3d: `-xSSE4.2 -ipo -O3 -no-prec-div`
           `-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

     459.GemsFDTD: `basepeak = yes`

     465.tonto: `-xSSE4.2(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: `basepeak = yes`

     436.cactusADM: `basepeak = yes`

     454.calculix: `basepeak = yes`

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Peak Optimization Flags (Continued)

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.xml

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 17:09:52 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 21 February 2011.