SPEC® CFP2006 Result
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Fujitsu

PRIMERGY RX200 S8, Intel Xeon E5-2630L v2, 2.40 GHz

$SPECfp®\_rate2006 = 406$

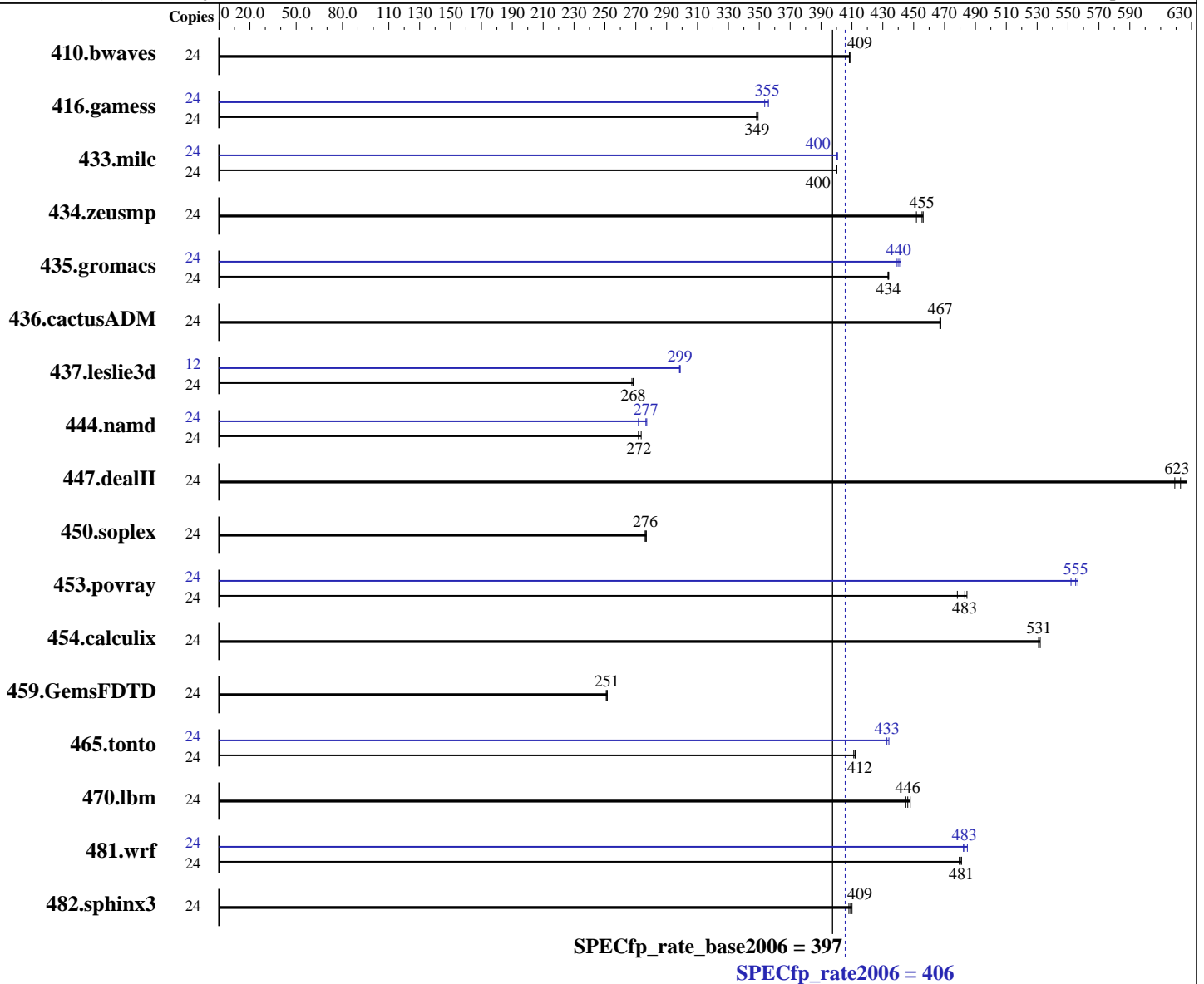$SPECfp\_rate\_base2006 = 397$

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2013

Hardware Availability: Oct-2013

Software Availability: Sep-2013

Benchmark	Copies	Result
410.bwaves	24	409
416.gamess	24	355
416.gamess	24	349
433.milc	24	400
433.milc	24	400
434.zeusmp	24	455
435.gromacs	24	440
435.gromacs	24	434
436.cactusADM	24	467
437.leslie3d	12	299
437.leslie3d	24	268
444.namd	24	277
444.namd	24	272
447.dealII	24	623
450.soplex	24	276
453.povray	24	555
453.povray	24	483
454.calculix	24	531
459.GemsFDTD	24	251
465.tonto	24	433
465.tonto	24	412
470.lbm	24	446
481.wrf	24	483
481.wrf	24	481
482.sphinx3	24	409

SPECfp_rate_base2006 = 397

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Hardware

CPU Name: Intel Xeon E5-2630L v2

CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz

CPU MHz: 2400

FPU: Integrated

CPU(s) enabled: 12 cores, 2 chips, 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

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
2.6.32-358.11.1.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

Continued on next page

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L3 Cache:	15 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	32/64-bit
Memory:	256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1600 MHz and CL11)	Peak Pointers:	32/64-bit
		Other Software:	None
Disk Subsystem:	1 x SATA, 450 GB, 15000 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	799	408	**798**	**409**	798	409	24	799	408	**798**	**409**	798	409
416.gamess	24	1346	349	**1348**	**349**	1349	348	24	**1323**	**355**	1329	354	1320	356
433.milc	24	550	400	551	400	**551**	**400**	24	**550**	**400**	550	401	550	400
434.zeusmp	24	483	452	479	456	**480**	**455**	24	483	452	479	456	**480**	**455**
435.gromacs	24	395	434	395	433	**395**	**434**	24	388	442	390	439	**389**	**440**
436.cactusADM	24	**614**	**467**	613	468	614	467	24	**614**	**467**	613	468	614	467
437.leslie3d	24	**841**	**268**	843	268	840	268	12	**378**	**299**	378	298	378	299
444.namd	24	**707**	**272**	708	272	704	274	24	**696**	**277**	708	272	695	277
447.dealII	24	443	619	438	627	**441**	**623**	24	443	619	438	627	**441**	**623**
450.soplex	24	**725**	**276**	725	276	723	277	24	**725**	**276**	725	276	723	277
453.povray	24	**264**	**483**	264	485	267	478	24	231	552	229	556	**230**	**555**
454.calculix	24	372	532	**373**	**531**	373	531	24	372	532	**373**	**531**	373	531
459.GemsFDTD	24	**1013**	**251**	1015	251	1012	252	24	**1013**	**251**	1015	251	1012	252
465.tonto	24	573	412	574	411	**573**	**412**	24	**546**	**433**	544	434	547	432
470.lbm	24	736	448	741	445	**739**	**446**	24	736	448	741	445	**739**	**446**
481.wrf	24	559	480	**558**	**481**	557	481	24	553	485	556	482	**555**	**483**
482.sphinx3	24	1141	410	**1143**	**409**	1146	408	24	1141	410	**1143**	**409**	1146	408

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/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/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
```

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
```

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Base Portability Flags (Continued)

```
    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
```

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
```

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Peak Optimization Flags

C benchmarks:

>   433.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`

>   482.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`

>   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) -unroll4 -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) -unroll2`
>   `-inline-level=0 -scalar-rep-`

>   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) -unroll4 -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`

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Peak Optimization Flags (Continued)

454.calculix: basepeak = yes

481.wrf: -xAVX -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-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.xml

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