Fujitsu
PRIMERGY RX300 S8, Intel Xeon E5-2630L v2, 2.40 GHz

SPEC® CFP2006 Result

SPECfp®2006 = 80.0
SPECfp_base2006 = 77.1

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

Test date: Sep-2013
Hardware Availability: Oct-2013
Software Availability: Sep-2013

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

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

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
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: Yes
File System: ext4

Software

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info@spec.org
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L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
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<td>459.GemsFDTD</td>
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<td>63.3</td>
<td>310</td>
<td>62.9</td>
</tr>
</tbody>
</table>

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

Operating System Notes

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

Platform Notes

BIOS configuration:
Energy Performance = Performance
Utilization Profile = Unbalanced

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"

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SPEC CFP2006 Result

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SPECfp_base2006 = 77.1

General Notes (Continued)

OMP_NUM_THREADS = "12"

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
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
**SPEC CFP2006 Result**

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CPU2006 license: 19  
Test sponsor: Fujitsu  
Test date: Sep-2013  
Hardware Availability: Oct-2013  
Tested by: Fujitsu  
Software Availability: Sep-2013

### Base Optimization Flags

- C benchmarks:  
  -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias
- C++ benchmarks:  
  -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
- Fortran benchmarks:  
  -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch
- Benchmarks using both Fortran and C:  
  -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

### 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:
  433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
  -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32  
  -ansi-alias

  470.lbm: basepeak = yes

  482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel

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Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xAVX(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: basepeak = yes

453.povray: -xAVX(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: -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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

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

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

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

Tested with SPEC CPU2006 v1.2.