SPEC® CFP2006 Result
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ScaleMP

vSMP Foundation (Intel Xeon E5-2680 v3, 2.50 GHz)

$SPECfp^®\_rate2006 =$ Not Run

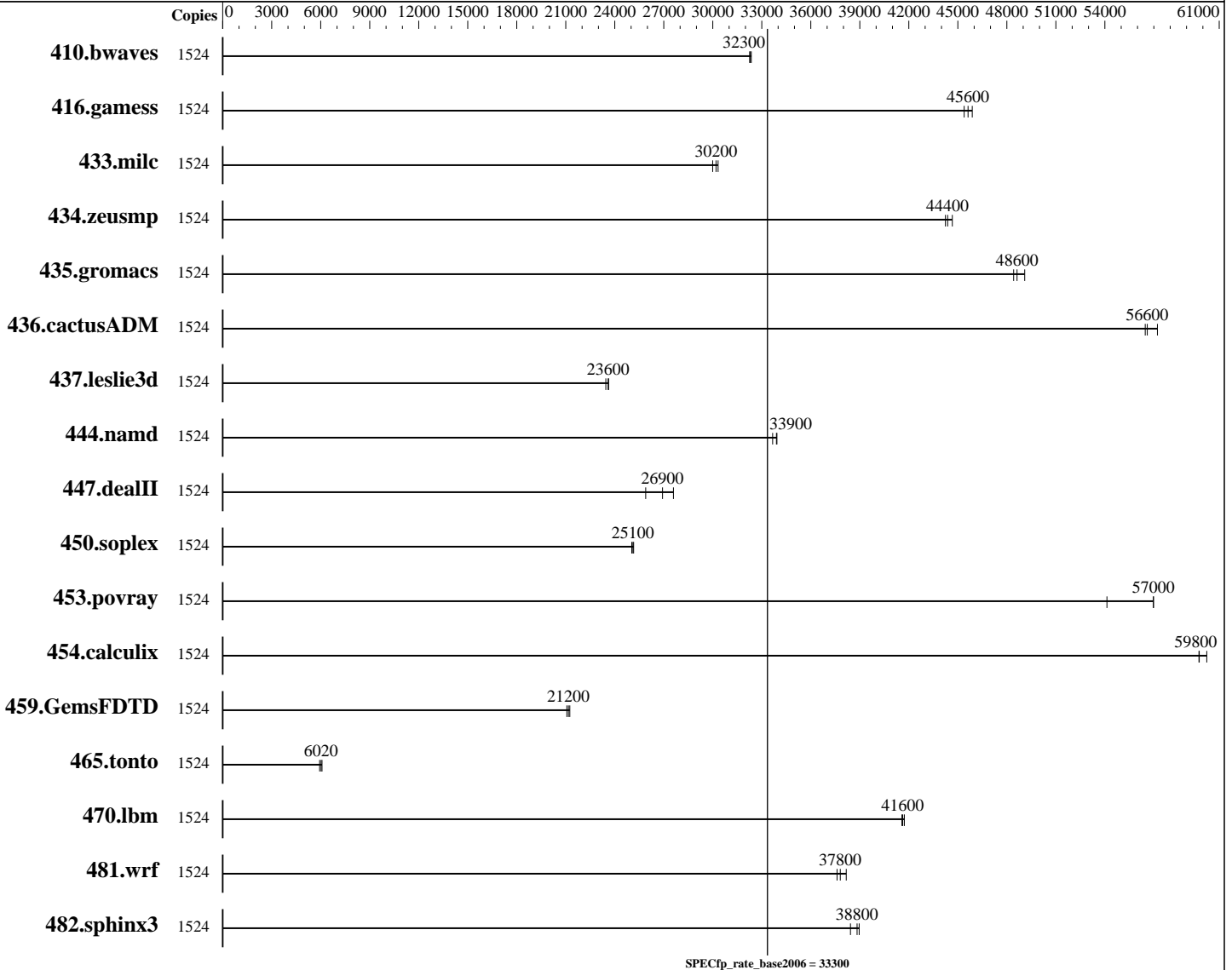$SPECfp\_rate\_base2006 = 33300$

CPU2006 license: 2929
Test sponsor: ScaleMP
Tested by: ScaleMP

Test date: Jan-2016
Hardware Availability: Nov-2015
Software Availability: Nov-2015

Benchmark	Copies	Result
410.bwaves	1524	32300
416.gamess	1524	45600
433.milc	1524	30200
434.zeusmp	1524	44400
435.gromacs	1524	48600
436.cactusADM	1524	56600
437.leslie3d	1524	23600
444.namd	1524	33900
447.dealII	1524	26900
450.soplex	1524	25100
453.povray	1524	57000
454.calculix	1524	59800
459.GemsFDTD	1524	21200
465.tonto	1524	6020
470.lbm	1524	41600
481.wrf	1524	37800
482.sphinx3	1524	38800

SPECfp_rate_base2006 = 33300

Hardware

CPU Name: Intel Xeon E5-2680 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz: 2500
FPU: Integrated
CPU(s) enabled: 1536 cores, 128 chips, 12 cores/chip
CPU(s) orderable: 2 to 64 blades with 2 chips per blade
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: CentOS
CentOS release 6.5 (Final)
2.6.32-431.29.2.el6.vSMP.1.x86_64
Compiler: C/C++: Version 15.0.3.187 of Intel C++ Studio XE for Linux ;
Fortran: Version 15.0.3.187 of Intel Fortran Studio XE for Linux
Auto Parallel: No
File System: ramfs

Continued on next page

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L3 Cache:	30 MB I+D on chip per chip
Other Cache:	1200 GB I+D off chip per system
Memory:	16 TB (64 x 16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem:	13TB ramfs
Other Hardware:	None

System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	Not Applicable
Other Software:	ScaleMP vSMP Foundation 7.0.147.0

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	1524	640	32400	642	32300	**641**	**32300**							
416.gamess	1524	657	45400	650	45900	**654**	**45600**							
433.milc	1524	466	30000	461	30300	**463**	**30200**							
434.zeusmp	1524	313	44200	**313**	**44400**	311	44700							
435.gromacs	1524	225	48400	**224**	**48600**	222	49100							
436.cactusADM	1524	323	56500	**322**	**56600**	318	57200							
437.leslie3d	1524	**607**	**23600**	606	23600	611	23500							
444.namd	1524	360	33900	363	33700	**361**	**33900**							
447.dealII	1524	673	25900	**648**	**26900**	632	27600							
450.soplex	1524	508	25000	**506**	**25100**	505	25200							
453.povray	1524	**142**	**57000**	150	54100	142	57000							
454.calculix	1524	209	60200	210	59800	**210**	**59800**							
459.GemsFDTD	1524	761	21200	**764**	**21200**	768	21100							
465.tonto	1524	2527	5930	2467	6080	**2490**	**6020**							
470.lbm	1524	**503**	**41600**	502	41700	504	41600							
481.wrf	1524	453	37600	446	38200	**450**	**37800**							
482.sphinx3	1524	773	38400	762	39000	**765**	**38800**							

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

Submit Notes

    The taskset mechanism was used to bind copies to processors. The config file option 'submit'
    was used to generate taskset 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"

Platform Notes

    BIOS Settings
        Hyper-Threading Technology disabled.
    ScaleMP

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CPU2006 license: 2929
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Test date: Jan-2016
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Software Availability: Nov-2015

Platform Notes (Continued)

```
      vSMP Foundation: 7.0.147.0
      vSMP Foundation manages off chip cache using a portion of each blade memory.
  Hardware Details:
      System was aggregated using 64 x Supermicro 1028U blades.
      The servers were connected with Melanox InfiniBand FDR and an
      FDR switch.
Sysinfo program /ramfs/SPEC_CPU2006v1.2/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
running on fl100.local Tue Jan 12 22:03:04 2016

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz
      128 "physical id"s (chips)
      1536 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 12
      siblings  : 12
      physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 8: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 9: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 16: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 17: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 24: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 25: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 32: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 33: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 40: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 41: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 48: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 49: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 56: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 57: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 64: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 65: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 72: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 73: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 80: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 81: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 88: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 89: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 96: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 97: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 104: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 105: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 112: cores 0 1 2 3 4 5 8 9 10 11 12 13
```

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SPECfp_rate2006 =　　Not Run

SPECfp_rate_base2006 = 33300

CPU2006 license: 2929
Test sponsor: ScaleMP
Tested by: ScaleMP

Test date: Jan-2016
Hardware Availability: Nov-2015
Software Availability: Nov-2015

Platform Notes (Continued)

```
physical 113: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 120: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 121: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 128: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 129: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 136: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 137: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 144: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 145: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 152: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 153: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 160: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 161: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 168: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 169: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 176: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 177: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 184: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 185: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 192: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 193: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 200: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 201: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 208: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 209: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 216: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 217: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 224: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 225: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 232: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 233: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 240: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 241: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 248: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 249: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 256: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 257: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 264: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 265: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 272: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 273: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 280: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 281: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 288: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 289: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 296: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 297: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 304: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 305: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 312: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 313: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 320: cores 0 1 2 3 4 5 8 9 10 11 12 13
```

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CPU2006 license: 2929
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Test date: Jan-2016
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Platform Notes (Continued)

```
        physical 321: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 328: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 329: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 336: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 337: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 344: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 345: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 352: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 353: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 360: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 361: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 368: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 369: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 376: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 377: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 384: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 385: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 392: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 393: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 400: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 401: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 408: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 409: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 416: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 417: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 424: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 425: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 432: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 433: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 440: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 441: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 448: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 449: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 456: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 457: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 464: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 465: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 472: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 473: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 480: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 481: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 488: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 489: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 496: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 497: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 504: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 505: cores 0 1 2 3 4 5 8 9 10 11 12 13
      cache size : 30720 KB

   From /proc/meminfo
      MemTotal:      14205999376 kB
      HugePages_Total:       0
```

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Platform Notes (Continued)

```
    Hugepagesize:       2048 kB

  /usr/bin/lsb_release -d
     CentOS release 6.5 (Final)

  From /etc/*release* /etc/*version*
     centos-release: CentOS release 6.5 (Final)
     redhat-release: CentOS release 6.5 (Final)
     rocks-release: Rocks release 6.1.1 (Sand Boa)
     system-release: CentOS release 6.5 (Final)
     system-release-cpe: cpe:/o:centos:linux:6:GA

  uname -a:
     Linux fl100.local 2.6.32-431.29.2.el6.vSMP.1.x86_64 #1 SMP Tue Sep 30
     01:59:41 PDT 2014 x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Jan 12 00:04

  SPEC is set to: /ramfs/SPEC_CPU2006v1.2
     Filesystem      Type   Size  Used Avail Use% Mounted on
     ramfs           ramfs     0     0     0    - /ramfs

  (End of data from sysinfo program)
```

General Notes

Binaries compiled on same system.

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

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Base Portability Flags (Continued)

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

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

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

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

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revG.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revG.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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