Supermicro
Supermicro X9SAE-V motherboard (Intel Core i7-3770T, 2.50 GHz)

| SPECfp®2006 = | 65.7 |
| SPECfp_base2006 = | 63.3 |

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

| 410.bwaves | 105 |
| 416.gamess | 41.2 |
| 433.milc | 79.7 |
| 434.zeusmp | 77.7 |
| 435.gromacs | 109 |
| 436.cactusADM | 193 |
| 437.leslie3d | 72.5 |
| 444.namd | 60.0 |
| 447.dealII | 46.4 |
| 450.soplex | 57.0 |
| 453.povray | 48.2 |
| 454.calculix | 46.0 |
| 459.GemsFDTD | 59.5 |
| 465.tonto | 58.1 |
| 470.lbm | 41.4 |
| 481.wrf | 85.0 |
| 482.sphinx3 | 67.8 |

Hardware
- CPU Name: Intel Core i7-3770T
- CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
- CPU MHz: 2500
- 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

Software
- Operating System: Red Hat Enterprise Linux Server Release 6.3, Kernel 2.6.32-279.e16.x86_64
- Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;
  Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux
- Auto Parallel: Yes
- File System: ext4
- System State: Run level 3 (multi-user)
Supermicro

Supermicro X9SAE-V motherboard (Intel Core i7-3770T, 2.50 GHz)

SPECfp2006 = 65.7
SPECf_base2006 = 63.3

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Sep-2012
Hardware Availability: Apr-2012
Software Availability: Jun-2012

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB 2Rx8 PC3-12800U-11)
Disk Subsystem: 1 x 300 GB SATA II, 10000 RPM
Other Hardware: None

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>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>287</td>
<td>67.8</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

As tested, the system used a Supermicro CSE-732D4-500B chassis.
The chassis is configured with a PWS-502-FQ power supply, 1 SNK-P0046A4 heatsink, as well as 1 FAN-0124L4 rear cooling fan.
Sysinfo program /usr/cpu2006/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
running on localhost Thu Sep 20 14:11:12 2012

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
Continued on next page
Supermicro
Supermicro X9SAE-V motherboard (Intel Core i7-3770T, 2.50 GHz)

SPECfp2006 = 65.7
SPECfp_base2006 = 63.3

CPU2006 license: 001176
Test date: Sep-2012
Test sponsor: Supermicro
Hardware Availability: Apr-2012
Tested by: Supermicro
Software Availability: Jun-2012

Platform Notes (Continued)

From /proc/cpuinfo
model name : Intel(R) Core(TM) i7-3770T CPU @ 2.50GHz
1 "physical id"s (chips)
8 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 4
siblings : 8
physical 0: cores 0 1 2 3
cache size : 8192 KB

From /proc/meminfo
MemTotal: 16340504 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.3 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)

uname -a:
Linux localhost 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36 EDT 2012
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Sep 20 14:05

SPEC is set to: /usr/cpu2006
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root
ext4 50G 27G 21G 57% /

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "4"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RHEL5.5
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
SPEC CFP2006 Result

Supermicro
Supermicro X9SAE-V motherboard (Intel Core i7-3770T, 2.50 GHz)

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CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Sep-2012
Hardware Availability: Apr-2012
Software Availability: Jun-2012

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:
  -xAVX  -ipo  -O3  -no-prec-div  -static  -parallel  -opt-prefetch
  -ansi-alias

C++ benchmarks:
  -xAVX  -ipo  -O3  -no-prec-div  -static  -opt-prefetch  -ansi-alias

Fortran benchmarks:
  -xAVX  -ipo  -O3  -no-prec-div  -static  -parallel  -opt-prefetch

Benchmarks using both Fortran and C:
  -xAVX  -ipo  -O3  -no-prec-div  -static  -parallel  -opt-prefetch
  -ansi-alias
Supermicro
Supermicro X9SAE-V motherboard (Intel Core i7-3770T, 2.50 GHz)

SPEC CFP2006 Result

SPECfp2006 = 65.7
SPECfp_base2006 = 63.3

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Sep-2012
Hardware Availability: Apr-2012
Software Availability: Jun-2012

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)  -static -auto-ilp32
  -ansi-alias

470.lbm: basepeak = yes

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

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:  -xAVX  -ipo -O3  -no-prec-div  -opt-prefetch  -parallel
  -static

Continued on next page
Supermicro
Supermicro X9SAE-V motherboard (Intel Core i7-3770T, 2.50 GHz)

SPEC_fp2006 = 65.7
SPECfp_base2006 = 63.3

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Sep-2012
Hardware Availability: Apr-2012
Software Availability: Jun-2012

Peak Optimization Flags (Continued)

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 -static

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 file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.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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