### SPEC® CFP2006 Result

**Supermicro**

Motherboard X9SCA-F (Intel Xeon E3-1280 v2)

<table>
<thead>
<tr>
<th>Program</th>
<th>Copies</th>
<th>SPECfp_rate2006</th>
<th>SPECfp_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>4</td>
<td>110</td>
<td>274</td>
</tr>
<tr>
<td>410.bwaves</td>
<td>8</td>
<td>110</td>
<td>274</td>
</tr>
<tr>
<td>416.gamess</td>
<td>4</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>416.gamess</td>
<td>8</td>
<td>112</td>
<td>157</td>
</tr>
<tr>
<td>433.milc</td>
<td>4</td>
<td>132</td>
<td>274</td>
</tr>
<tr>
<td>433.milc</td>
<td>8</td>
<td>132</td>
<td>274</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>4</td>
<td>132</td>
<td>274</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>8</td>
<td>132</td>
<td>274</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>4</td>
<td>156</td>
<td>274</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>8</td>
<td>156</td>
<td>274</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>4</td>
<td>130</td>
<td>274</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>8</td>
<td>130</td>
<td>274</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>4</td>
<td>68.9</td>
<td>274</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>8</td>
<td>68.9</td>
<td>274</td>
</tr>
<tr>
<td>444.namd</td>
<td>4</td>
<td>132</td>
<td>274</td>
</tr>
<tr>
<td>444.namd</td>
<td>8</td>
<td>132</td>
<td>274</td>
</tr>
<tr>
<td>447.dealII</td>
<td>4</td>
<td>94.5</td>
<td>274</td>
</tr>
<tr>
<td>447.dealII</td>
<td>8</td>
<td>94.5</td>
<td>274</td>
</tr>
<tr>
<td>450.soplex</td>
<td>4</td>
<td>80.3</td>
<td>274</td>
</tr>
<tr>
<td>450.soplex</td>
<td>8</td>
<td>80.3</td>
<td>274</td>
</tr>
<tr>
<td>453.povray</td>
<td>4</td>
<td>132</td>
<td>274</td>
</tr>
<tr>
<td>453.povray</td>
<td>8</td>
<td>132</td>
<td>274</td>
</tr>
<tr>
<td>454.calculix</td>
<td>4</td>
<td>214</td>
<td>274</td>
</tr>
<tr>
<td>454.calculix</td>
<td>8</td>
<td>214</td>
<td>274</td>
</tr>
<tr>
<td>459.GemsFDFTD</td>
<td>4</td>
<td>66.9</td>
<td>274</td>
</tr>
<tr>
<td>459.GemsFDFTD</td>
<td>8</td>
<td>66.9</td>
<td>274</td>
</tr>
<tr>
<td>465.tonto</td>
<td>4</td>
<td>66.8</td>
<td>274</td>
</tr>
<tr>
<td>465.tonto</td>
<td>8</td>
<td>66.8</td>
<td>274</td>
</tr>
<tr>
<td>470.lbm</td>
<td>4</td>
<td>113</td>
<td>274</td>
</tr>
<tr>
<td>470.lbm</td>
<td>8</td>
<td>113</td>
<td>274</td>
</tr>
<tr>
<td>481.wrf</td>
<td>4</td>
<td>130</td>
<td>274</td>
</tr>
<tr>
<td>481.wrf</td>
<td>8</td>
<td>130</td>
<td>274</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>4</td>
<td>128</td>
<td>274</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>8</td>
<td>128</td>
<td>274</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 001176

**Test sponsor:** Supermicro

**Tested by:** Supermicro

**Hardware:**
- **CPU Name:** Intel Xeon E3-1280 v2
- **CPU Characteristics:** Intel Turbo Boost Technology up to 4.00 GHz
- **CPU MHz:** 3600
- **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 6.2 (Santiago), Kernel 2.6.32-220.el6.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:** No
- **File System:** ext4

**Test date:** Jun-2012

**Hardware Availability:** May-2012

**Software Availability:** Dec-2011

**CPU2006 license:** 001176

**Test sponsor:** Supermicro

**Tested by:** Supermicro

**Hardware:**
- **CPU Name:** Intel Xeon E3-1280 v2
- **CPU Characteristics:** Intel Turbo Boost Technology up to 4.00 GHz
- **CPU MHz:** 3600
- **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 6.2 (Santiago), Kernel 2.6.32-220.el6.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:** No
- **File System:** ext4

**Test date:** Jun-2012

**Hardware Availability:** May-2012

**Software Availability:** Dec-2011
Supermicro
Motherboard X9SCA-F (Intel Xeon E3-1280 v2)

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro
L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC)
Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM
Other Hardware: None
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>8</td>
<td>990</td>
<td>110</td>
<td>991</td>
<td>110</td>
<td>993</td>
<td>109</td>
</tr>
<tr>
<td>416.gamess</td>
<td>8</td>
<td>946</td>
<td>166</td>
<td>946</td>
<td>166</td>
<td>946</td>
<td>166</td>
</tr>
<tr>
<td>433.mile</td>
<td>8</td>
<td>658</td>
<td>112</td>
<td>658</td>
<td>112</td>
<td>659</td>
<td>111</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>8</td>
<td>458</td>
<td>159</td>
<td>463</td>
<td>157</td>
<td>463</td>
<td>157</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>8</td>
<td>435</td>
<td>131</td>
<td>434</td>
<td>132</td>
<td>434</td>
<td>132</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>8</td>
<td>613</td>
<td>156</td>
<td>612</td>
<td>156</td>
<td>619</td>
<td>154</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>8</td>
<td>1093</td>
<td>68.8</td>
<td>1088</td>
<td>69.1</td>
<td>1092</td>
<td>68.9</td>
</tr>
<tr>
<td>444.namd</td>
<td>8</td>
<td>504</td>
<td>127</td>
<td>491</td>
<td>131</td>
<td>494</td>
<td>130</td>
</tr>
<tr>
<td>447.dealII</td>
<td>8</td>
<td>334</td>
<td>274</td>
<td>335</td>
<td>273</td>
<td>335</td>
<td>274</td>
</tr>
<tr>
<td>450.soplex</td>
<td>8</td>
<td>829</td>
<td>80.5</td>
<td>834</td>
<td>80.0</td>
<td>831</td>
<td>80.3</td>
</tr>
<tr>
<td>453.povray</td>
<td>8</td>
<td>188</td>
<td>226</td>
<td>188</td>
<td>227</td>
<td>187</td>
<td>227</td>
</tr>
<tr>
<td>454.calculix</td>
<td>8</td>
<td>306</td>
<td>216</td>
<td>306</td>
<td>216</td>
<td>307</td>
<td>215</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>8</td>
<td>1271</td>
<td>66.8</td>
<td>1270</td>
<td>66.8</td>
<td>1269</td>
<td>66.9</td>
</tr>
<tr>
<td>465.tonto</td>
<td>8</td>
<td>513</td>
<td>154</td>
<td>518</td>
<td>152</td>
<td>512</td>
<td>154</td>
</tr>
<tr>
<td>470.lbm</td>
<td>8</td>
<td>794</td>
<td>139</td>
<td>796</td>
<td>138</td>
<td>797</td>
<td>138</td>
</tr>
<tr>
<td>481.wrf</td>
<td>8</td>
<td>688</td>
<td>130</td>
<td>689</td>
<td>130</td>
<td>690</td>
<td>130</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>8</td>
<td>1256</td>
<td>124</td>
<td>1213</td>
<td>128</td>
<td>1219</td>
<td>128</td>
</tr>
</tbody>
</table>

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"
Transparent Huge Pages disabled with:
echo never > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Supermicro

Motherboard X9SCA-F (Intel Xeon E3-1280 v2)  

**SPECfp_rate2006 =** 139

**SPECfp_rate_base2006 =** 134

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

**Test date:** Jun-2012  
**Hardware Availability:** May-2012  
**Software Availability:** Dec-2011

## General Notes

Environment variables set by runspec before the start of the run:
```plaintext
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

## 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 -opt-prefetch -auto-p32
- -ansi-alias -opt-mem-layout-trans=3
SPEC CFP2006 Result

Supermicro
Motherboard X9SCA-F (Intel Xeon E3-1280 v2)

SPECfp_rate2006 = 139
SPECfp_rate_base2006 = 134

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

Test date: Jun-2012
Hardware Availability: May-2012
Software Availability: Dec-2011

Base Optimization Flags (Continued)

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

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

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

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
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
Supermicro
Motherboard X9SCA-F (Intel Xeon E3-1280 v2)

SPECfp_rate2006 = 139
SPECfp_rate_base2006 = 134

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

Test date: Jun-2012
Hardware Availability: May-2012
Software Availability: Dec-2011

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
           -opt-mem-layout-trans=3

470.lbm: basepeak = yes

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

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: -xAVX(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: -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(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -static

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

459.GemsFDTD: -xAVX(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

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) -prof-use(pass 2) -opt-prefetch
            -static -auto-ilp32 -opt-mem-layout-trans=3

Continued on next page
Supermicro
Motherboard X9SCA-F (Intel Xeon E3-1280 v2)

SPECfp_rate2006 = 139
SPECfp_rate_base2006 = 134

CPU2006 license: 001176
Test sponsor: Supermicro
Test date: Jun-2012
Tested by: Supermicro
Hardware Availability: May-2012
Software Availability: Dec-2011

Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes
454.calculix: -xAVX -iopo -O3 -no-prec-div -static -auto-ilp32
-ot-pem-_layout-trans=3
481.wrf: Same as 454.calculix

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.xml