## SPEC® CFP2006 Result

### Supermicro (Test Sponsor: Intel Corporation)

Supermicro X7DB8+ (Intel Xeon processor E5440, 2.83 GHz)

<table>
<thead>
<tr>
<th>SPECfp®2006</th>
<th>SPECfp_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.4</td>
<td>19.3</td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon E5440
- **CPU Characteristics:** Quad Core, 2.83 GHz
- **CPU MHz:** 2833
- **FPU:** Integrated
- **CPU(s) enabled:** 8 cores, 2 chips, 4 cores/chip
- **CPU(s) orderable:** 1.2 chips
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 12 MB I+D on chip per chip, 6 MB shared / 2 cores

### Software

- **Operating System:** 64-Bit SUSE LINUX Enterprise Server 10 SP1 RC1, Kernel
  - linux-cbgm 2.6.16.43-0.5-smp for x86_64
- **Compiler:** Intel C++ and Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
- **Auto Parallel:** Yes
- **File System:** ReiserFS
- **System State:** Multi-user, run level 3

### Test Information

- **CPU2006 license:** 13
- **Test sponsor:** Intel Corporation
- **Tested by:** Intel Corporation
- **Test date:** Nov-2007
- **Hardware Availability:** Nov-2007
- **Software Availability:** Nov-2007

---

Continued on next page
### SPEC CFP2006 Result

**Supermicro**

(Revision Sponsor: Intel Corporation)

Supermicro X7DB8+ (Intel Xeon processor E5440, 2.83 GHz)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</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>420</td>
<td>32.4</td>
<td>421</td>
<td>32.3</td>
<td>422</td>
<td>32.2</td>
<td>414</td>
<td>32.8</td>
<td>414</td>
<td>32.8</td>
</tr>
<tr>
<td>416.gamess</td>
<td>967</td>
<td>20.3</td>
<td>964</td>
<td>20.3</td>
<td>966</td>
<td>20.3</td>
<td>924</td>
<td>21.2</td>
<td>921</td>
<td>21.3</td>
</tr>
<tr>
<td>433.milc</td>
<td>872</td>
<td>10.5</td>
<td>872</td>
<td>10.5</td>
<td>871</td>
<td>10.5</td>
<td>897</td>
<td>10.2</td>
<td>895</td>
<td>10.3</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>553</td>
<td>16.4</td>
<td>555</td>
<td>16.4</td>
<td>554</td>
<td>16.4</td>
<td>572</td>
<td>15.9</td>
<td>574</td>
<td>15.9</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>391</td>
<td>18.3</td>
<td>391</td>
<td>18.2</td>
<td>391</td>
<td>18.3</td>
<td>389</td>
<td>18.4</td>
<td>389</td>
<td>18.4</td>
</tr>
<tr>
<td>436.cactus/ADM</td>
<td>282</td>
<td>42.3</td>
<td>282</td>
<td>42.3</td>
<td>283</td>
<td>42.2</td>
<td>113</td>
<td>106</td>
<td>113</td>
<td>106</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>507</td>
<td>18.6</td>
<td>507</td>
<td>18.5</td>
<td>508</td>
<td>18.5</td>
<td>507</td>
<td>18.6</td>
<td>507</td>
<td>18.5</td>
</tr>
<tr>
<td>444.namd</td>
<td>536</td>
<td>15.0</td>
<td>536</td>
<td>15.0</td>
<td>535</td>
<td>15.0</td>
<td>532</td>
<td>15.1</td>
<td>533</td>
<td>15.1</td>
</tr>
<tr>
<td>447.dealII</td>
<td>441</td>
<td>25.9</td>
<td>442</td>
<td>25.9</td>
<td>441</td>
<td>25.9</td>
<td>416</td>
<td>27.5</td>
<td>417</td>
<td>27.5</td>
</tr>
<tr>
<td>450.soplex</td>
<td>639</td>
<td>13.1</td>
<td>638</td>
<td>13.1</td>
<td>644</td>
<td>13.0</td>
<td>564</td>
<td>14.8</td>
<td>568</td>
<td>14.7</td>
</tr>
<tr>
<td>453.povray</td>
<td>223</td>
<td>23.9</td>
<td>223</td>
<td>23.8</td>
<td>234</td>
<td>22.7</td>
<td>188</td>
<td>28.3</td>
<td>188</td>
<td>28.4</td>
</tr>
<tr>
<td>454.calculix</td>
<td>545</td>
<td>15.1</td>
<td>543</td>
<td>15.2</td>
<td>544</td>
<td>15.2</td>
<td>369</td>
<td>22.4</td>
<td>367</td>
<td>22.5</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>569</td>
<td>18.6</td>
<td>570</td>
<td>18.6</td>
<td>569</td>
<td>18.6</td>
<td>560</td>
<td>19.0</td>
<td>564</td>
<td>18.8</td>
</tr>
<tr>
<td>465.tonto</td>
<td>483</td>
<td>20.4</td>
<td>481</td>
<td>20.5</td>
<td>488</td>
<td>20.2</td>
<td>457</td>
<td>21.5</td>
<td>459</td>
<td>21.4</td>
</tr>
<tr>
<td>470.lbm</td>
<td>1309</td>
<td>10.5</td>
<td>1308</td>
<td>10.5</td>
<td>1298</td>
<td>10.6</td>
<td>602</td>
<td>22.8</td>
<td>601</td>
<td>22.9</td>
</tr>
<tr>
<td>481.wrf</td>
<td>487</td>
<td>22.9</td>
<td>491</td>
<td>22.8</td>
<td>490</td>
<td>22.8</td>
<td>504</td>
<td>22.2</td>
<td>505</td>
<td>22.1</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>726</td>
<td>26.8</td>
<td>730</td>
<td>26.7</td>
<td>757</td>
<td>25.7</td>
<td>714</td>
<td>27.3</td>
<td>714</td>
<td>27.3</td>
</tr>
</tbody>
</table>

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

### General Notes

Bios settings:
- Hardware Prefetcher: Enabled
- Adjacent Sector Prefetch: Enabled

All benchmarks compiled in 64-bit mode except 450.soplex, 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode.

### Base Compiler Invocation

C benchmarks:

```
icc
```
Supermicro
(Test Sponsor: Intel Corporation)
Supermicro X7DB8+ (Intel Xeon processor E5440, 2.83 GHz)

SPECfp2006 = 22.4
SPECfp_base2006 = 19.3

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Nov-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007

Base Compiler Invocation (Continued)

C++ benchmarks:
   icpc

Fortran benchmarks:
   ifort

Benchmarks using both Fortran and C:
   icc ifort

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 -nofor_main
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -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:
   -fast -parallel

C++ benchmarks:
   -fast -parallel

Fortran benchmarks:
   -fast -parallel

Benchmarks using both Fortran and C:
   -fast -parallel
Peake Compiler Invocation
C benchmarks (except as noted below):

```
./opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

```
icpc
```

450.soplex: ./opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
icc ifort
```

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
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

```
C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
          -auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
          -scalar-rep -prefetch -opt-malloc-options=3
```

Continued on next page
Supermicro
(Test Sponsor: Intel Corporation)
Supermicro X7DB8+ (Intel Xeon processor E5440, 2.83 GHz)

SPECfp2006 = 22.4
SPECfp_base2006 = 19.3

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Nov-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007

Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
          -auto-ilp32
447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
           -ansi-alias -scalar-rep-
450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
           -opt-malloc-options=3
453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
           -ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch -parallel
416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
           -ansi-alias -scalar-rep-
434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast
437.leslie3d: basepeak = yes
459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
             -prefetch -parallel
465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
            -auto-ilp32
436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
               -prefetch -parallel -auto-ilp32
454.calculix: -fast -unroll-aggressive -auto-ilp32
481.wrf: -fast -parallel -prefetch -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.06.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.06.xml
<table>
<thead>
<tr>
<th>Supermicro</th>
<th>SPECfp2006 = 22.4</th>
<th>SPECfp_base2006 = 19.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Test Sponsor: Intel Corporation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supermicro X7DB8+ (Intel Xeon processor E5440, 2.83 GHz)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU2006 license: 13</td>
<td>Test date:</td>
<td>Nov-2007</td>
</tr>
<tr>
<td>Test sponsor: Intel Corporation</td>
<td>Hardware Availability:</td>
<td>Nov-2007</td>
</tr>
<tr>
<td>Tested by: Intel Corporation</td>
<td>Software Availability:</td>
<td>Nov-2007</td>
</tr>
</tbody>
</table>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.0.
Originally published on 17 December 2007.