**Supermicro**

**SuperServer 1017C-TF (X9SCL-F, Intel G840)**

**SPECint®2006** = 37.1  
**SPECint_base2006** = 35.2

<table>
<thead>
<tr>
<th>Test date:</th>
<th>Apr-2012</th>
</tr>
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<tbody>
<tr>
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- **CPU2006 license:** 001176
- **Test sponsor:** Supermicro
- **Tested by:** Supermicro
- **Test date:** Apr-2012
- **Hardware Availability:** Apr-2011
- **Software Availability:** Oct-2011

<table>
<thead>
<tr>
<th>Benchmark</th>
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</tr>
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<td>18.8</td>
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<tr>
<td>403.gcc</td>
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<tr>
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<td>21.2</td>
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<td>458.sjeng</td>
<td>23.5</td>
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<td>462.libquantum</td>
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<tr>
<td>464.h264ref</td>
<td>44.3</td>
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<tr>
<td>471.omnetpp</td>
<td>25.1</td>
</tr>
<tr>
<td>473.astar</td>
<td>21.3</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>41.2</td>
</tr>
</tbody>
</table>

**SPECint_base2006 = 35.2**

**SPECint2006 = 37.1**

### Hardware

- **CPU Name:** Intel Pentium G840
- **CPU Characteristics:**
  - **CPU MHz:** 2800
  - **FPU:** Integrated
  - **CPU(s) enabled:** 2 cores, 1 chip, 2 cores/chip
  - **Primary Cache:** 32 KB I + 32 KB D on chip per core
  - **Secondary Cache:** 256 KB I+D on chip per core
  - **L3 Cache:** None
  - **Other Cache:** None
  - **Memory:** 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
  - **Disk Subsystem:** 1 x 500 GB SATA II, 7200 RPM
  - **Other Hardware:** None

### Software

- **Operating System:** Red Hat Enterprise Linux Server Release 6.1, Kernel 2.6.32-131.0.15.x86_64
- **Compiler:** C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
- **Auto Parallel:** Yes
- **File System:** ext4
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 32/64-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** Microquill SmartHeap V9.01
SPEC CINT2006 Result

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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
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<th>Base</th>
<th>Seconds</th>
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<tr>
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<td>18.3</td>
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<td>40.4</td>
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<tr>
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<td>188</td>
<td>36.6</td>
<td>168</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"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/usr/cpu2006/libs/32:/home/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "2"

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
Supermicro
SuperServer 1017C-TF (X9SCL-F, Intel G840)

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### Base Portability Flags

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<th>Benchmark</th>
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<td>400.perlbench</td>
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<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX</td>
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### Base Optimization Flags

- **C benchmarks:**
  - -xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

- **C++ benchmarks:**
  - -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
  - -Wl,-z,muldefs -L/smartheap -lsmartheap64

### Base Other Flags

**C benchmarks:**
- 403.gcc: -Dalloca=_alloca

### Peak Compiler Invocation

**C benchmarks (except as noted below):**
- icc -m64
- 400.perlbench: icc -m32
- 445.gobmk: icc -m32
- 464.h264ref: icc -m32

**C++ benchmarks (except as noted below):**
- icpc -m32
- 473.astar: icpc -m64
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## Peak Portability Flags

- 400.perlbench: `-DSPEC_CPU_LINUX_IA32`
- 401.bzip2: `-DSPEC_CPU_LP64`
- 403.gcc: `-DSPEC_CPU_LP64`
- 429.mcf: `-DSPEC_CPU_LP64`
- 456.hmmer: `-DSPEC_CPU_LP64`
- 458.sjeng: `-DSPEC_CPU_LP64`
- 462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
- 473.astar: `-DSPEC_CPU_LP64`
- 483.xalancbmk: `-DSPEC_CPU_LINUX`

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## Peak Optimization Flags

### C benchmarks:

- 400.perlbench: `-xSSE4.2 (pass 2) -prof-gen(pass 1) -ipo(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -ansi-alias`
- 401.bzip2: `-xSSE4.2 (pass 2) -prof-gen(pass 1) -ipo(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch -ansi-alias`
- 403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32`
- 429.mcf: `basepeak = yes`
- 445.gobmk: `-xSSE4.2 (pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias`
- 456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32 -ansi-alias`
- 458.sjeng: `-xSSE4.2 (pass 2) -prof-gen(pass 1) -ipo(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4`
- 462.libquantum: `basepeak = yes`
- 464.h264ref: `-xSSE4.2 (pass 2) -prof-gen(pass 1) -ipo(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias`

### C++ benchmarks:

- 471.omnetpp: `-xSSE4.2 (pass 2) -prof-gen(pass 1) -ipo(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs -L/smartheap -lsmartheap`

Continued on next page
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Peak Optimization Flags (Continued)

473.astar: basepeak = yes
483.xalancbmk: -xSSE4.2 -ipo -03 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

Peak Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

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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