# SPEC® CINT2006 Result

## Fujitsu

**PRIMEQUEST 2800E2, Intel Xeon E7-8880 v3, 2.30 GHz**

<table>
<thead>
<tr>
<th>SPECint®_rate2006 = 5420</th>
<th>SPECint_rate_base2006 = 5260</th>
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</thead>
</table>

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu  

<table>
<thead>
<tr>
<th>Test date:</th>
<th>Hardware Availability:</th>
<th>Software Availability:</th>
</tr>
</thead>
</table>

### Hardware

<table>
<thead>
<tr>
<th>Spec</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU Name:</strong></td>
<td>Intel Xeon E7-8880 v3</td>
</tr>
<tr>
<td><strong>CPU Characteristics:</strong></td>
<td>Intel Turbo Boost Technology up to 3.10 GHz</td>
</tr>
<tr>
<td><strong>CPU MHz:</strong></td>
<td>2300</td>
</tr>
<tr>
<td><strong>FPU:</strong></td>
<td>Integrated</td>
</tr>
<tr>
<td><strong>CPU(s) enabled:</strong></td>
<td>144 cores, 8 chips, 18 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td><strong>CPU(s) orderable:</strong></td>
<td>1,2,4,6,8 chips</td>
</tr>
<tr>
<td><strong>Primary Cache:</strong></td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td><strong>Secondary Cache:</strong></td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td><strong>L3 Cache:</strong></td>
<td>45 MB I+D on chip per chip</td>
</tr>
<tr>
<td><strong>Other Cache:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Memory:</strong></td>
<td>2 TB (128 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)</td>
</tr>
<tr>
<td><strong>Disk Subsystem:</strong></td>
<td>2 x SATA, 600 GB, 10000 RPM</td>
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<tr>
<td><strong>Other Hardware:</strong></td>
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### Software

<table>
<thead>
<tr>
<th>Spec</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td><strong>Operating System:</strong></td>
<td>Red Hat Enterprise Linux Server release 6.6 (Santiago) 2.6.32-504.el6.x86_64</td>
</tr>
<tr>
<td><strong>Compiler:</strong></td>
<td>C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td><strong>Auto Parallel:</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>File System:</strong></td>
<td>ext4</td>
</tr>
<tr>
<td><strong>System State:</strong></td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td><strong>Base Pointers:</strong></td>
<td>32-bit</td>
</tr>
<tr>
<td><strong>Peak Pointers:</strong></td>
<td>32/64-bit</td>
</tr>
<tr>
<td><strong>Other Software:</strong></td>
<td>Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>
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SPECint_rate2006 = 5420
SPECint_rate_base2006 = 5260

Results Table

<table>
<thead>
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<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Seconds</th>
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<td>603</td>
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<td>429.mcf</td>
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<td>6590</td>
<td>400</td>
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<td>445.gobmk</td>
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<td>483.xalancbmk</td>
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<td>361</td>
<td>5510</td>
<td>362</td>
<td></td>
</tr>
</tbody>
</table>

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl 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 configuration:
Energy Performance = Performance

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

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SPECint_rate2006 = 5420
SPECint_rate_base2006 = 5260

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: May-2015
Hardware Availability: May-2015
Software Availability: Oct-2014

General Notes (Continued)
For information about Fujitsu please visit: http://www.fujitsu.com

Base Compiler Invocation
C benchmarks:
   icc  -m32

C++ benchmarks:
   icpc -m32

Base Portability Flags
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags
C benchmarks:
   -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
   -opt-mem-layout-trans=3

C++ benchmarks:
   -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
   -opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap

Base Other Flags
C benchmarks:
   403.gcc: -Dalloca=_alloca

Peak Compiler Invocation
C benchmarks (except as noted below):
   icc  -m32

400.perlbench: icc -m64
401.bzip2: icc -m64

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**SPEC CINT2006 Result**

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| SPECint_rate2006 | 5420 |
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- **CPU2006 license:** 19
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### Peak Compiler Invocation (Continued)

- 456.hmmer: icc -m64
- 458.sjeng: icc -m64

### C++ benchmarks:

```
icpc -m32
```

### Peak Portability Flags

- 400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
- 401.bzip2: -DSPEC_CPU_LP64
- 456.hmmer: -DSPEC_CPU_LP64
- 458.sjeng: -DSPEC_CPU_LP64
- 462.libquantum: -DSPEC_CPU_LINUX
- 483.xalancbmk: -DSPEC_CPU_LINUX

### Peak Optimization Flags

**C benchmarks:**

```
400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32

462.libquantum: basepeak = yes
464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias
```

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Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes
483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Jun 2 13:45:40 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 June 2015.