# SPEC® CINT2006 Result

## NEC Corporation

**Express5800/R120f-2M (Intel Xeon E5-2637 v3)**

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>SPECint_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>63.1</td>
<td>60.5</td>
</tr>
</tbody>
</table>

### CPU2006 license: 9006

- **Test date:** Nov-2014
- **Hardware Availability:** Feb-2015
- **Software Availability:** Jul-2014

### CPU Characteristics:

- **CPU Name:** Intel Xeon E5-2637 v3
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz
- **CPU MHz:** 3500
- **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:** 256 KB I+D on chip per core
- **L3 Cache:** 15 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
- **Disk Subsystem:** 1 x 250 GB SATA, 7200 RPM
- **Other Hardware:** None

### Operating System:

- **Software:**
  - Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
  - Kernel: 2.6.32-431.17.1.el6.x86_64
  - Compiler: C/C++ Version 15.0.0.090 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 V8.1

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**Standard Performance Evaluation Corporation**

info@spec.org

http://www.spec.org/
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### Results Table

<table>
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<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>43.6</td>
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<td>43.4</td>
<td>225</td>
<td>43.3</td>
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<td>48.3</td>
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<td>401.bzip2</td>
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<td>26.7</td>
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<td>26.7</td>
<td>358</td>
<td>26.9</td>
<td>357</td>
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<td>403.mcf</td>
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<td>35.1</td>
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<td>35.1</td>
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<tr>
<td>456.hmmer</td>
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<tr>
<td>458.sjeng</td>
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<tr>
<td>462.libquantum</td>
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<td>464.h264ref</td>
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<td>58.0</td>
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<tr>
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<td>68.3</td>
<td>101</td>
<td>68.2</td>
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<td>68.1</td>
<td>101</td>
<td>68.3</td>
<td>101</td>
<td>68.2</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

**BIOS Settings:**  
Power Management Policy: Custom  
Energy Performance: Performance  
Patrol Scrub: Disabled  
Hyper-Threading: Disabled

## General Notes

Environment variables set by runspec before the start of the run:  
KMP_AFFINITY = "granularity=fine,compact"  
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"  
OMP_NUM_THREADS = "8"

Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enable

## Base Compiler Invocation

C benchmarks:  
```bash  
icc -m64  
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -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

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Peak Compiler Invocation (Continued)

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32

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
464.h264ref: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -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) -opt-prefetch -ansi-alias

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

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
-op-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias

456.hmmer: basepeak = yes

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

462.libquantum: basepeak = yes

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Peak Optimization Flags (Continued)

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

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
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120f-RevB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120f-RevB.xml

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