NEC Corporation

Express5800/E120f-M (Intel Xeon E5-2609 v3)

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

SPECint®2006 = 35.1
SPECint_base2006 = 33.8

Hardware

CPU Name: Intel Xeon E5-2609 v3
CPU Characteristics:
CPU MHz: 1900
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 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, running at 1600 MHz)
Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
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

Test date: Oct-2014
Hardware Availability: Jan-2015
Software Availability: Jul-2014
SPEC CINT2006 Result

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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<tbody>
<tr>
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<td>698</td>
<td>13.8</td>
<td>694</td>
<td>13.9</td>
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<td>20.1</td>
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<td>445.gobmk</td>
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<td>462.libquantum</td>
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<td>2860</td>
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<td>471.omnetpp</td>
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<tr>
<td>473.astar</td>
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<td>483.xalancbmk</td>
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<td>185</td>
<td>37.3</td>
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<td>37.3</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

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 = "12"

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

Base Compiler Invocation

C benchmarks:
  icc -m64

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# SPEC CINT2006 Result

**NEC Corporation**

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**CPU2006 license:** 9006

**Test date:** Oct-2014

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

## Base Compiler Invocation (Continued)

C++ benchmarks:

```
icpc -m64
```

## Base Portability Flags

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<tr>
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## Base Optimization Flags

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<td>C benchmarks</td>
<td>-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32</td>
</tr>
<tr>
<td>C++ benchmarks</td>
<td>-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32</td>
</tr>
</tbody>
</table>

- Wl,-z,muldefs -L/sh -lsmartheap64

## Base Other Flags

C benchmarks:

```
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)
-03(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)
-03(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilk32
-opt-prefetch -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilk32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
-opt-prefetch -auto-p32

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)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4

Continued on next page
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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes
464.h264ref: basepeak = yes

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

473.astar: -xCORE-AVX2 -ipo -03 -no-pref-dir -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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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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