NEC Corporation

Express5800/R120d-1E (Intel Xeon E5-2430L)

SPECint®2006 = 38.8
SPECint_base2006 = 36.4

Hardware

CPU Name: Intel Xeon E5-2430L
CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz: 2000
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
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: 96 GB (12 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)
Kernel 2.6.32-220.el6.x86_64
Compiler: C/C++ Version 12.1.2.273 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
SPEC CINT2006 Result

NEC Corporation

SPECint2006 = 38.8
SPECint_base2006 = 36.4

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

Test date: Jun-2012
Hardware Availability: May-2012
Software Availability: Dec-2011

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>16.5</td>
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<tr>
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<td>39.2</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:
Energy Performance: Performance

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"
OMP_NUM_THREADS = "12"

The Express5800/R120d-1E and
the Express5800/R120d-2E models are electronically equivalent.
The results have been measured on the Express5800/R120d-1E model.

Added glibc-static-2.12-1.47.el6.x86_64.rpm
to enable static linking

Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
SPEC CINT2006 Result

NEC Corporation
Express5800/R120d-1E (Intel Xeon E5-2430L)

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CPU2006 license: 9006
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Test date: Jun-2012

Tested by: NEC Corporation
Hardware Availability: May-2012
Software Availability: Dec-2011

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icc -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:
-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/opt/SmartHeap_8.1/lib64 -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

Continued on next page
Peak Compiler Invocation (Continued)

400.perlbench: icc -m32
445.gobmk: icc -m32
464.h264ref: icc -m32

C++ benchmarks (except as noted below):
  icpc -m32
  473.astar: icpc -m64

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

Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(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: -xSSE4.2(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: -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

Continued on next page
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Peak Optimization Flags (Continued)

458.sjeng: basepeak = yes
462.libquantum: basepeak = yes
464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll12 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(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/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: basepeak = yes
483.xalancbmk: -xSSE4.2 -ipo -03 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.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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