SPEC® CINT2006 Result
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NEC Corporation

Express5800/R120e-2M (Intel Xeon E5-2660 v2)

SPECint®_rate2006 = 379

SPECint_rate_base2006 = 365

CPU2006 license: 9006

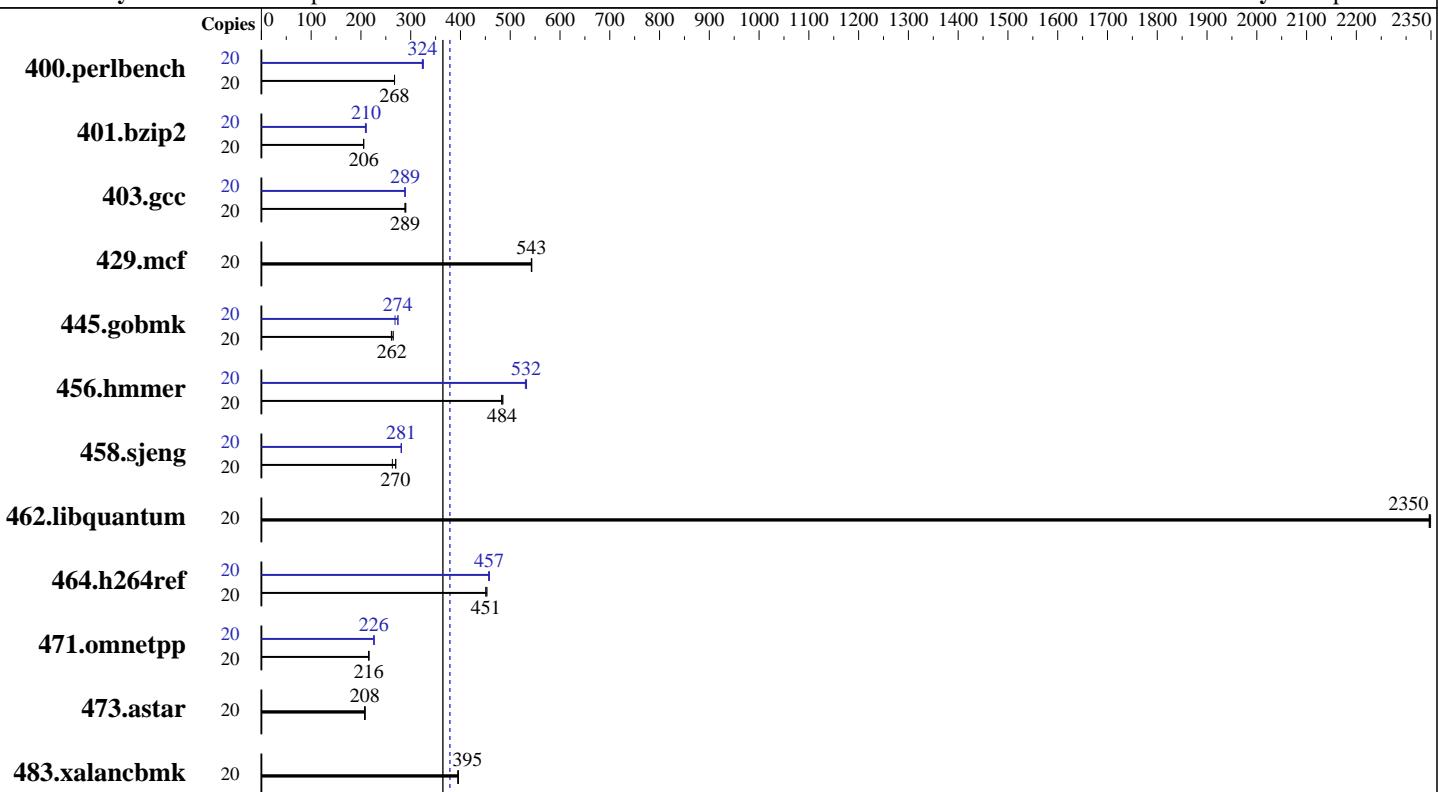**Test sponsor:** NEC Corporation

Tested by: NEC Corporation

Test date: Nov-2013

Hardware Availability: Sep-2013

Software Availability: Sep-2013

Copies

Benchmark	Copies	Peak	Base
400.perlbench	20 / 20	324	268
401.bzip2	20 / 20	210	206
403.gcc	20 / 20	289	289
429.mcf	20		543
445.gobmk	20 / 20	274	262
456.hmmer	20 / 20	532	484
458.sjeng	20 / 20	281	270
462.libquantum	20		2350
464.h264ref	20 / 20	457	451
471.omnetpp	20 / 20	226	216
473.astar	20		208
483.xalancbmk	20		395

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Hardware

CPU Name: Intel Xeon E5-2660 v2

CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz

CPU MHz: 2200

FPU: Integrated

CPU(s) enabled: 10 cores, 1 chip, 10 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: 25 MB I+D on chip per chip

Other Cache: None

Memory: 64 GB (4 x 16 GB 2Rx4 PC3-14900R-13, ECC)

Disk Subsystem: 1 x 250 GB SATA, 7200 RPM

Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
Kernel 2.6.32-358.18.1.el6.x86_64

Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux

Auto Parallel: No

File System: ext4

System State: Run level 3 (multi-user)

Base Pointers: 32-bit

Peak Pointers: 32/64-bit

Other Software: Microquill SmartHeap V8.1

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Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	20	730	268	**730**	**268**	731	267	20	**603**	**324**	604	323	600	325
401.bzip2	20	940	205	939	206	**939**	**206**	20	917	210	**918**	**210**	923	209
403.gcc	20	558	289	555	290	**557**	**289**	20	**558**	**289**	558	288	557	289
429.mcf	20	**336**	**543**	336	543	336	542	20	**336**	**543**	336	543	336	542
445.gobmk	20	**801**	**262**	792	265	803	261	20	**765**	**274**	781	269	765	274
456.hmmer	20	**386**	**484**	387	483	384	485	20	352	530	350	533	**351**	**532**
458.sjeng	20	896	270	920	263	**897**	**270**	20	**861**	**281**	860	281	861	281
462.libquantum	20	177	2350	**177**	**2350**	176	2350	20	177	2350	**177**	**2350**	176	2350
464.h264ref	20	976	453	**981**	**451**	981	451	20	**968**	**457**	966	458	969	457
471.omnetpp	20	578	216	**579**	**216**	580	215	20	552	226	553	226	**553**	**226**
473.astar	20	677	207	673	209	**676**	**208**	20	677	207	673	209	**676**	**208**
483.xalancbmk	20	349	396	**349**	**395**	350	395	20	349	396	**349**	**395**	350	395

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 Settings:
    Energy Performance: Performance

General Notes

   Environment variables set by runspec before the start of the run:
   LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

   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>
   The Express5800/R120e-1M and
   the Express5800/R120e-2M models are electronically equivalent.

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General Notes (Continued)

The results have been measured on the Express5800/R120e-2M model.

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:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
    -xSSE4.2 -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

    456.hmmer: icc -m64

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Peak Compiler Invocation (Continued)

        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: `-xSSE4.2(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: `-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 -auto-ilp32 -ansi-alias`

          403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div`

          429.mcf: `basepeak = yes`

          445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
                `-ansi-alias -opt-mem-layout-trans=3`

          456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

          458.sjeng: `-xSSE4.2(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: `-xSSE4.2(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: `-xSSE4.2(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
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.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-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.xml

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

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