SPEC® CINT2006 Result
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NEC Corporation

Express5800/R120d-1M (Intel Xeon E5-2630L)

SPECint®_rate2006 =   202

SPECint_rate_base2006 =   193
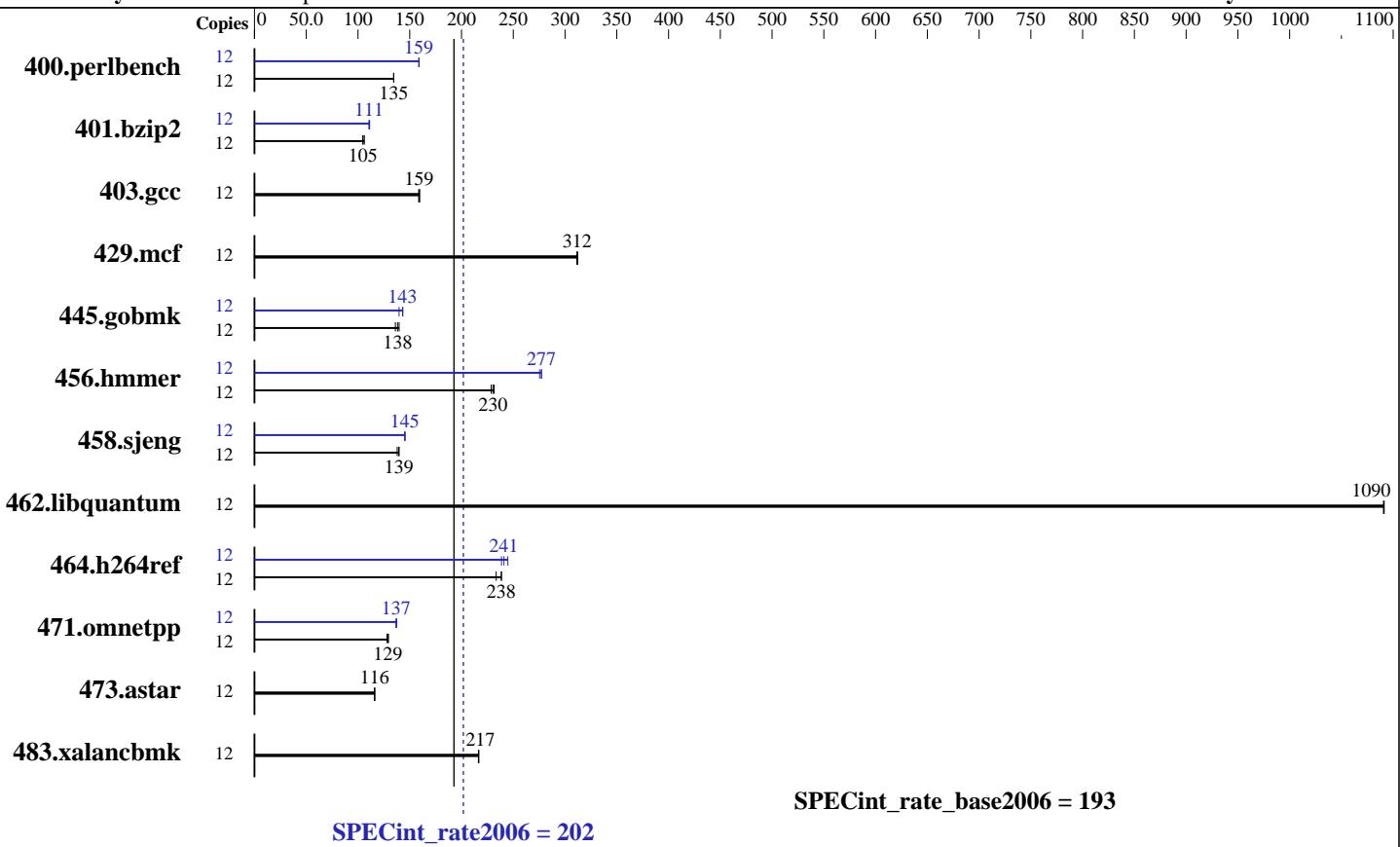
CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

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

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Benchmark	Copies	Peak	Base
400.perlbench	12	159	135
401.bzip2	12	111	105
403.gcc	12	159	
429.mcf	12	312	
445.gobmk	12	143	138
456.hmmer	12	277	230
458.sjeng	12	145	139
462.libquantum	12	1090	
464.h264ref	12	241	238
471.omnetpp	12	137	129
473.astar	12	116	
483.xalancbmk	12	217	

Hardware

CPU Name: Intel Xeon E5-2630L
CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz: 2000
FPU: Integrated
CPU(s) enabled: 6 cores, 1 chip, 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: 64 GB (8 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: 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	12	**872**	**135**	872	134	871	135	12	738	159	**738**	**159**	737	159
401.bzip2	12	1106	105	**1104**	**105**	1091	106	12	1041	111	**1044**	**111**	1047	111
403.gcc	12	605	160	**607**	**159**	609	159	12	605	160	**607**	**159**	609	159
429.mcf	12	351	312	351	311	**351**	**312**	12	351	312	351	311	**351**	**312**
445.gobmk	12	901	140	**911**	**138**	925	136	12	901	140	879	143	**879**	**143**
456.hmmer	12	490	229	**486**	**230**	483	232	12	404	277	**404**	**277**	406	275
458.sjeng	12	1040	140	1053	138	**1041**	**139**	12	**1000**	**145**	998	145	1000	145
462.libquantum	12	228	1090	228	1090	**228**	**1090**	12	228	1090	228	1090	**228**	**1090**
464.h264ref	12	1113	239	1138	233	**1114**	**238**	12	**1102**	**241**	1085	245	1113	239
471.omnetpp	12	**581**	**129**	580	129	586	128	12	545	137	548	137	**548**	**137**
473.astar	12	728	116	724	116	**726**	**116**	12	728	116	724	116	**726**	**116**
483.xalancbmk	12	**382**	**217**	383	216	382	217	12	**382**	**217**	383	216	382	217

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"

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

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

     Transparent Huge Pages enabled with:

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General Notes (Continued)

```
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>
```

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/opt/SmartHeap_8.1/lib -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

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Peak Compiler Invocation (Continued)

400.bzip2: `icc -m64`

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: `-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: `basepeak = yes`

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`

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Peak Optimization Flags (Continued)

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`

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/opt/SmartHeap_8.1/lib -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-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

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

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