SPEC® CINT2006 Result

NEC Corporation

Express5800/R120b-1
(Intel Xeon X5680)

SPECint®_rate2006 = 193

SPECint_rate_base2006 = 181

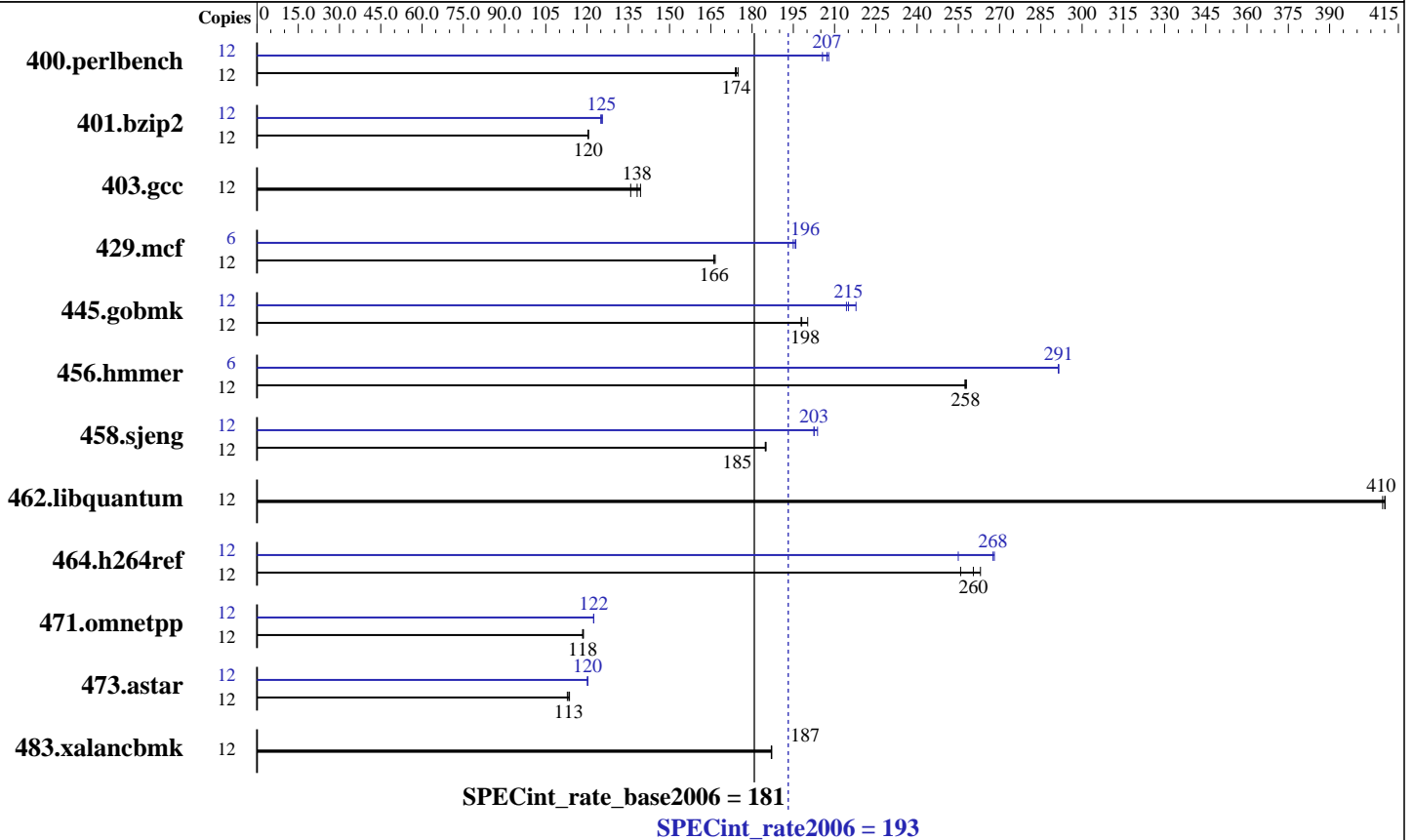**CPU2006 license:** 9006　　　　　　　　　　　　　　　　　　　　　　　　　**Test date:** Sep-2010
Test sponsor: NEC Corporation　　　　　　　　　　　　　　　　　　**Hardware Availability:** Sep-2010
Tested by: NEC Corporation　　　　　　　　　　　　　　　　　　　　**Software Availability:** Dec-2009

Copies 0 15.0 30.0 45.0 60.0 75.0 90.0 105 120 135 150 165 180 195 210 225 240 255 270 285 300 315 330 345 360 375 390 415

Benchmark	Copies	Value
400.perlbench	12	207
400.perlbench	12	174
401.bzip2	12	125
401.bzip2	12	120
403.gcc	12	138
429.mcf	6	196
429.mcf	12	166
445.gobmk	12	215
445.gobmk	12	198
456.hmmer	6	291
456.hmmer	12	258
458.sjeng	12	203
458.sjeng	12	185
462.libquantum	12	410
464.h264ref	12	268
464.h264ref	12	260
471.omnetpp	12	122
471.omnetpp	12	118
473.astar	12	120
473.astar	12	113
483.xalancbmk	12	187

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Hardware

CPU Name:	Intel Xeon X5680
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3333
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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (6 x 8 GB PC3L-10600R, 2 rank, CL9, ECC)
Disk Subsystem:	1x160 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel:	No
File System:	ext3
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 Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	12	670	175	**_673_**	**_174_**	674	174	12	**_566_**	**_207_**	564	208	570	206
401.bzip2	12	961	121	962	120	**_962_**	**_120_**	12	927	125	922	126	**_924_**	**_125_**
403.gcc	12	693	139	**_699_**	**_138_**	711	136	12	693	139	**_699_**	**_138_**	711	136
429.mcf	12	659	166	657	167	**_658_**	**_166_**	6	**_280_**	**_196_**	281	195	279	196
445.gobmk	12	**_636_**	**_198_**	629	200	636	198	12	**_585_**	**_215_**	578	218	587	214
456.hmmer	12	435	257	434	258	**_435_**	**_258_**	6	192	292	**_192_**	**_291_**	192	291
458.sjeng	12	784	185	786	185	**_785_**	**_185_**	12	712	204	717	203	**_717_**	**_203_**
462.libquantum	12	608	409	606	410	**_606_**	**_410_**	12	608	409	606	410	**_606_**	**_410_**
464.h264ref	12	1010	263	1038	256	**_1020_**	**_260_**	12	**_992_**	**_268_**	991	268	1041	255
471.omnetpp	12	633	118	632	119	**_633_**	**_118_**	12	**_613_**	**_122_**	613	122	612	122
473.astar	12	741	114	747	113	**_743_**	**_113_**	12	700	120	**_701_**	**_120_**	701	120
483.xalancbmk	12	442	187	**_443_**	**_187_**	443	187	12	442	187	**_443_**	**_187_**	443	187

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

```
    The config file option 'submit' was used.
     numactl was used to bind copies to the cores
```

Operating System Notes

```
     'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
```

Platform Notes

```
     BIOS setting:
     Performance/Watt: Traditional
     Server Class: Custom
     Data Reuse Optimization: Disabled
     Memory Voltage: Normal
```

General Notes

```
     The Express5800/R120b-1 and
     the Express5800/R120b-2 models are electronically equivalent.
     The results have been measured on the Express5800/R120b-1 model.
```

SPEC CINT2006 Result

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(Intel Xeon X5680)

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CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Sep-2010

Hardware Availability: Sep-2010

Software Availability: Dec-2009

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 -static -opt-prefetch

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -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

    401.bzip2: icc -m64

  456.hmmer: icc -m64

    458.sjeng: icc -m64

C++ benchmarks (except as noted below):
    icpc -m32

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Test sponsor: NEC Corporation		**Hardware Availability:**	Sep-2010
Tested by: NEC Corporation		**Software Availability:**	Dec-2009

Peak Compiler Invocation (Continued)

        473.astar: `icpc -m64`

Peak Portability Flags

        400.perlbench: `-DSPEC_CPU_LINUX_IA32`
            401.bzip2: `-DSPEC_CPU_LP64`
           456.hmmer: `-DSPEC_CPU_LP64`
            458.sjeng: `-DSPEC_CPU_LP64`
       462.libquantum: `-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) -static(pass 2)`
                       `-prof-use(pass 2) -ansi-alias`

            401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
                       `-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)`
                       `-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32`

             403.gcc: basepeak = yes

             429.mcf: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`

           445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2`
                      `-ipo -no-prec-div -ansi-alias`

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

            458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
                       `-O3(pass 2) -no-prec-div(pass 2) -static(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) -static(pass 2)`
                       `-prof-use(pass 2) -unroll2 -ansi-alias`

C++ benchmarks:

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CPU2006 license: 9006		**Test date:**	Sep-2010
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Peak Optimization Flags (Continued)

  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: -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=routine -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib64 -lsmartheap64

  483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

      403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100929.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100929.01.xml

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

Tested with SPEC CPU2006 v1.1.
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