



# SPEC® CINT2006 Result

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## Intel Corporation

**SPECint®2006 = 24.6**

Intel QSSC-S4R (Intel Xeon E7530, 1.86 GHz)

**SPECint\_base2006 = 22.4**

CPU2006 license: 13

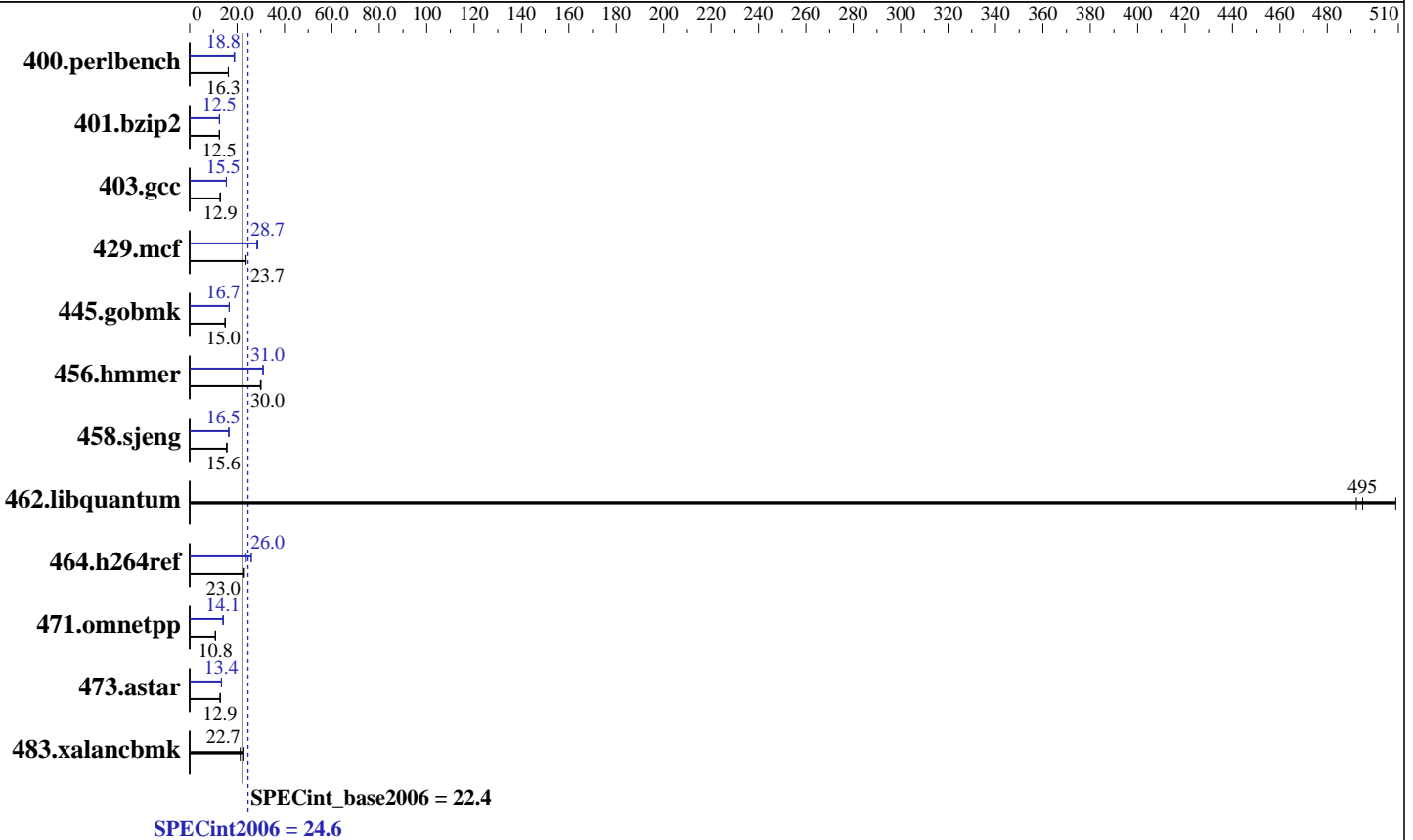
Test date: Mar-2010

Test sponsor: Intel Corporation

Hardware Availability: Mar-2010

Tested by: Intel Corporation

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon E7530  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.13 GHz  
 CPU MHz: 1866  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2,4 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: 256 GB (64x 4GB Quad-Rank DDR3-1066, ECC, CL9)  
 Disk Subsystem: 146 GB SAS, 10000RPM  
 Other Hardware: None

### Software

Operating System: SuSe Linux Enterprise Server 11  
 Kernel 2.6.27.19-5 on x86\_64  
 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: Yes  
 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						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	600	16.3	<b>600</b>	<b>16.3</b>	599	16.3	515	19.0	<b>520</b>	<b>18.8</b>	522	18.7
401.bzip2	771	12.5	<b>770</b>	<b>12.5</b>	770	12.5	770	12.5	<b>770</b>	<b>12.5</b>	770	12.5
403.gcc	625	12.9	626	12.9	<b>626</b>	<b>12.9</b>	522	15.4	<b>521</b>	<b>15.5</b>	521	15.5
429.mcf	384	23.7	384	23.8	<b>384</b>	<b>23.7</b>	318	28.7	322	28.3	<b>318</b>	<b>28.7</b>
445.gobmk	702	14.9	<b>701</b>	<b>15.0</b>	701	15.0	630	16.7	629	16.7	<b>629</b>	<b>16.7</b>
456.hmmer	313	29.8	<b>311</b>	<b>30.0</b>	310	30.1	301	31.0	<b>301</b>	<b>31.0</b>	301	30.9
458.sjeng	<b>774</b>	<b>15.6</b>	772	15.7	774	15.6	732	16.5	734	16.5	<b>734</b>	<b>16.5</b>
462.libquantum	42.1	492	40.7	509	<b>41.9</b>	<b>495</b>	42.1	492	40.7	509	<b>41.9</b>	<b>495</b>
464.h264ref	961	23.0	<b>963</b>	<b>23.0</b>	967	22.9	852	26.0	<b>853</b>	<b>26.0</b>	928	23.8
471.omnetpp	576	10.8	<b>576</b>	<b>10.8</b>	576	10.9	445	14.0	442	14.1	<b>444</b>	<b>14.1</b>
473.astar	<b>546</b>	<b>12.9</b>	546	12.9	546	12.9	525	13.4	525	13.4	<b>525</b>	<b>13.4</b>
483.xalancbmk	323	21.3	302	22.8	<b>304</b>	<b>22.7</b>	323	21.3	302	22.8	<b>304</b>	<b>22.7</b>

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

## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter

## Base Compiler Invocation

C benchmarks:  
icc -m64  
  
C++ benchmarks:  
icpc -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

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## Base Portability Flags (Continued)

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 -static -parallel -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

429.mcf: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

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

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## Peak Portability Flags (Continued)

456.hmmr: -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\_LP64 -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 -opt-prefetch

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

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
 -opt-malloc-options=3 -auto-ilp32

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.hmmr: -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

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:

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/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -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

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## Peak Optimization Flags (Continued)

473.astar (continued):  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -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-revG.html>

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

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 08:05:42 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 4 May 2010.