



# SPEC<sup>®</sup> CINT2006 Result

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## Intel Corporation

SPECint<sup>®</sup>\_rate2006 = 535

Intel QSSC-S4R (Intel Xeon E7540, 2.00 GHz)

SPECint\_rate\_base2006 = 497

CPU2006 license: 13

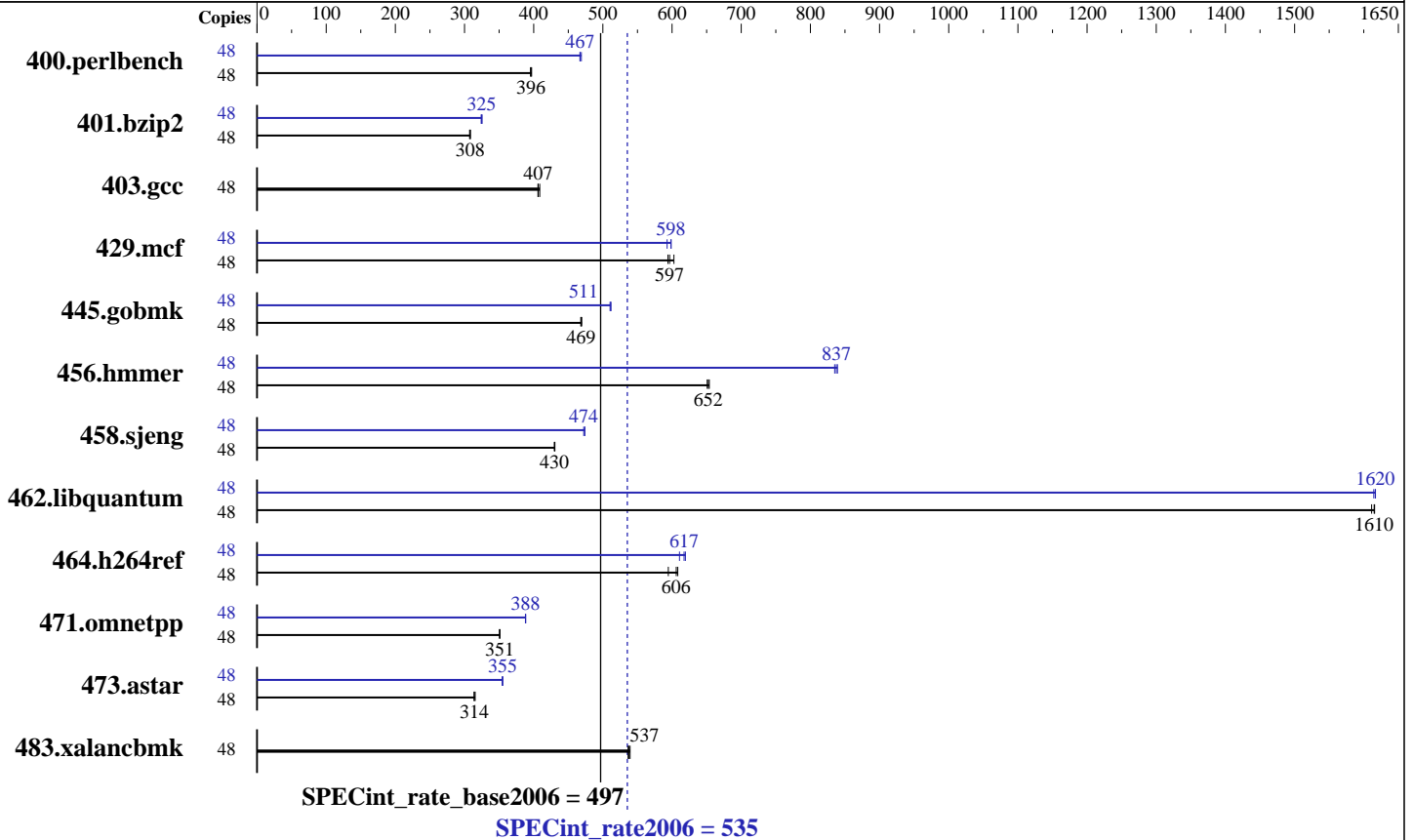
Test date: Mar-2010

Test sponsor: Intel Corporation

Hardware Availability: Mar-2010

Tested by: Intel Corporation

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon E7540  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.26 GHz  
 CPU MHz: 2000  
 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: 18 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: 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								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
400.perlbench	48	1181	397	1186	395	<b><u>1184</u></b>	<b><u>396</u></b>	48	1005	467	1000	469	<b><u>1004</u></b>	<b><u>467</u></b>		
401.bzip2	48	1507	307	1501	309	<b><u>1503</u></b>	<b><u>308</u></b>	48	1429	324	1424	325	<b><u>1426</u></b>	<b><u>325</u></b>		
403.gcc	48	951	406	<b><u>950</u></b>	<b><u>407</u></b>	945	409	48	951	406	<b><u>950</u></b>	<b><u>407</u></b>	945	409		
429.mcf	48	737	594	<b><u>734</u></b>	<b><u>597</u></b>	726	603	48	731	599	<b><u>731</u></b>	<b><u>598</u></b>	738	593		
445.gobmk	48	1076	468	<b><u>1075</u></b>	<b><u>469</u></b>	1072	470	48	984	512	<b><u>985</u></b>	<b><u>511</u></b>	987	510		
456.hammer	48	685	654	688	651	<b><u>686</u></b>	<b><u>652</u></b>	48	536	835	534	839	<b><u>535</u></b>	<b><u>837</u></b>		
458.sjeng	48	1349	431	<b><u>1350</u></b>	<b><u>430</u></b>	1351	430	48	<b><u>1226</u></b>	<b><u>474</u></b>	1226	474	1230	472		
462.libquantum	48	617	1610	616	1620	<b><u>616</u></b>	<b><u>1610</u></b>	48	<b><u>615</u></b>	<b><u>1620</u></b>	616	1610	615	1620		
464.h264ref	48	<b><u>1753</u></b>	<b><u>606</u></b>	1786	595	1746	608	48	1739	611	1715	619	<b><u>1720</u></b>	<b><u>617</u></b>		
471.omnetpp	48	<b><u>855</u></b>	<b><u>351</u></b>	855	351	856	351	48	<b><u>773</u></b>	<b><u>388</u></b>	772	388	773	388		
473.astar	48	1068	315	<b><u>1073</u></b>	<b><u>314</u></b>	1073	314	48	<b><u>949</u></b>	<b><u>355</u></b>	951	354	949	355		
483.xalanbmk	48	<b><u>616</u></b>	<b><u>537</u></b>	614	539	617	536	48	<b><u>616</u></b>	<b><u>537</u></b>	614	539	617	536		

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

## 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.xalanbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

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

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## Base Optimization Flags (Continued)

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmarheap

## 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

462.libquantum: icc -m64

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

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:

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## Peak Optimization Flags (Continued)

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.hmmcr: -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: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32  
-opt-prefetch

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  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

Continued on next page



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## Peak Other Flags (Continued)

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 questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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