



# SPEC® CINT2006 Result

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## Huawei

SPECint®2006 = 30.2

## Huawei XH620, Intel Xeon E5520

SPECint\_base2006 = 28.1

CPU2006 license: 3175

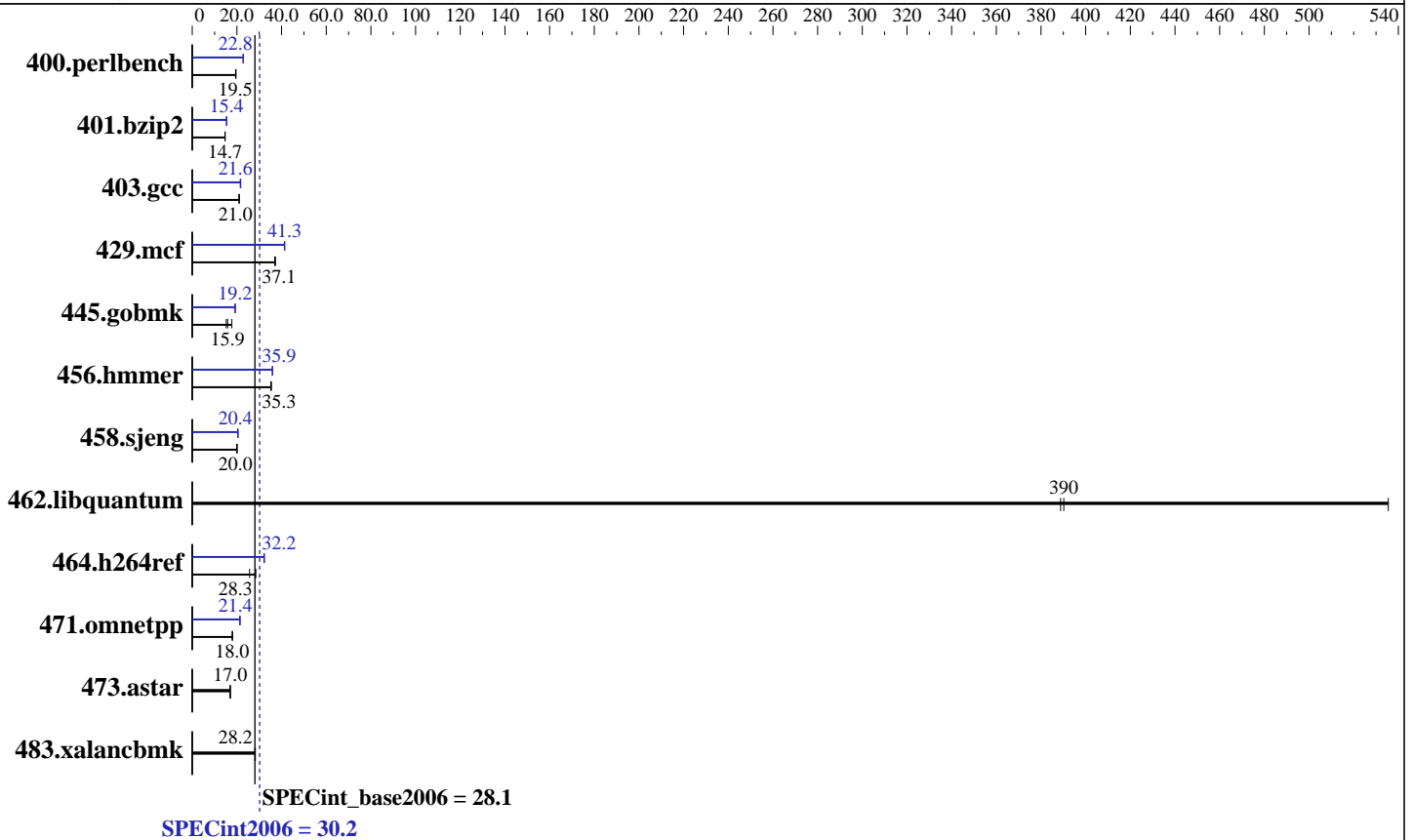
Test sponsor: Huawei

Tested by: Huawei

Test date: Apr-2011

Hardware Availability: Apr-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E5520  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz  
 CPU MHz: 2267  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)  
 Disk Subsystem: 1 x 300 GB SAS, 15K RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-smp  
 Compiler: Intel C++ Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V9.01



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b><u>502</u></b>	<b><u>19.5</u></b>	498	19.6	503	19.4	427	22.9	429	22.8	<b><u>428</u></b>	<b><u>22.8</u></b>
401.bzip2	657	14.7	657	14.7	<b><u>657</u></b>	<b><u>14.7</u></b>	626	15.4	<b><u>628</u></b>	<b><u>15.4</u></b>	628	15.4
403.gcc	<b><u>383</u></b>	<b><u>21.0</u></b>	384	21.0	383	21.0	374	21.5	371	21.7	<b><u>373</u></b>	<b><u>21.6</u></b>
429.mcf	245	37.2	246	37.0	<b><u>246</u></b>	<b><u>37.1</u></b>	221	41.2	<b><u>221</u></b>	<b><u>41.3</u></b>	220	41.4
445.gobmk	<b><u>662</u></b>	<b><u>15.9</u></b>	689	15.2	591	17.7	<b><u>546</u></b>	<b><u>19.2</u></b>	546	19.2	544	19.3
456.hammer	264	35.3	264	35.4	<b><u>264</u></b>	<b><u>35.3</u></b>	260	36.0	<b><u>260</u></b>	<b><u>35.9</u></b>	260	35.9
458.sjeng	605	20.0	<b><u>604</u></b>	<b><u>20.0</u></b>	604	20.0	592	20.4	592	20.4	<b><u>592</u></b>	<b><u>20.4</u></b>
462.libquantum	53.3	389	38.7	535	<b><u>53.1</u></b>	<b><u>390</u></b>	53.3	389	38.7	535	<b><u>53.1</u></b>	<b><u>390</u></b>
464.h264ref	<b><u>781</u></b>	<b><u>28.3</u></b>	779	28.4	862	25.7	689	32.1	685	32.3	<b><u>687</u></b>	<b><u>32.2</u></b>
471.omnetpp	347	18.0	348	17.9	<b><u>348</u></b>	<b><u>18.0</u></b>	<b><u>292</u></b>	<b><u>21.4</u></b>	295	21.2	292	21.4
473.astar	415	16.9	411	17.1	<b><u>413</u></b>	<b><u>17.0</u></b>	415	16.9	411	17.1	<b><u>413</u></b>	<b><u>17.0</u></b>
483.xalancbmk	<b><u>244</u></b>	<b><u>28.2</u></b>	244	28.2	246	28.1	<b><u>244</u></b>	<b><u>28.2</u></b>	244	28.2	246	28.1

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run. Hupages were not configured on the system.

## Platform Notes

Data Reuse Optimization disabled in BIOS Setup.

## General Notes

Binaries compiled on RHEL 5.5  
OMP\_NUM\_THREADS set to number of cores

## Base Compiler Invocation

C benchmarks:  
icc -m64

C++ benchmarks:  
icpc -m64



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## 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
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 -parallel -opt-prefetch -auto-p32  
 -B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

C++ benchmarks:  
 -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
 -L/smartheap -lsmartheap64  
 -B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

## 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

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## Peak Compiler Invocation (Continued)

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  
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\_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) -prof-use(pass 2)  
-opt-prefetch -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc  
-opt-malloc-options=3 -auto-ilp32  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

429.mcf: -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 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-auto-ilp32 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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## Peak Optimization Flags (Continued)

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

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  
 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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)  
 -opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs  
 -L/smartheap -lsmartheap  
 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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/HUAWEI-platform-linux64-revA.html>  
<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/HUAWEI-platform-linux64-revA.xml>  
<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>



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

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