



# SPEC® CINT2006 Result

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## Intel Corporation

**SPECint®2006 = 19.9**

Intel Server System S7000FC4UR (Intel Xeon E7430)

**SPECint\_base2006 = 17.5**

CPU2006 license: 13

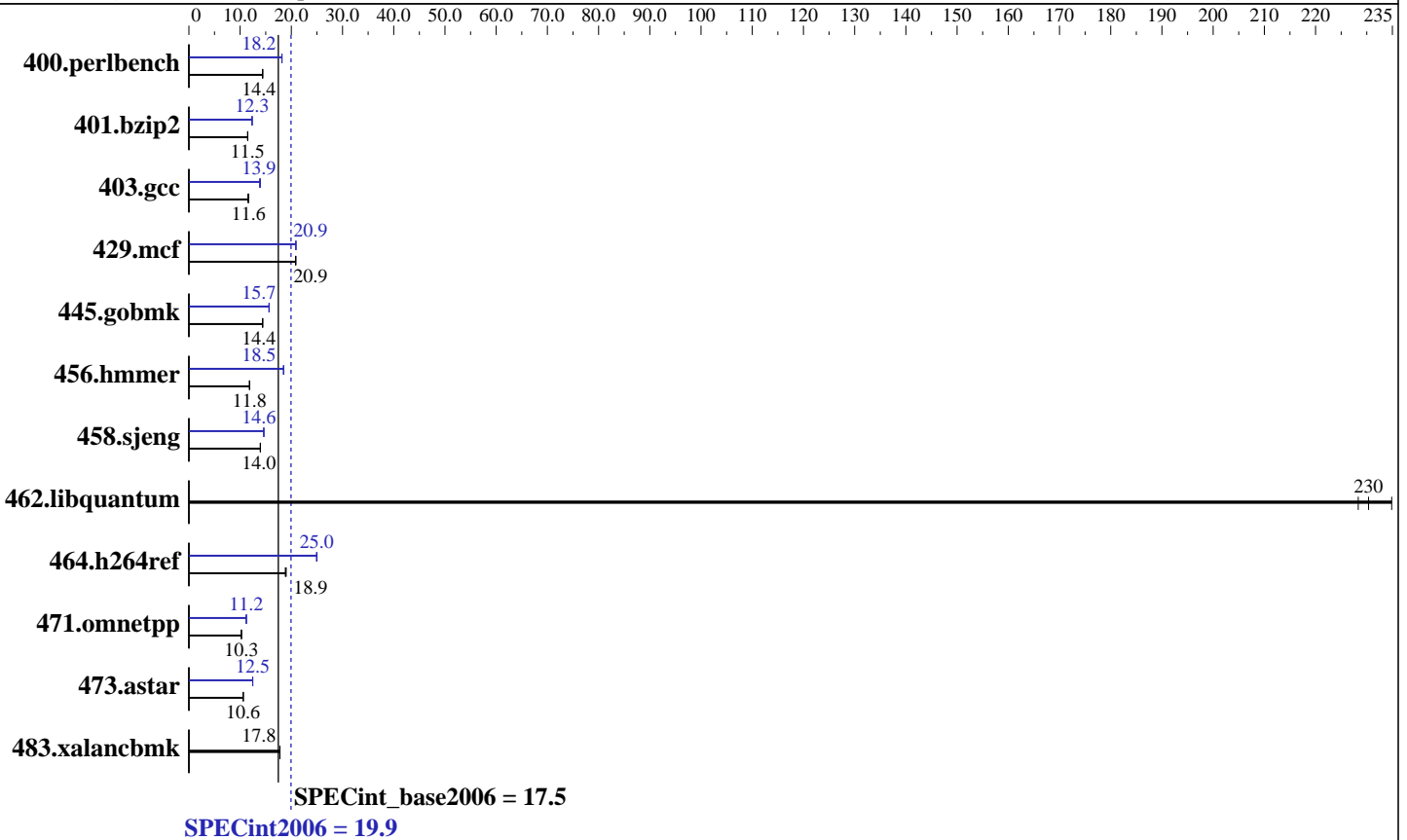
Test date: Sep-2008

Test sponsor: Intel Corporation

Hardware Availability: Sep-2008

Tested by: Intel Corporation

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon E7430  
 CPU Characteristics:  
 CPU MHz: 2133  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip  
 CPU(s) orderable: 1,2,4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip, 3 MB shared / 2 cores  
 L3 Cache: 12 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 32 GB (16x2GB Micron DDR2 5300F.2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 73 GB Seagate SAS, 10K RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2, Kernel 2.6.16-60.0.21-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l\_cc\_b\_11.0.042  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b>678</b>	<b>14.4</b>	677	14.4	680	14.4	537	18.2	538	18.2	<b>537</b>	<b>18.2</b>
401.bzip2	843	11.5	<b>839</b>	<b>11.5</b>	839	11.5	<b>782</b>	<b>12.3</b>	780	12.4	784	12.3
403.gcc	<b>692</b>	<b>11.6</b>	699	11.5	690	11.7	577	13.9	<b>578</b>	<b>13.9</b>	583	13.8
429.mcf	438	20.8	437	20.9	<b>437</b>	<b>20.9</b>	436	20.9	<b>437</b>	<b>20.9</b>	437	20.9
445.gobmk	<b>728</b>	<b>14.4</b>	729	14.4	728	14.4	670	15.7	<b>670</b>	<b>15.7</b>	670	15.7
456.hmmmer	787	11.8	788	11.8	<b>788</b>	<b>11.8</b>	504	18.5	505	18.5	<b>505</b>	<b>18.5</b>
458.sjeng	868	13.9	867	14.0	<b>867</b>	<b>14.0</b>	827	14.6	828	14.6	<b>827</b>	<b>14.6</b>
462.libquantum	88.2	235	90.7	228	<b>90.0</b>	<b>230</b>	88.2	235	90.7	228	<b>90.0</b>	<b>230</b>
464.h264ref	<b>1172</b>	<b>18.9</b>	1174	18.8	1165	19.0	<b>886</b>	<b>25.0</b>	884	25.0	888	24.9
471.omnetpp	<b>609</b>	<b>10.3</b>	609	10.3	610	10.3	<b>557</b>	<b>11.2</b>	557	11.2	558	11.2
473.astar	662	10.6	<b>662</b>	<b>10.6</b>	661	10.6	564	12.4	<b>564</b>	<b>12.5</b>	562	12.5
483.xalancbmk	<b>388</b>	<b>17.8</b>	388	17.8	388	17.8	<b>388</b>	<b>17.8</b>	388	17.8	388	17.8

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

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmmer, for peak, are compiled in 64-bit mode  
OMP\_NUM\_THREADS set to number of processors  
KMP\_AFFINITY set to "physical,0"  
Hardware Prefetcher: Enabled  
Adjacent Cache Line Prefetcher: Enabled  
High Bandwidth Option: Disabled

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX



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## Base Optimization Flags

C benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

C++ benchmarks:

icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

Continued on next page



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## Peak Optimization Flags (Continued)

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch

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

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3

429.mcf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

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

456.hmmcr: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

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-ic11.0-int-linux64-revA.20090713.14.html>



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You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.14.xml>

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