



# SPEC® CINT2006 Result

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## Intel Corporation

## SPECint®\_rate2006 = 196

### Intel Server System S7000FC4UR (Intel Xeon E7430)

## SPECint\_rate\_base2006 = 182

CPU2006 license: 13

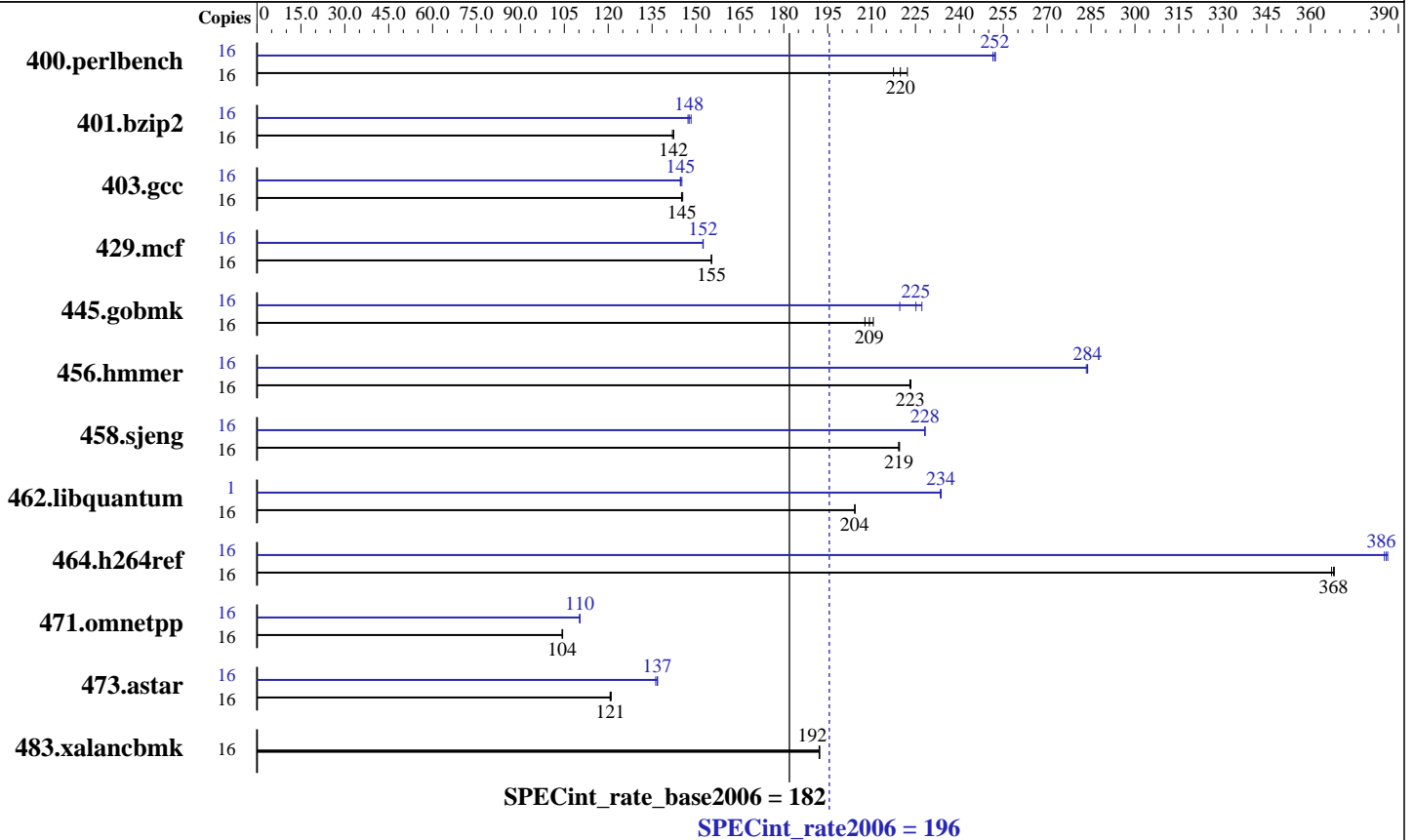
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Sep-2008

Hardware Availability: Sep-2008

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 SLES10 SP2  
 Compiler: Intel C++ Compiler 11.0 for Linux  
 Build 20080730 Package ID: l\_cproc\_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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	<u>711</u>	<u>220</u>	719	217	703	222	16	<u>620</u>	<u>252</u>	620	252	622	251
401.bzip2	16	1084	142	1088	142	<u>1085</u>	<u>142</u>	16	1041	148	1048	147	<u>1046</u>	<u>148</u>
403.gcc	16	<u>887</u>	<u>145</u>	888	145	885	145	16	887	145	<u>890</u>	<u>145</u>	890	145
429.mcf	16	939	155	940	155	<u>940</u>	<u>155</u>	16	<u>958</u>	<u>152</u>	958	152	957	152
445.gobmk	16	808	208	<u>802</u>	<u>209</u>	797	211	16	<u>745</u>	<u>225</u>	764	220	739	227
456.hmmmer	16	669	223	668	223	<u>669</u>	<u>223</u>	16	<u>526</u>	<u>284</u>	527	283	526	284
458.sjeng	16	882	220	<u>883</u>	<u>219</u>	883	219	16	849	228	848	228	<u>848</u>	<u>228</u>
462.libquantum	16	1623	204	<u>1623</u>	<u>204</u>	1622	204	1	88.7	234	88.6	234	<u>88.7</u>	<u>234</u>
464.h264ref	16	962	368	964	367	<u>963</u>	<u>368</u>	16	919	385	<u>918</u>	<u>386</u>	916	386
471.omnetpp	16	<u>959</u>	<u>104</u>	957	104	959	104	16	<u>906</u>	<u>110</u>	907	110	906	110
473.astar	16	928	121	<u>930</u>	<u>121</u>	931	121	16	821	137	824	136	<u>821</u>	<u>137</u>
483.xalancbmk	16	575	192	574	192	<u>575</u>	<u>192</u>	16	575	192	574	192	<u>575</u>	<u>192</u>

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.

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmmer, for peak, are compiled in 64-bit mode  
 taskset was used to bind processes to cores except for 462.libquantum peak  
 OMP\_NUM\_THREADS set to number of processors  
 KMP\_AFFINITY set to "physical,0"  
 KMP\_STACKSIZE set to 64M  
 Hardware Prefetcher: Disabled  
 Adjacent Cache Line Prefetcher: Disabled  
 High Bandwidth Option: Disabled

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc



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## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3 -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

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## Peak Portability Flags (Continued)

462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

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 -opt-prefetch -ansi-alias

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

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

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

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static  
-opt-malloc-options=3 -parallel -par-runtime-control  
-opt-prefetch

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



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## 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.20090713.06.html>

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.20090713.06.xml>

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

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