



# SPEC® CINT2006 Result

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Itaotec

SPECint®\_rate2006 = 251

Servidor Itaotec MX223+ (Intel Xeon E5640)

SPECint\_rate\_base2006 = 237

CPU2006 license: 9001

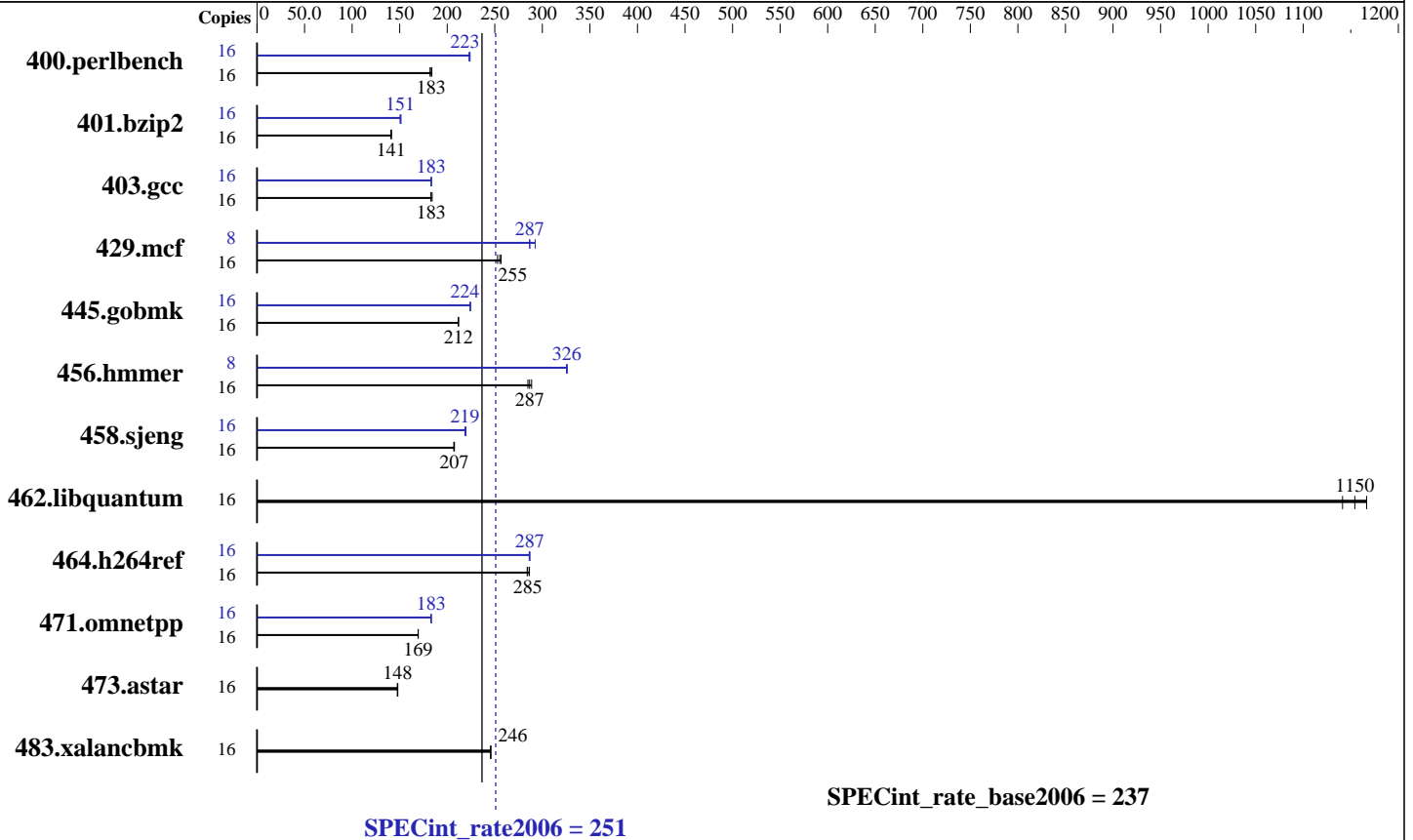
Test date: Jun-2011

Test sponsor: Itaotec

Hardware Availability: Apr-2010

Tested by: Itaotec

Software Availability: Jan-2011



## Hardware

CPU Name: Intel Xeon E5640  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz  
 CPU MHz: 2667  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 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: 48 GB (12 x 4 GB 2Rx4 PC3-8500R-9, ECC)  
 Disk Subsystem: 1 x 500 GB SATA-2, 7200 RPM  
 Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 11 SP1 (x86\_64), Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ Compiler XE for applications running on IA-32, Version 12.0.2 Build 20110112  
 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	16	850	184	<b><u>854</u></b>	<b><u>183</u></b>	859	182	16	698	224	701	223	<b><u>700</u></b>	<b><u>223</u></b>
401.bzip2	16	1093	141	<b><u>1094</u></b>	<b><u>141</u></b>	1096	141	16	1025	151	1020	151	<b><u>1025</u></b>	<b><u>151</u></b>
403.gcc	16	705	183	<b><u>704</u></b>	<b><u>183</u></b>	699	184	16	<b><u>703</u></b>	<b><u>183</u></b>	702	183	704	183
429.mcf	16	577	253	<b><u>572</u></b>	<b><u>255</u></b>	569	257	8	255	287	249	292	<b><u>254</u></b>	<b><u>287</u></b>
445.gobmk	16	793	212	<b><u>793</u></b>	<b><u>212</u></b>	792	212	16	748	224	749	224	<b><u>749</u></b>	<b><u>224</u></b>
456.hammer	16	524	285	<b><u>521</u></b>	<b><u>287</u></b>	517	289	8	229	325	229	326	<b><u>229</u></b>	<b><u>326</u></b>
458.sjeng	16	<b><u>934</u></b>	<b><u>207</u></b>	933	208	936	207	16	885	219	881	220	<b><u>882</u></b>	<b><u>219</u></b>
462.libquantum	16	290	1140	<b><u>287</u></b>	<b><u>1150</u></b>	284	1170	16	290	1140	<b><u>287</u></b>	<b><u>1150</u></b>	284	1170
464.h264ref	16	1246	284	<b><u>1244</u></b>	<b><u>285</u></b>	1236	286	16	1234	287	<b><u>1235</u></b>	<b><u>287</u></b>	1237	286
471.omnetpp	16	590	170	591	169	<b><u>590</u></b>	<b><u>169</u></b>	16	546	183	<b><u>546</u></b>	<b><u>183</u></b>	546	183
473.astar	16	761	148	<b><u>760</u></b>	<b><u>148</u></b>	759	148	16	761	148	<b><u>760</u></b>	<b><u>148</u></b>	759	148
483.xalancbmk	16	<b><u>449</u></b>	<b><u>246</u></b>	449	246	449	246	16	<b><u>449</u></b>	<b><u>246</u></b>	449	246	449	246

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.  
Large pages were not enabled for this run

## General Notes

This result was measured on the Servidor Itaotec MX224.  
The Servidor Itaotec MX203+, Servidor Itaotec MX223+ and the Servidor Itaotec MX224 are electronically equivalent.

## Base Compiler Invocation

C benchmarks:  
icc -m32  
  
C++ benchmarks:  
icpc -m32



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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:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/rcaneca/sh/SmartHeap\_8.1/lib -lsmartheap  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:  
icpc -m32

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

456.hmmcr: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -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)  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

401.bzip2: -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 -auto-ilp32 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfs/ -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)  
-ansi-alias -auto-ilp32

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -auto-ilp32

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

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 -auto-ilp32  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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

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/rcaneca/sh/SmartHeap\_8.1/lib -lsmartheap

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## Peak Optimization Flags (Continued)

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/Intel-ic12.0-linux64-revB.html>  
<http://www.spec.org/cpu2006/flags/Itautec-Intel-Linux64-Platform.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>  
<http://www.spec.org/cpu2006/flags/Itautec-Intel-Linux64-Platform.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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