



# SPEC® CINT2006 Result

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Itautec

SPECint®\_rate2006 = 129

Servidor Itautec MX214 (Intel Xeon E5640)

SPECint\_rate\_base2006 = 122

CPU2006 license: 9001

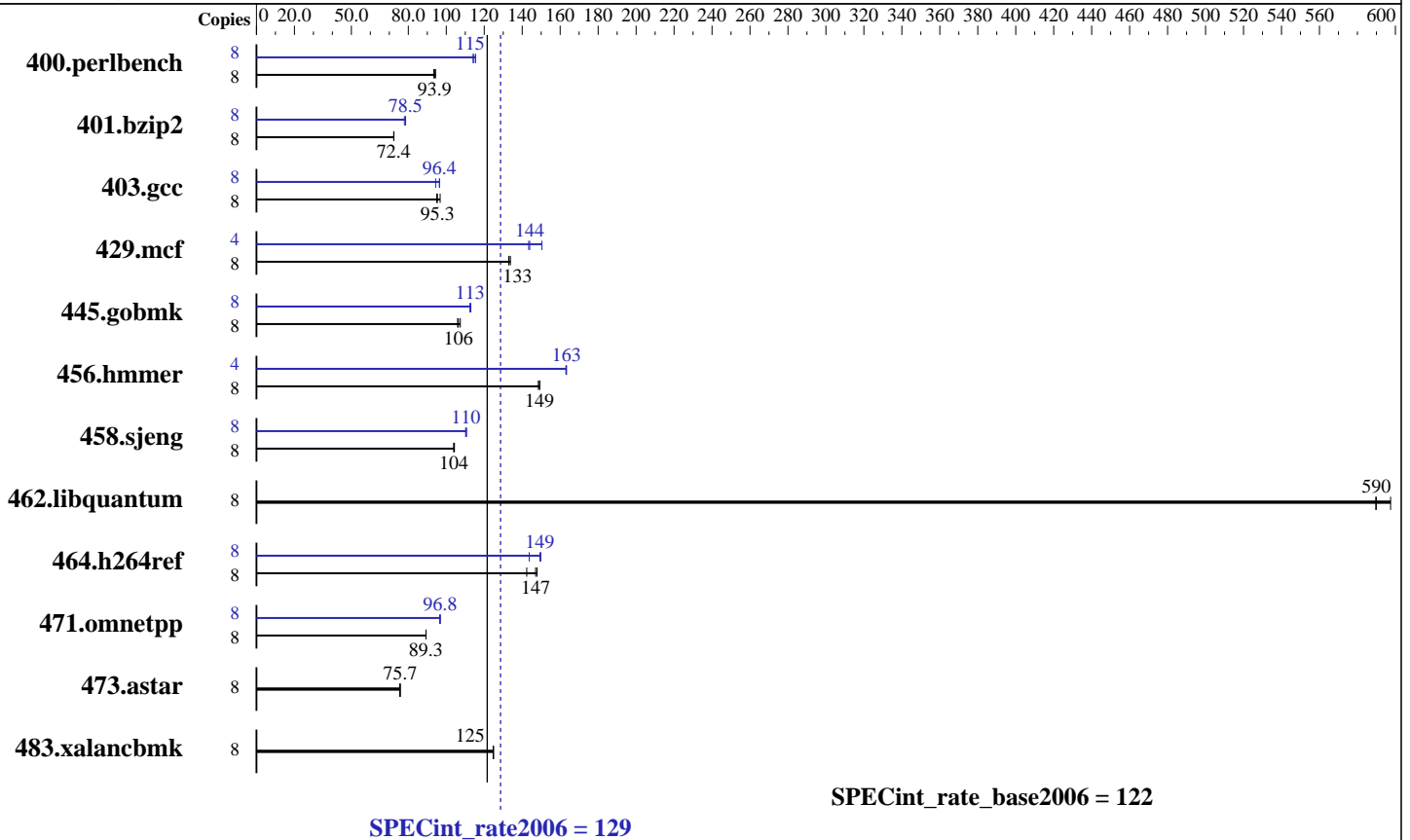
Test date: Jul-2011

Test sponsor: Itautec

Hardware Availability: Apr-2011

Tested by: Itautec

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: 4 cores, 1 chip, 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: 24 GB (6 x 4 GB 2Rx4 PC3-8500R-7, 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	8	837	93.4	828	94.4	<b>833</b>	<b>93.9</b>	8	<b>682</b>	<b>115</b>	685	114	677	115
401.bzip2	8	<b>1067</b>	<b>72.4</b>	1066	72.4	1068	72.3	8	<b>983</b>	<b>78.5</b>	983	78.6	991	77.9
403.gcc	8	666	96.8	678	95.0	<b>676</b>	<b>95.3</b>	8	668	96.4	682	94.4	<b>668</b>	<b>96.4</b>
429.mcf	8	549	133	545	134	<b>548</b>	<b>133</b>	4	254	143	243	150	<b>253</b>	<b>144</b>
445.gobmk	8	781	107	792	106	<b>789</b>	<b>106</b>	8	746	112	743	113	<b>745</b>	<b>113</b>
456.hammer	8	503	148	<b>501</b>	<b>149</b>	500	149	4	<b>229</b>	<b>163</b>	229	163	229	163
458.sjeng	8	<b>931</b>	<b>104</b>	931	104	928	104	8	875	111	<b>877</b>	<b>110</b>	878	110
462.libquantum	8	<b>281</b>	<b>590</b>	281	590	277	597	8	<b>281</b>	<b>590</b>	281	590	277	597
464.h264ref	8	1198	148	<b>1204</b>	<b>147</b>	1243	142	8	<b>1186</b>	<b>149</b>	1232	144	1182	150
471.omnetpp	8	<b>560</b>	<b>89.3</b>	560	89.3	560	89.4	8	516	96.9	518	96.5	<b>517</b>	<b>96.8</b>
473.astar	8	<b>742</b>	<b>75.7</b>	741	75.7	744	75.5	8	<b>742</b>	<b>75.7</b>	741	75.7	744	75.5
483.xalancbmk	8	<b>442</b>	<b>125</b>	442	125	443	125	8	<b>442</b>	<b>125</b>	442	125	443	125

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

## Platform Notes

Data Reuse disabled in BIOS.

## 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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