



# SPEC® CINT2006 Result

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Itautec

SPECint®\_rate2006 = 334

Servidor Itautec MX224 (Intel Xeon E5645)

SPECint\_rate\_base2006 = 321

CPU2006 license: 9001

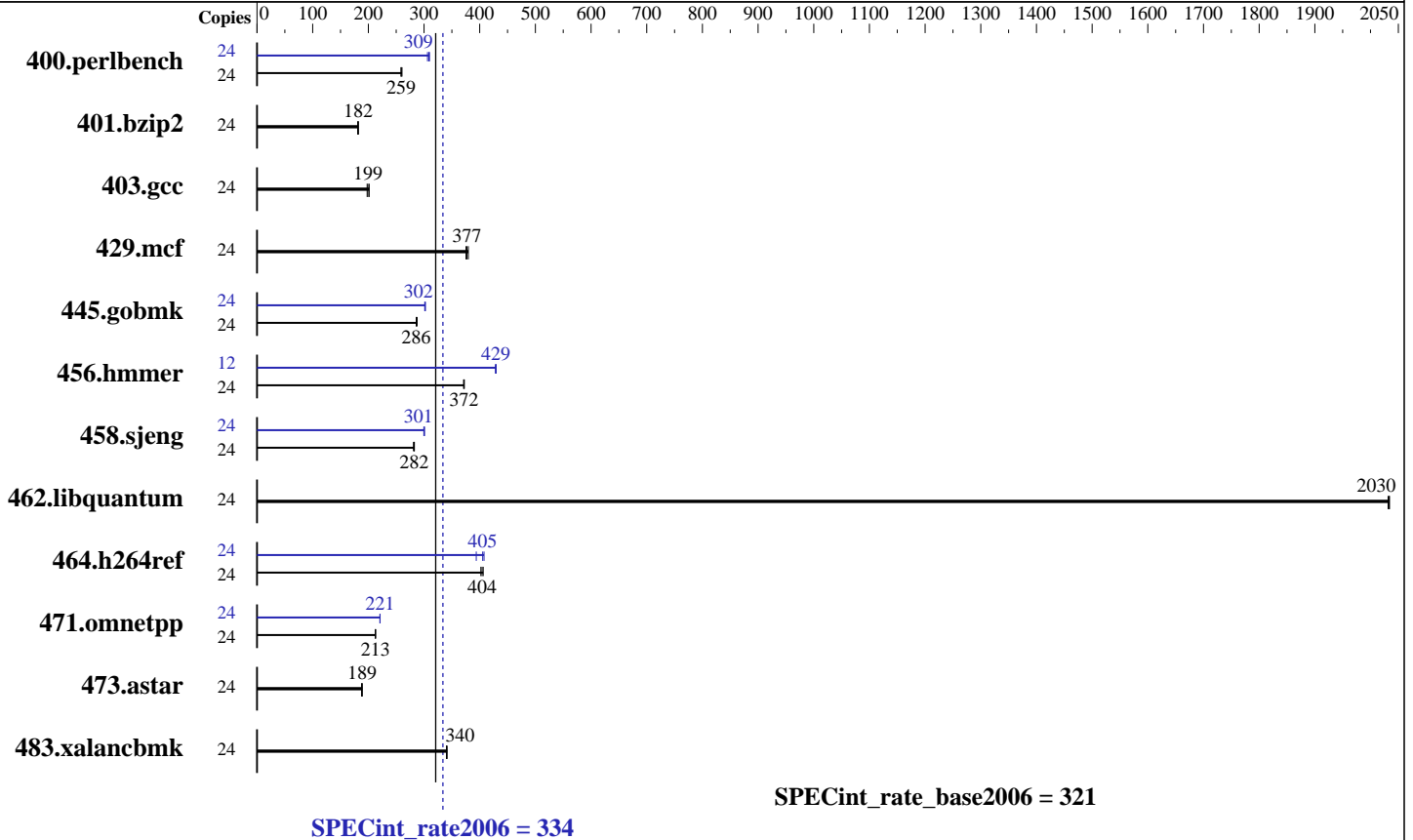
Test date: Apr-2012

Test sponsor: Itautec

Hardware Availability: Jul-2011

Tested by: Itautec

Software Availability: Dec-2011



## Hardware

CPU Name: Intel Xeon E5645  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 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 PC3-10600R-9, ECC)  
 Disk Subsystem: 2 x 146 GB, SAS, 15000 RPM, RAID 0  
 Other Hardware: None

## Software

Operating System: Red Hat Enterprise Linux Server Release 6.2, 2.6.32-220.el6.x86\_64  
 Compiler: C/C++: Version 12.1.0 of Intel Compiler XE Build 20111011  
 Auto Parallel: No  
 File System: ext4  
 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	24	900	260	<b>906</b>	<b>259</b>	906	259	24	757	310	766	306	<b>759</b>	<b>309</b>		
401.bzip2	24	1281	181	<b>1273</b>	<b>182</b>	1273	182	24	1281	181	<b>1273</b>	<b>182</b>	1273	182		
403.gcc	24	977	198	959	202	<b>969</b>	<b>199</b>	24	977	198	959	202	<b>969</b>	<b>199</b>		
429.mcf	24	583	375	577	380	<b>581</b>	<b>377</b>	24	583	375	577	380	<b>581</b>	<b>377</b>		
445.gobmk	24	<b>880</b>	<b>286</b>	880	286	875	288	24	832	302	<b>834</b>	<b>302</b>	836	301		
456.hammer	24	601	372	<b>602</b>	<b>372</b>	603	371	12	261	430	<b>261</b>	<b>429</b>	261	428		
458.sjeng	24	1034	281	<b>1028</b>	<b>282</b>	1028	283	24	966	301	969	300	<b>966</b>	<b>301</b>		
462.libquantum	24	244	2030	245	2030	<b>245</b>	<b>2030</b>	24	244	2030	245	2030	<b>245</b>	<b>2030</b>		
464.h264ref	24	1321	402	1307	406	<b>1314</b>	<b>404</b>	24	1303	408	1349	394	<b>1310</b>	<b>405</b>		
471.omnetpp	24	705	213	705	213	<b>705</b>	<b>213</b>	24	678	221	<b>679</b>	<b>221</b>	679	221		
473.astar	24	<b>893</b>	<b>189</b>	897	188	892	189	24	<b>893</b>	<b>189</b>	897	188	892	189		
483.xalancbmk	24	487	340	<b>487</b>	<b>340</b>	485	341	24	487	340	<b>487</b>	<b>340</b>	485	341		

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.  
DCU Prefetcher disabled in BIOS.

## General Notes

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

## Base Compiler Invocation

C benchmarks:  
icc -m32

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## Base Compiler Invocation (Continued)

C++ benchmarks:  
icpc -m32

## 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 -opt-mem-layout-trans=3

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3  
-Wl,-z,muldefs -L/home/rcaneca/sh/SmartHeap\_8.1/lib -lsmartheap

## Base Other Flags

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

## Peak Compiler Invocation

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

400.perlbench: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:  
icpc -m32



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## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
456.hmmer: -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: basepeak = yes

403.gcc: basepeak = yes

429.mcf: basepeak = yes

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

456.hmmer: -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 -lsmarheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes



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## 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/Itautec-Servidor\\_Itautec-Intel-Linux-Platform.html](http://www.spec.org/cpu2006/flags/Itautec-Servidor_Itautec-Intel-Linux-Platform.html)  
<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

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

[http://www.spec.org/cpu2006/flags/Itautec-Servidor\\_Itautec-Intel-Linux-Platform.xml](http://www.spec.org/cpu2006/flags/Itautec-Servidor_Itautec-Intel-Linux-Platform.xml)  
<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

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

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