



# SPEC® CINT2006 Result

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Itaotec

SPECint®\_rate2006 = 57.7

Servidor Itaotec MX201 (Intel Xeon E5405)

SPECint\_rate\_base2006 = 48.2

CPU2006 license: 9001

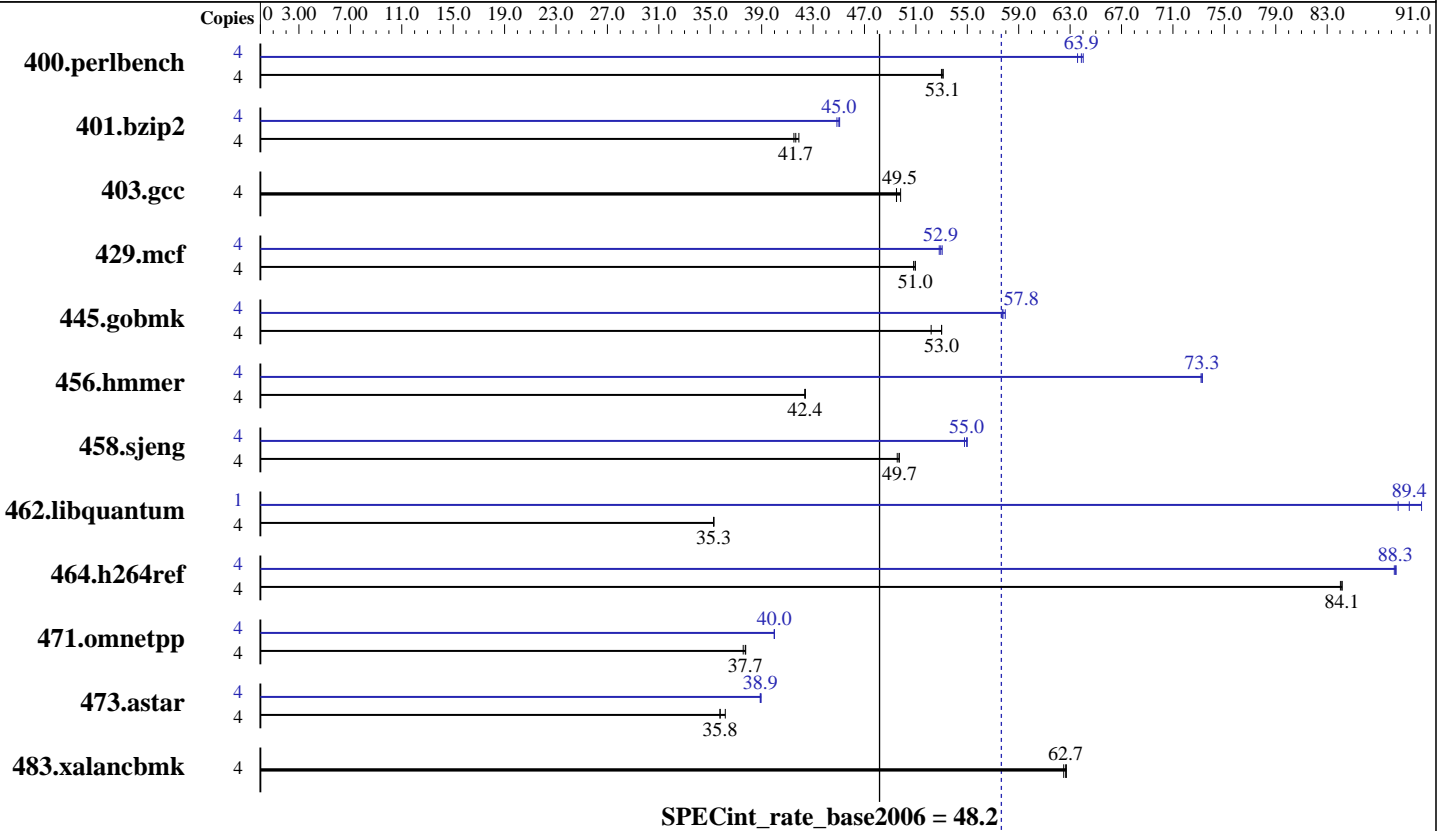
Test sponsor: Itaotec

Tested by: Itaotec

Test date: Apr-2008

Hardware Availability: Dec-2007

Software Availability: Jan-2008



## Hardware

CPU Name: Intel Xeon E5405  
 CPU Characteristics:  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (8 \* 2 GB PC2-5300 FBDIMM, CL-5-5-5, ECC)  
 Disk Subsystem: 1 x SCSI, 73GB, 15000 RPM  
 Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler for Linux version 10.1 Build 20080112 Package ID: l\_cc\_p\_10.1.012  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run Level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Binutils 2.17.10.50  
 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	4	736	53.1	<b>736</b>	<b>53.1</b>	738	53.0	4	610	64.0	<b>612</b>	<b>63.9</b>	615	63.6
401.bzip2	4	930	41.5	<b>927</b>	<b>41.7</b>	921	41.9	4	860	44.9	856	45.1	<b>858</b>	<b>45.0</b>
403.gcc	4	646	49.8	651	49.5	<b>651</b>	<b>49.5</b>	4	646	49.8	651	49.5	<b>651</b>	<b>49.5</b>
429.mcf	4	<b>716</b>	<b>51.0</b>	718	50.8	716	51.0	4	688	53.0	691	52.8	<b>689</b>	<b>52.9</b>
445.gobmk	4	792	53.0	804	52.2	<b>792</b>	<b>53.0</b>	4	724	58.0	727	57.7	<b>726</b>	<b>57.8</b>
456.hammer	4	881	42.4	880	42.4	<b>881</b>	<b>42.4</b>	4	509	73.3	<b>509</b>	<b>73.3</b>	510	73.2
458.sjeng	4	<b>974</b>	<b>49.7</b>	977	49.5	974	49.7	4	880	55.0	884	54.8	<b>881</b>	<b>55.0</b>
462.libquantum	4	<b>2350</b>	<b>35.3</b>	2350	35.3	2349	35.3	1	229	90.3	234	88.5	<b>232</b>	<b>89.4</b>
464.h264ref	4	1053	84.0	<b>1052</b>	<b>84.1</b>	1052	84.2	4	<b>1002</b>	<b>88.3</b>	1002	88.4	1003	88.2
471.omnetpp	4	<b>663</b>	<b>37.7</b>	662	37.8	666	37.6	4	625	40.0	625	40.0	<b>625</b>	<b>40.0</b>
473.astar	4	<b>785</b>	<b>35.8</b>	776	36.2	785	35.8	4	721	39.0	<b>722</b>	<b>38.9</b>	722	38.9
483.xalancbmk	4	442	62.5	<b>441</b>	<b>62.7</b>	440	62.7	4	442	62.5	<b>441</b>	<b>62.7</b>	440	62.7

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

## Compiler Invocation Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_STACK\_SIZE set to 64M  
KMP\_AFFINITY set to physical,0

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.  
'/usr/bin/taskset' used to bind benchmark copies to processors, except for 462.libquantum at peak.

## Platform Notes

BIOS configuration:  
Hardware Prefetch Enabled

## General Notes

This result was measured on the Servidor Itautec MX201.  
The Servidor Itautec MX201 and the Servidor Itautec MX221 are electronically equivalent.

## Base Compiler Invocation

C benchmarks:  
icc

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## Base Compiler Invocation (Continued)

C++ benchmarks:  
icpc

## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:  
-fast -inline-calloc -opt-malloc-options=3  
C++ benchmarks:  
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/opt/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  
401.bzip2: /opt/intel/cce/10.1.012/bin/icc  
-L/opt/intel/cce/10.1.012/lib  
-I/opt/intel/cce/10.1.012/include  
456.hmmer: /opt/intel/cce/10.1.012/bin/icc  
-L/opt/intel/cce/10.1.012/lib  
-I/opt/intel/cce/10.1.012/include  
C++ benchmarks:  
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## 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:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch  
401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
403.gcc: basepeak = yes  
429.mcf: -fast -prefetch  
445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo  
-no-prec-div -ansi-alias  
456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive  
458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4  
462.libquantum: -fast -unroll4 -Ob0 -prefetch  
-opt-streaming-stores always -vec-guard-write  
-opt-malloc-options=3 -parallel -par-runtime-control  
464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/opt/sh/SmartHeap\_8.1/lib -lsmarheap  
473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/opt/sh/SmartHeap\_8.1/lib -lsmarheap  
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/Itautec-ic10.1-INT-intel64-linux-flags.html>

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

<http://www.spec.org/cpu2006/flags/Itautec-ic10.1-INT-intel64-linux-flags.xml>

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

Tested with SPEC CPU2006 v1.0.1.  
Report generated on Tue Jul 22 16:54:03 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 29 April 2008.