



# SPEC® CINT2006 Result

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Itautec

SPECint®\_rate2006 = 69.5

Servidor Itautec MX221 (Intel Xeon E5440)

SPECint\_rate\_base2006 = 60.4

CPU2006 license: 9001

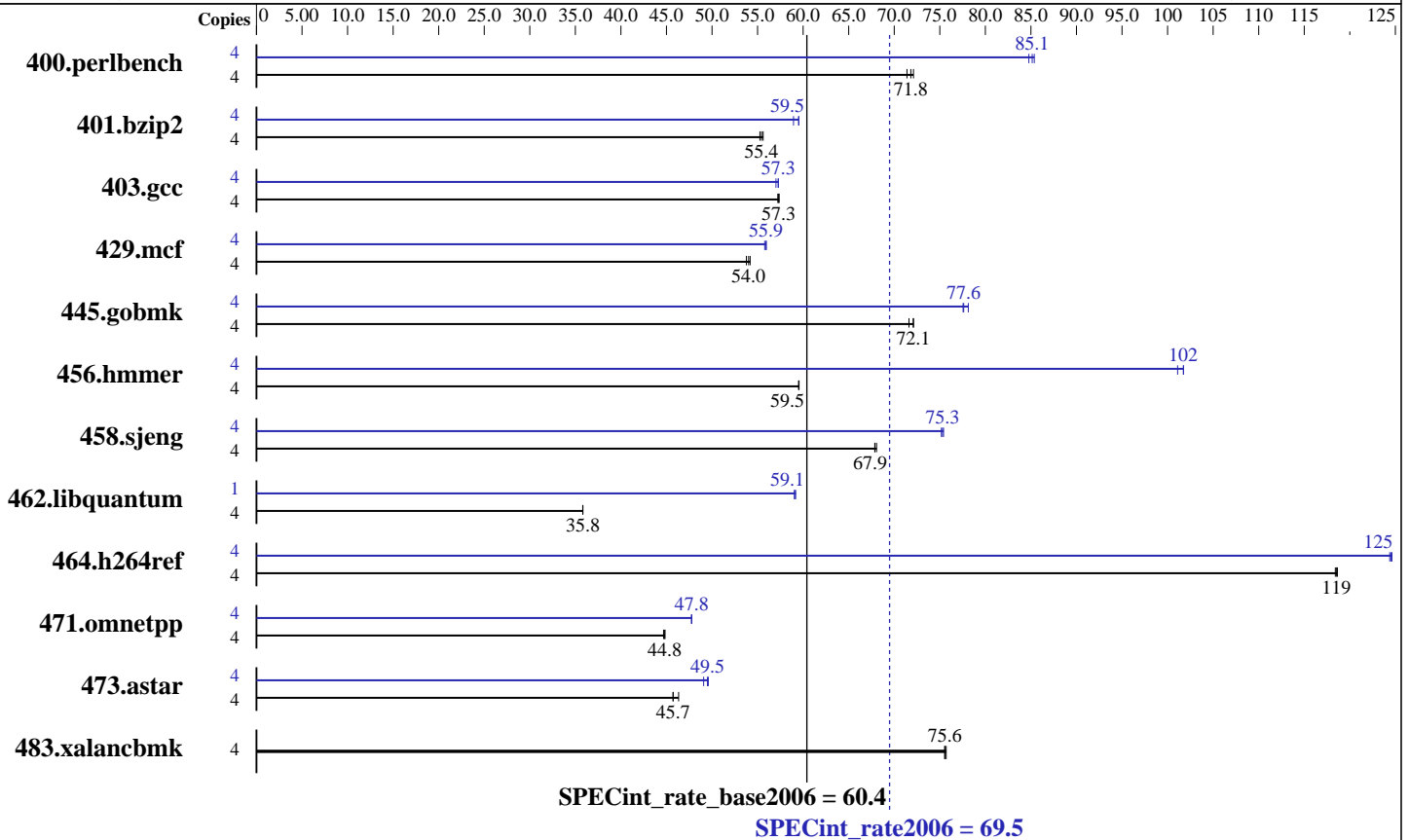
Test sponsor: Itautec

Tested by: Itautec

Test date: Apr-2008

Hardware Availability: Dec-2007

Software Availability: Jan-2008



## Hardware

CPU Name: Intel Xeon E5440  
 CPU Characteristics:  
 CPU MHz: 2830  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 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	<b>544</b>	<b>71.8</b>	542	72.1	547	71.4	4	458	85.4	<b>459</b>	<b>85.1</b>	461	84.8
401.bzip2	4	699	55.3	<b>696</b>	<b>55.4</b>	694	55.6	4	<b>649</b>	<b>59.5</b>	649	59.5	655	58.9
403.gcc	4	<b>562</b>	<b>57.3</b>	561	57.4	563	57.2	4	<b>562</b>	<b>57.3</b>	562	57.3	565	57.0
429.mcf	4	673	54.2	<b>675</b>	<b>54.0</b>	678	53.8	4	654	55.8	652	56.0	<b>652</b>	<b>55.9</b>
445.gobmk	4	586	71.6	582	72.1	<b>582</b>	<b>72.1</b>	4	<b>541</b>	<b>77.6</b>	541	77.6	537	78.1
456.hammer	4	627	59.6	627	59.5	<b>627</b>	<b>59.5</b>	4	<b>367</b>	<b>102</b>	369	101	367	102
458.sjeng	4	713	67.9	711	68.1	<b>713</b>	<b>67.9</b>	4	644	75.2	642	75.4	<b>643</b>	<b>75.3</b>
462.libquantum	4	<b>2314</b>	<b>35.8</b>	2314	35.8	2313	35.8	1	<b>351</b>	<b>59.1</b>	351	59.0	350	59.2
464.h264ref	4	748	118	746	119	<b>747</b>	<b>119</b>	4	<b>711</b>	<b>125</b>	710	125	712	124
471.omnetpp	4	560	44.7	558	44.8	<b>558</b>	<b>44.8</b>	4	523	47.8	524	47.7	<b>523</b>	<b>47.8</b>
473.astar	4	606	46.3	614	45.7	<b>614</b>	<b>45.7</b>	4	566	49.6	572	49.1	<b>567</b>	<b>49.5</b>
483.xalancbmk	4	<b>365</b>	<b>75.6</b>	365	75.5	365	75.7	4	<b>365</b>	<b>75.6</b>	365	75.5	365	75.7

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 MX221 and the Servidor Itautec MX201 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:  
icpc



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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: -fast -inline-calloc -opt-malloc-options=3  
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).

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