



# SPEC<sup>®</sup> CINT2006 Result

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## Itautec

### SPECint<sup>®</sup>\_rate2006 = 76.9

### Servidor Itautec MX221 (Intel Xeon X5460)

### SPECint\_rate\_base2006 = 64.4

CPU2006 license: 9001

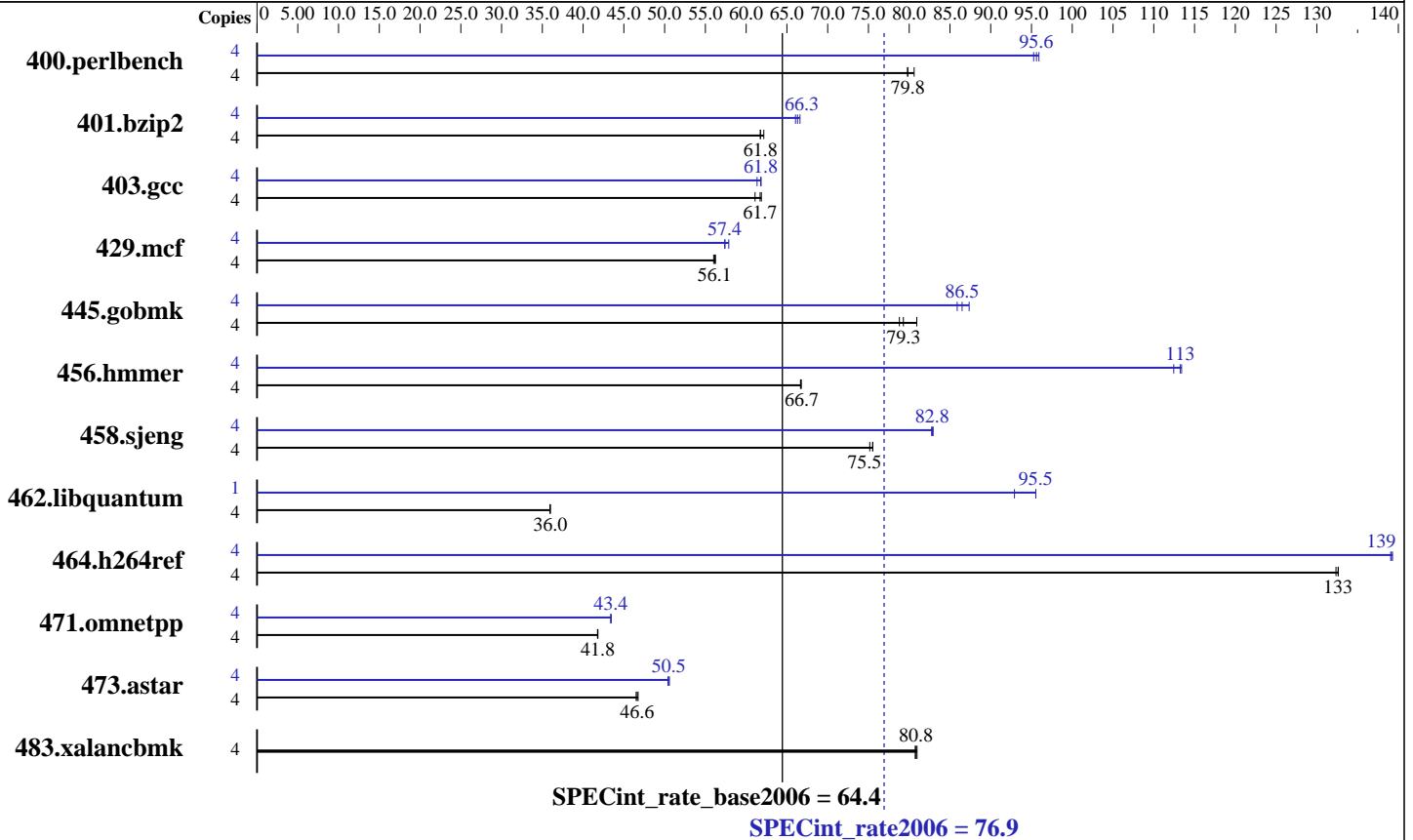
Test date: Mar-2008

Test sponsor: Itautec

Hardware Availability: Dec-2007

Tested by: Itautec

Software Availability: Jan-2008



### Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics:  
 CPU MHz: 3160  
 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	485	80.6	490	79.8	<b>490</b>	<b>79.8</b>	4	<b>409</b>	<b>95.6</b>	410	95.3	407	95.9
401.bzip2	4	621	62.2	<b>625</b>	<b>61.8</b>	625	61.7	4	580	66.6	<b>582</b>	<b>66.3</b>	584	66.1
403.gcc	4	<b>522</b>	<b>61.7</b>	527	61.1	520	61.9	4	525	61.3	521	61.8	<b>521</b>	<b>61.8</b>
429.mcf	4	651	56.0	649	56.2	<b>650</b>	<b>56.1</b>	4	630	57.9	636	57.4	<b>636</b>	<b>57.4</b>
445.gobmk	4	533	78.8	518	80.9	<b>529</b>	<b>79.3</b>	4	489	85.9	<b>485</b>	<b>86.5</b>	480	87.4
456.hammer	4	559	66.7	560	66.7	<b>559</b>	<b>66.7</b>	4	332	112	<b>330</b>	<b>113</b>	329	113
458.sjeng	4	644	75.2	641	75.5	<b>641</b>	<b>75.5</b>	4	<b>584</b>	<b>82.8</b>	585	82.7	584	82.9
462.libquantum	4	<b>2305</b>	<b>36.0</b>	2307	35.9	2303	36.0	1	<b>217</b>	<b>95.5</b>	217	95.5	223	92.9
464.h264ref	4	667	133	<b>668</b>	<b>133</b>	669	132	4	636	139	<b>636</b>	<b>139</b>	637	139
471.omnetpp	4	<b>598</b>	<b>41.8</b>	599	41.8	598	41.8	4	576	43.4	576	43.4	<b>576</b>	<b>43.4</b>
473.astar	4	<b>602</b>	<b>46.6</b>	601	46.7	604	46.5	4	555	50.6	<b>556</b>	<b>50.5</b>	557	50.4
483.xalancbmk	4	<b>341</b>	<b>80.8</b>	341	81.0	342	80.7	4	<b>341</b>	<b>80.8</b>	341	81.0	342	80.7

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.

## Platform Notes

BIOS configuration:  
Hardware Prefetch Enabled

## General Notes

This result was measured on the Servidor Itaotec MX201.  
The Servidor Itaotec MX221 and the Servidor Itaotec 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-FP-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-FP-intel64-linux-flags.xml>

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

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