



# SPEC<sup>®</sup> CINT2006 Result

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Itautec

SPECint<sup>®</sup>\_rate2006 = 139

Servidor Itautec MX221 (Intel Xeon X5460)

SPECint\_rate\_base2006 = 112

CPU2006 license: 9001

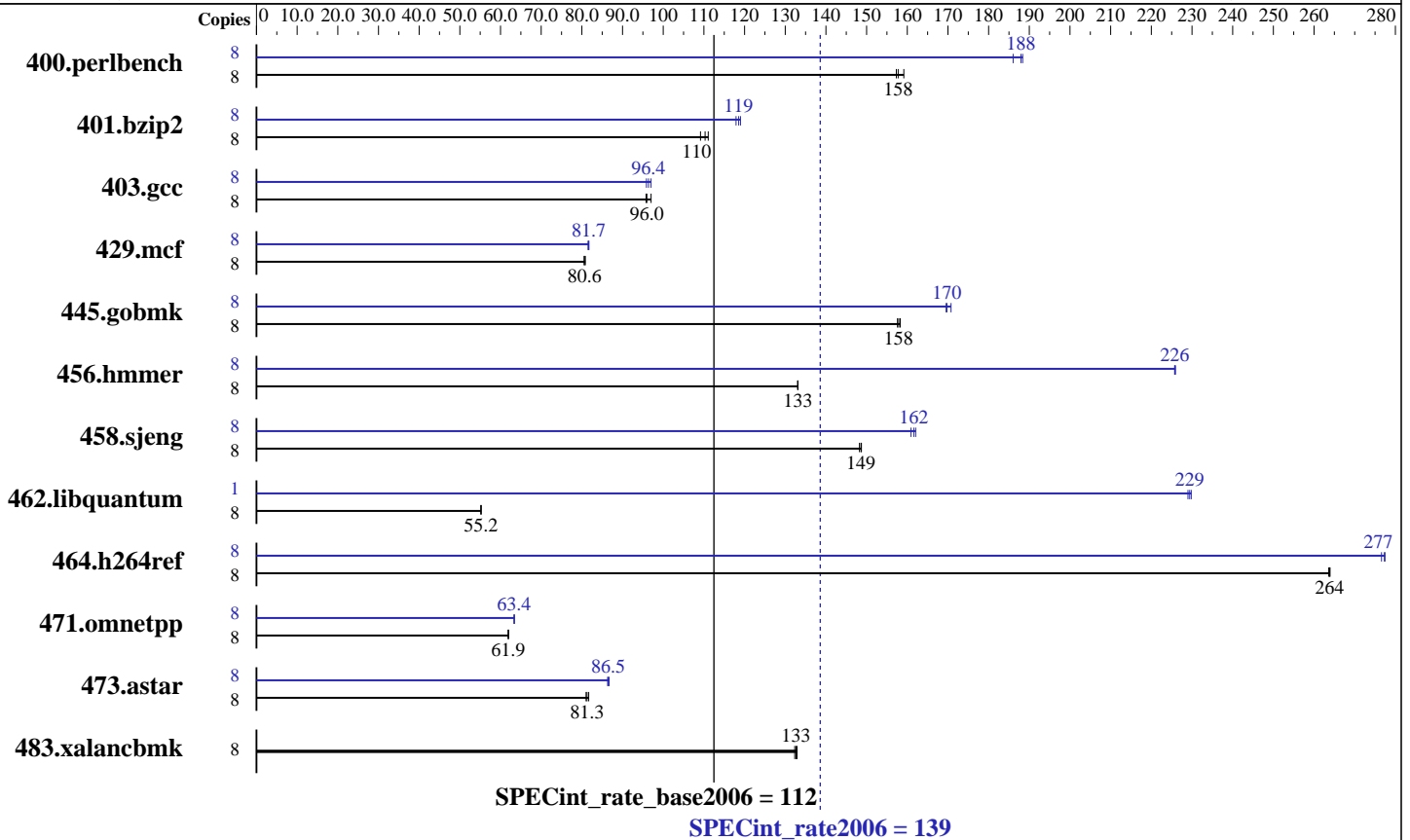
Test date: Mar-2008

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: 8 cores, 2 chips, 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	8	491	159	<u>495</u>	<u>158</u>	497	157	8	<u>416</u>	<u>188</u>	415	188	420	186
401.bzip2	8	<u>700</u>	<u>110</u>	695	111	707	109	8	655	118	<u>651</u>	<u>119</u>	649	119
403.gcc	8	<u>671</u>	<u>96.0</u>	664	97.0	672	95.8	8	672	95.9	664	97.0	<u>668</u>	<u>96.4</u>
429.mcf	8	902	80.8	906	80.6	<u>905</u>	<u>80.6</u>	8	895	81.5	893	81.7	<u>893</u>	<u>81.7</u>
445.gobmk	8	533	158	<u>531</u>	<u>158</u>	530	158	8	491	171	<u>494</u>	<u>170</u>	495	170
456.hammer	8	<u>561</u>	<u>133</u>	561	133	561	133	8	<u>331</u>	<u>226</u>	331	226	330	226
458.sjeng	8	651	149	<u>651</u>	<u>149</u>	653	148	8	597	162	<u>599</u>	<u>162</u>	602	161
462.libquantum	8	<u>3002</u>	<u>55.2</u>	3004	55.2	3002	55.2	1	<u>90.3</u>	<u>229</u>	90.5	229	90.2	230
464.h264ref	8	671	264	672	264	<u>671</u>	<u>264</u>	8	638	277	640	277	<u>638</u>	<u>277</u>
471.omnetpp	8	<u>807</u>	<u>61.9</u>	808	61.9	807	61.9	8	789	63.4	789	63.3	<u>789</u>	<u>63.4</u>
473.astar	8	693	81.0	<u>691</u>	<u>81.3</u>	688	81.7	8	648	86.7	651	86.3	<u>649</u>	<u>86.5</u>
483.xalancbmk	8	415	133	417	132	<u>416</u>	<u>133</u>	8	415	133	417	132	<u>416</u>	<u>133</u>

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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