



# SPEC® CINT2006 Result

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Itautec

SPECint®\_rate2006 = 115

Servidor Itautec MX221 (Intel Xeon E5410)

SPECint\_rate\_base2006 = 94.1

CPU2006 license: 9001

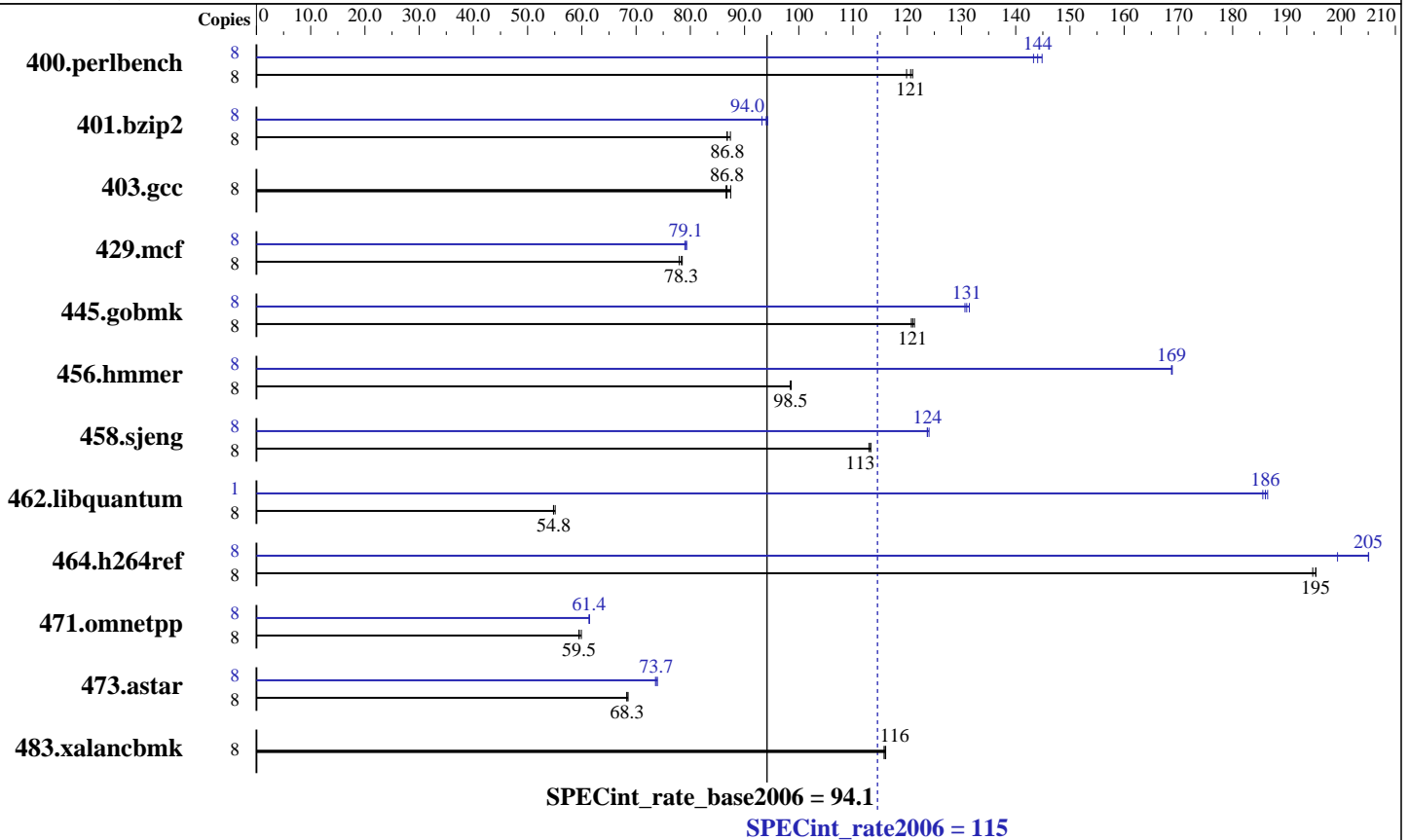
Test date: Apr-2008

Test sponsor: Itautec

Hardware Availability: Dec-2007

Tested by: Itautec

Software Availability: Jan-2008



## Hardware

CPU Name: Intel Xeon E5410  
 CPU Characteristics:  
 CPU MHz: 2330  
 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	646	121	652	120	<b>648</b>	<b>121</b>	8	540	145	<b>543</b>	<b>144</b>	545	143
401.bzip2	8	883	87.4	<b>889</b>	<b>86.8</b>	890	86.8	8	<b>821</b>	<b>94.0</b>	828	93.2	819	94.2
403.gcc	8	<b>742</b>	<b>86.8</b>	737	87.4	744	86.6	8	<b>742</b>	<b>86.8</b>	737	87.4	744	86.6
429.mcf	8	929	78.5	<b>931</b>	<b>78.3</b>	936	77.9	8	<b>922</b>	<b>79.1</b>	920	79.3	924	79.0
445.gobmk	8	692	121	695	121	<b>694</b>	<b>121</b>	8	642	131	<b>641</b>	<b>131</b>	638	131
456.hammer	8	<b>758</b>	<b>98.5</b>	757	98.6	758	98.4	8	442	169	442	169	<b>442</b>	<b>169</b>
458.sjeng	8	855	113	<b>855</b>	<b>113</b>	857	113	8	<b>782</b>	<b>124</b>	781	124	783	124
462.libquantum	8	3009	55.1	<b>3025</b>	<b>54.8</b>	3027	54.8	1	112	186	<b>111</b>	<b>186</b>	111	186
464.h264ref	8	906	195	909	195	<b>906</b>	<b>195</b>	8	<b>864</b>	<b>205</b>	888	199	863	205
471.omnetpp	8	835	59.9	841	59.5	<b>840</b>	<b>59.5</b>	8	814	61.4	815	61.3	<b>815</b>	<b>61.4</b>
473.astar	8	820	68.5	823	68.3	<b>822</b>	<b>68.3</b>	8	760	73.9	763	73.6	<b>762</b>	<b>73.7</b>
483.xalancbmk	8	476	116	<b>476</b>	<b>116</b>	477	116	8	476	116	<b>476</b>	<b>116</b>	477	116

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: 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 16:48:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 29 April 2008.