SPEC® CINT2006 Result

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Itautec

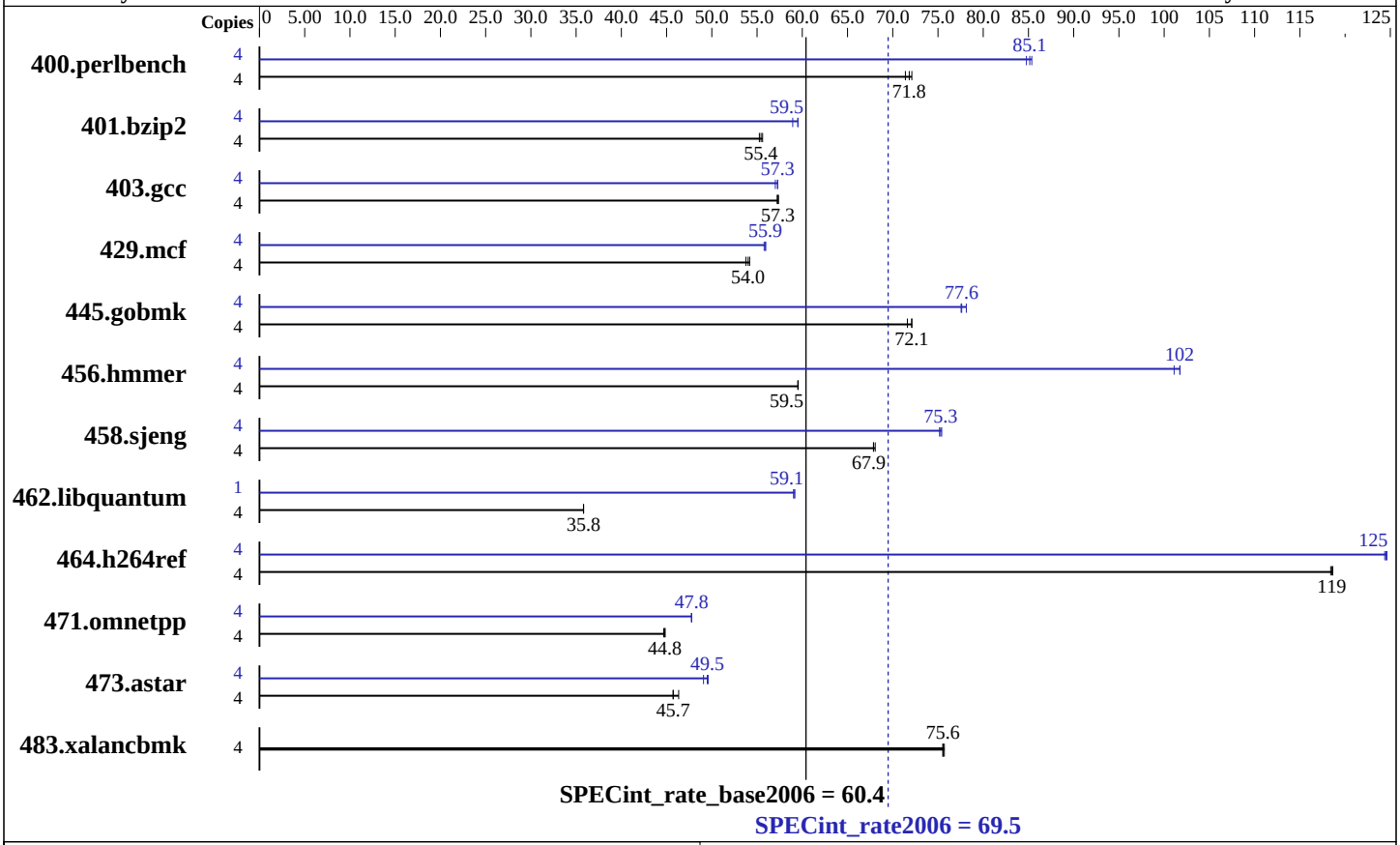
Servidor Itautec MX221 (Intel Xeon E5440)

SPECint®_rate2006 = 69.5

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

Continued on next page

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

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 -lsmartheap

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 -lsmartheap

483.xalancbmk: basepeak = yes

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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