SPEC® CINT2006 Result

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Itautec

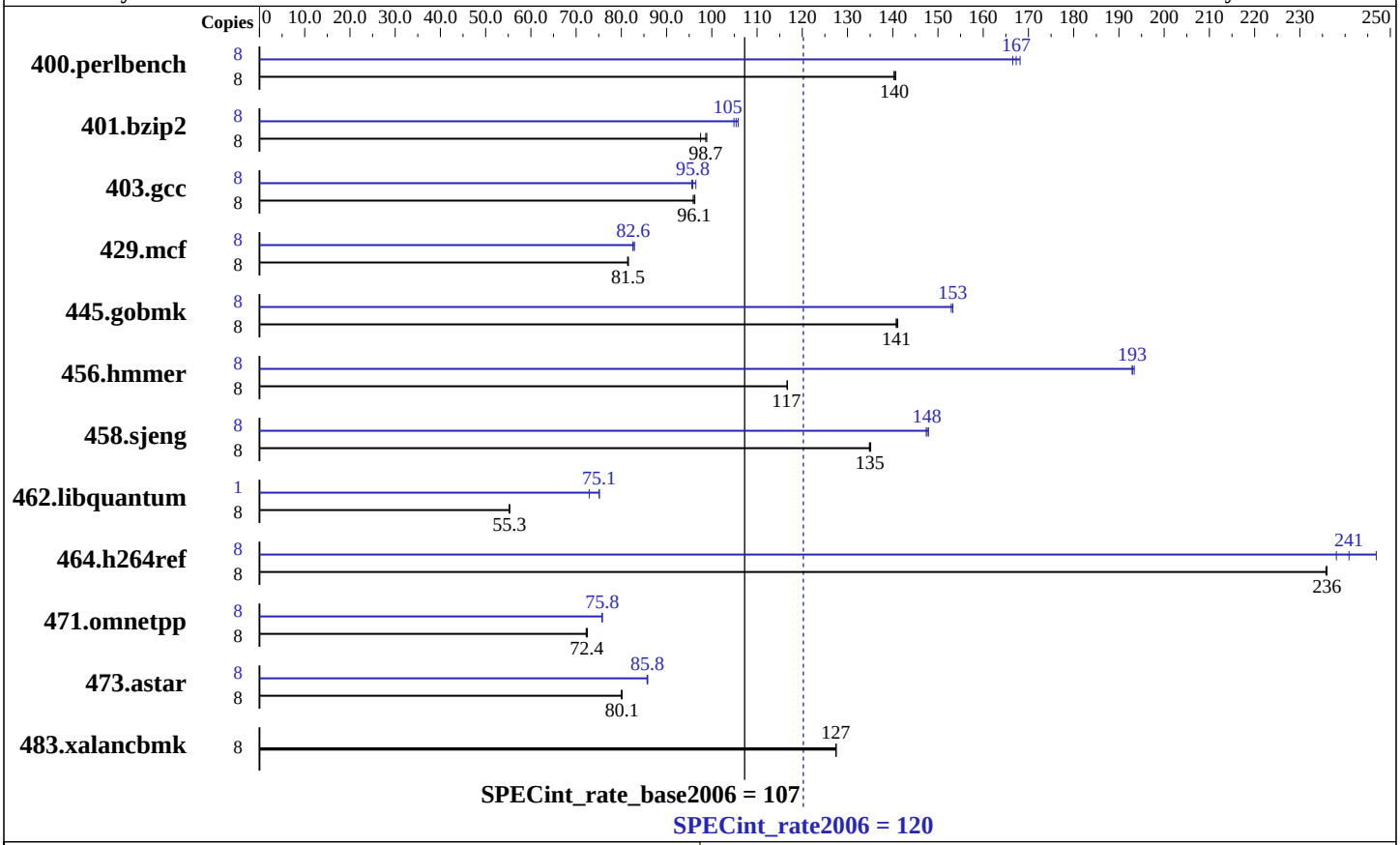
Servidor Itautec MX221 (Intel Xeon E5440)

SPECint®_rate2006 = 120

SPECint_rate_base2006 = 107

CPU2006 license: 9001
Test sponsor: Itautec
Tested by: Itautec

Test date: Mar-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:	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	557	140	556	141	**557**	**140**	8	469	167	**467**	**167**	465	168
401.bzip2	8	781	98.9	**782**	**98.7**	792	97.5	8	**733**	**105**	736	105	729	106
403.gcc	8	672	95.9	**670**	**96.1**	669	96.2	8	668	96.5	**672**	**95.8**	674	95.6
429.mcf	8	**896**	**81.5**	894	81.6	896	81.4	8	884	82.6	880	82.9	**883**	**82.6**
445.gobmk	8	595	141	596	141	**596**	**141**	8	549	153	547	153	**548**	**153**
456.hmmer	8	**640**	**117**	640	117	639	117	8	387	193	386	193	**387**	**193**
458.sjeng	8	716	135	**717**	**135**	718	135	8	**656**	**148**	654	148	657	147
462.libquantum	8	2999	55.3	**3000**	**55.3**	3000	55.3	1	276	75.2	**276**	**75.1**	284	72.9
464.h264ref	8	751	236	750	236	**750**	**236**	8	717	247	**735**	**241**	744	238
471.omnetpp	8	**691**	**72.4**	692	72.2	690	72.5	8	660	75.7	**660**	**75.8**	660	75.8
473.astar	8	**701**	**80.1**	701	80.1	702	80.0	8	654	85.8	**655**	**85.8**	655	85.7
483.xalancbmk	8	433	127	**433**	**127**	433	128	8	433	127	**433**	**127**	433	128

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 Disabled
```

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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