SPEC® CINT2006 Result

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Itautec

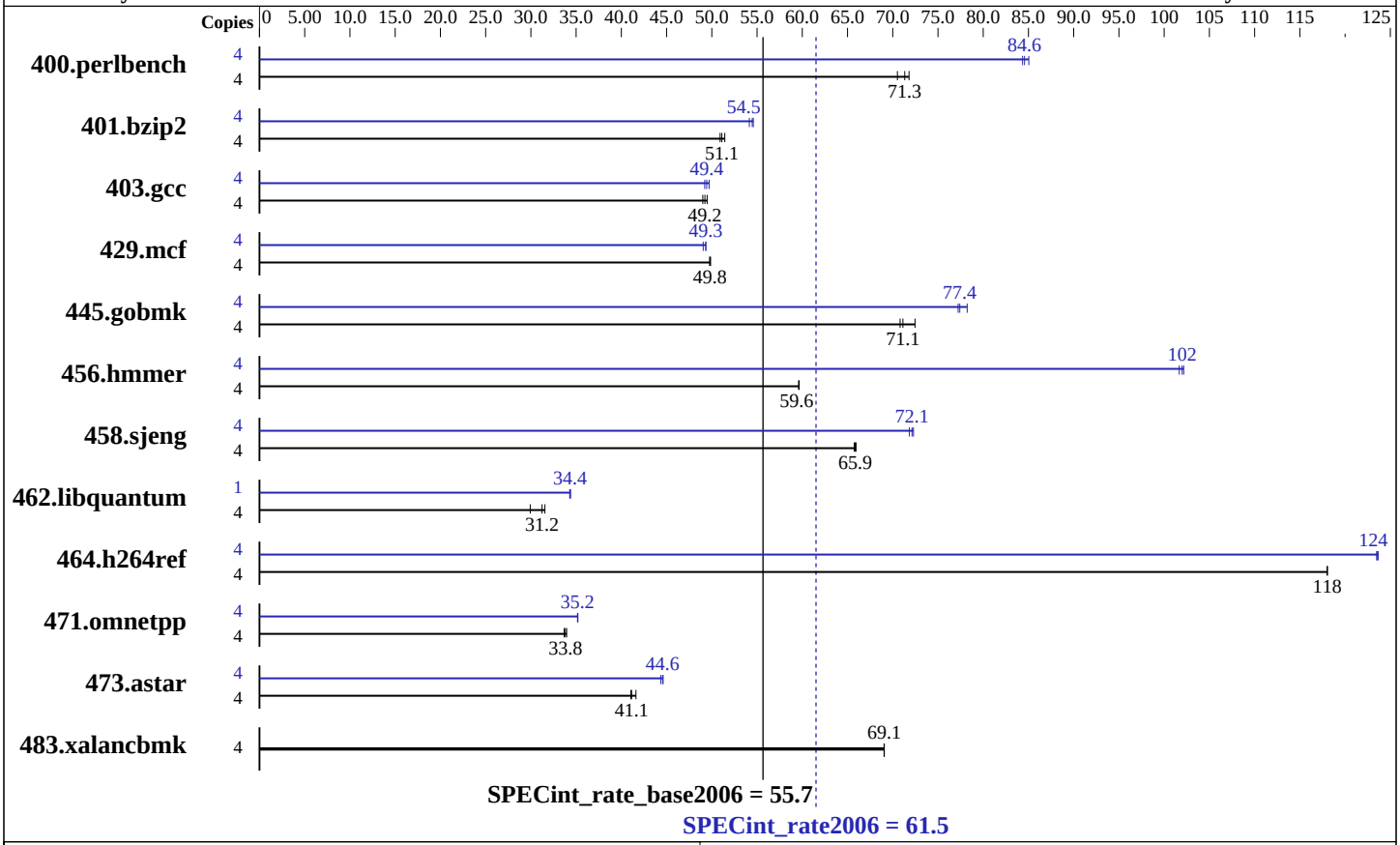
Servidor Itautec LX201 (Intel Xeon E5440)

SPECint®_rate2006 = 61.5

SPECint_rate_base2006 = 55.7

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 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:	8 GB (8 * 1 GB PC2-5300 FBDIMM, CL-5-5-5, ECC)
Disk Subsystem:	1 x SATA-2, 160GB, 7200 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	554	70.5	**548**	**71.3**	544	71.8	4	463	84.4	**462**	**84.6**	460	85.0
401.bzip2	4	750	51.4	**755**	**51.1**	758	50.9	4	**709**	**54.5**	707	54.6	713	54.1
403.gcc	4	657	49.0	**654**	**49.2**	651	49.5	4	648	49.7	654	49.2	**651**	**49.4**
429.mcf	4	732	49.9	733	49.8	**733**	**49.8**	4	**739**	**49.3**	739	49.3	744	49.1
445.gobmk	4	579	72.5	593	70.8	**590**	**71.1**	4	536	78.2	543	77.2	**542**	**77.4**
456.hmmer	4	**626**	**59.6**	626	59.7	626	59.6	4	367	102	365	102	**366**	**102**
458.sjeng	4	734	65.9	736	65.7	**735**	**65.9**	4	670	72.3	674	71.8	**671**	**72.1**
462.libquantum	4	2769	29.9	**2653**	**31.2**	2627	31.6	1	**603**	**34.4**	603	34.4	604	34.3
464.h264ref	4	**750**	**118**	750	118	750	118	4	**717**	**124**	716	124	717	124
471.omnetpp	4	742	33.7	**739**	**33.8**	736	34.0	4	**711**	**35.2**	711	35.2	710	35.2
473.astar	4	**683**	**41.1**	684	41.1	675	41.6	4	633	44.4	**630**	**44.6**	629	44.6
483.xalancbmk	4	**400**	**69.1**	400	69.1	400	69.0	4	**400**	**69.1**	400	69.1	400	69.0

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
```

Base Compiler Invocation

C benchmarks:

```
icc
```

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

Continued on next page

Peak Portability Flags (Continued)

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:

Continued on next page

Peak Other Flags (Continued)

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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