SPEC® CINT2006 Result

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Itautec

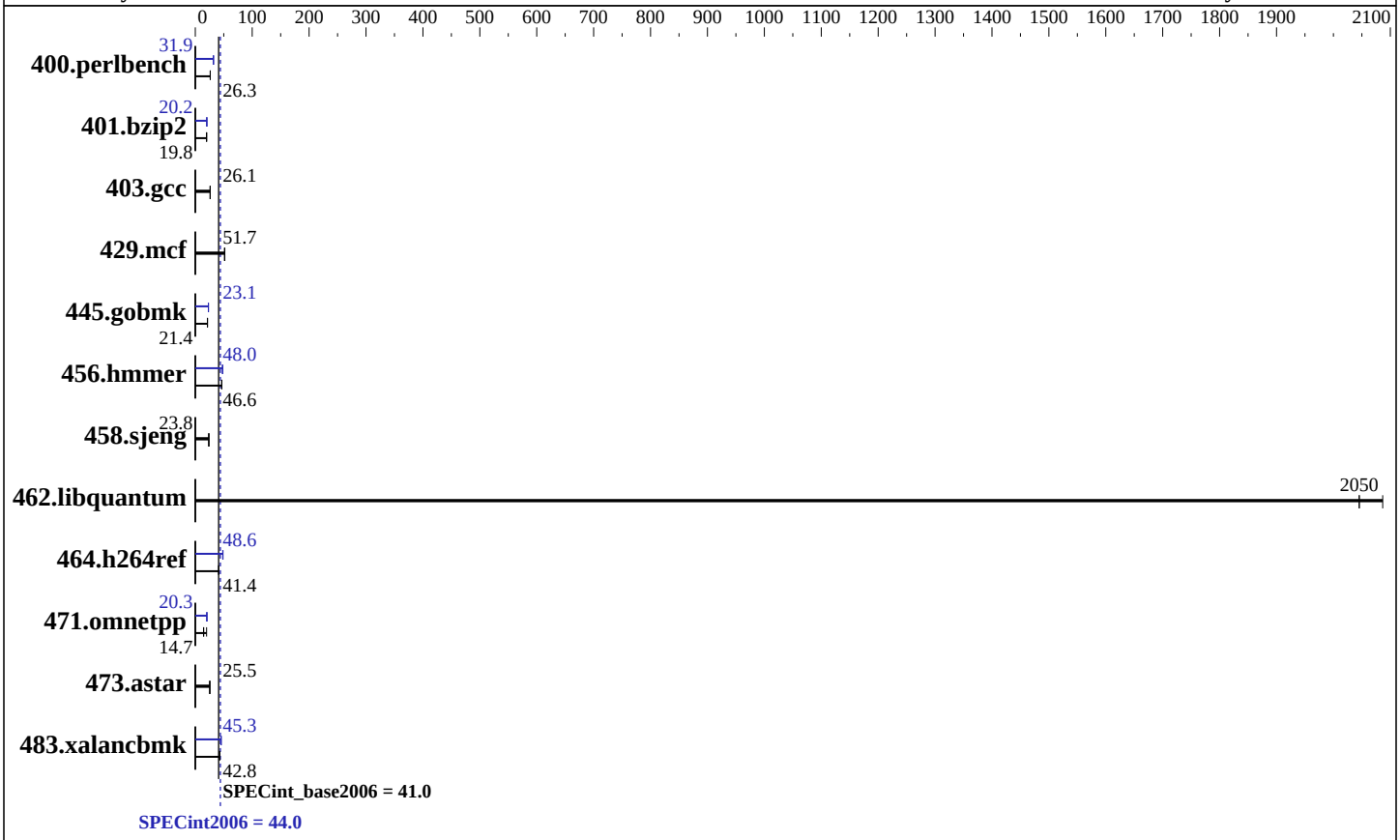
Servidor Itautec MX225 (Intel Xeon E5-2640)

SPECint®2006 = 44.0

SPECint_base2006 = 41.0

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

Test date: Apr-2013
Hardware Availability: Jun-2012
Software Availability: Jan-2013



Hardware

CPU Name:	Intel Xeon E5-2640
CPU Characteristics:	Intel Turbo Boost Technology up to 3.00 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 2Rx8 PC3-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem:	500 GB, SATA-3, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server Release 6.3, 2.6.32-279.el6.x86_64
Compiler:	C/C++: Version 13.1.0.146 of Intel Compiler XE Build 20130121
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	371	26.4	**372**	**26.3**	373	26.2	306	31.9	307	31.9	**307**	**31.9**
401.bzip2	489	19.8	487	19.8	**487**	**19.8**	478	20.2	**477**	**20.2**	476	20.3
403.gcc	307	26.2	**308**	**26.1**	308	26.1	307	26.2	**308**	**26.1**	308	26.1
429.mcf	**176**	**51.7**	176	51.9	178	51.2	**176**	**51.7**	176	51.9	178	51.2
445.gobmk	491	21.4	**491**	**21.4**	492	21.3	455	23.1	455	23.1	**455**	**23.1**
456.hmmer	**200**	**46.6**	201	46.4	200	46.6	195	47.9	**195**	**48.0**	194	48.0
458.sjeng	510	23.7	**509**	**23.8**	509	23.8	510	23.7	**509**	**23.8**	509	23.8
462.libquantum	9.93	2090	10.1	2050	**10.1**	**2050**	9.93	2090	10.1	2050	**10.1**	**2050**
464.h264ref	**535**	**41.4**	535	41.4	537	41.2	**456**	**48.6**	455	48.6	459	48.3
471.omnetpp	**424**	**14.7**	315	19.8	429	14.6	307	20.4	308	20.3	**308**	**20.3**
473.astar	277	25.4	275	25.5	**276**	**25.5**	277	25.4	275	25.5	**276**	**25.5**
483.xalancbmk	161	43.0	163	42.4	**161**	**42.8**	152	45.5	**152**	**45.3**	153	45.2

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.
Large pages were not enabled for this run
```

Platform Notes

```
Sysinfo program /home/rcaneca/cpu2006/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
running on mx225 Thu Apr 18 11:26:05 2013

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2640 0 @ 2.50GHz
      2 "physical id"s (chips)
      12 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 6
      siblings  : 6
      physical 0: cores 0 1 2 3 4 5
      physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
```

Continued on next page

Platform Notes (Continued)

```
      MemTotal:       132104780 kB
      HugePages_Total:       0
      Hugepagesize:       2048 kB

   /usr/bin/lsb_release -d
      Red Hat Enterprise Linux Server release 6.3 (Santiago)

   From /etc/*release* /etc/*version*
      redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
      system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
      system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

   uname -a:
      Linux mx225 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36 EDT 2012 x86_64
      x86_64 x86_64 GNU/Linux

   run-level 3 Apr 18 10:34

   SPEC is set to: /home/rcaneca/cpu2006
      Filesystem     Type    Size  Used Avail Use% Mounted on
      /dev/mapper/vg_mx225-lv_home
                     ext4    404G  3.7G  380G   1% /home

   (End of data from sysinfo program)
```

General Notes

```
This result was measured on the Servidor Itautec MX225.
The Servidor Itautec MX215 and the Servidor Itautec MX225
are electronically equivalent.

runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

BIOS setting: Hyper Threading is disabled (default Enabled)
Filesystem page cache cleared with:
echo 1 > /proc/sys/vm/drop_caches
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
OMP_NUM_THREADS = "12"
Filesystem page cache cleared with:
echo 1>       /proc/sys/vm/drop_caches
```

Base Compiler Invocation

C benchmarks:

```
icc  -m64
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/home/rcaneca/sh/SmartHeap_8.1/lib -lsmartheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

400.perlbench: icc -m32

445.gobmk: icc -m32

Continued on next page

Peak Compiler Invocation (Continued)

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):
`icpc -m32`

473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
473.astar: `-DSPEC_CPU_LP64`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2) `-opt-prefetch -ansi-alias`

401.bzip2: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div -prof-use`(pass 2) `-auto-ilp32 -opt-prefetch -ansi-alias`

403.gcc: `basepeak = yes`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-prof-use`(pass 2) `-ansi-alias`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32 -ansi-alias`

458.sjeng: `basepeak = yes`

462.libquantum: `basepeak = yes`

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Peak Optimization Flags (Continued)

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs -L/home/rcaneca/sh/SmartHeap_8.1/lib -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias -Wl,-z,muldefs -L/home/rcaneca/sh/SmartHeap_8.1/lib -lsmartheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Itautec-Servidor_Itautec-Intel-Linux-Platform.20130507.html
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Itautec-Servidor_Itautec-Intel-Linux-Platform.20130507.xml
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml

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