



SPEC[®] CINT2006 Result

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ACTION S.A.

ACTINA SOLAR 210 S5 (Intel Xeon E5-2620 v2, 2.10 GHz)

SPECint[®]_rate2006 = 424

SPECint_rate_base2006 = 409

CPU2006 license: 9008

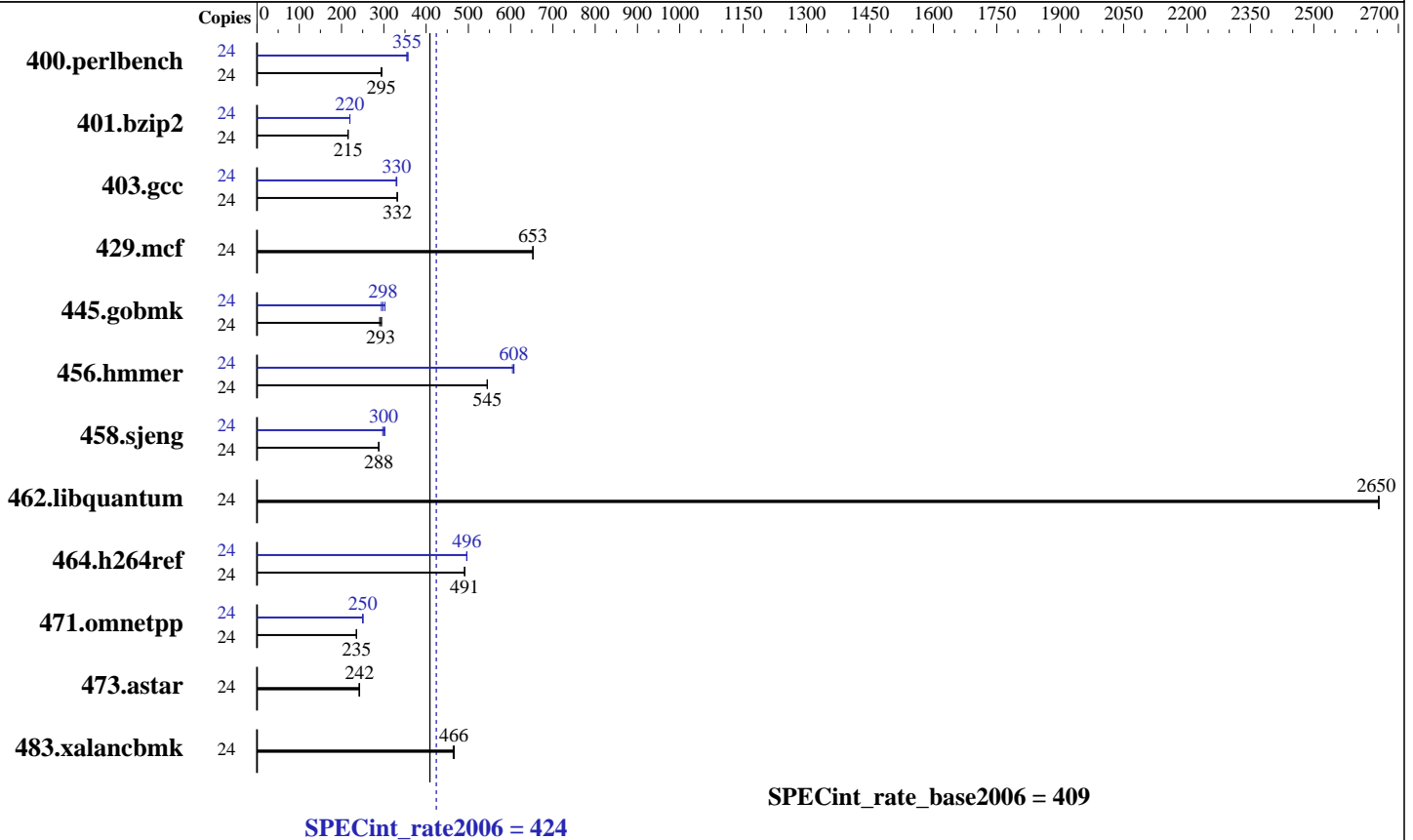
Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: Nov-2013

Hardware Availability: Oct-2013

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2620 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.60 GHz
 CPU MHz: 2100
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 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 2Rx4 PC3-14900R-13, ECC, running with 1600 MHz and CL11)
 Disk Subsystem: 2 TB SATA III, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-358.11.1.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.0



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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	24	794	295	798	294	796	295	24	656	357	660	355	661	355
401.bzip2	24	1076	215	1075	215	1075	216	24	1054	220	1054	220	1055	220
403.gcc	24	582	332	583	331	581	333	24	587	329	584	331	585	330
429.mcf	24	335	653	335	653	335	653	24	335	653	335	653	335	653
445.gobmk	24	861	293	868	290	854	295	24	845	298	832	303	856	294
456.hammer	24	411	545	411	544	411	545	24	368	608	369	608	371	604
458.sjeng	24	1009	288	1008	288	1008	288	24	976	297	968	300	960	302
462.libquantum	24	187	2650	187	2650	187	2650	24	187	2650	187	2650	187	2650
464.h264ref	24	1082	491	1080	492	1081	491	24	1070	496	1071	496	1070	497
471.omnetpp	24	637	235	637	236	639	235	24	600	250	598	251	600	250
473.astar	24	698	241	694	243	695	242	24	698	241	694	243	695	242
483.xalancbmk	24	355	466	355	466	357	464	24	355	466	355	466	357	464

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

Sysinfo program /cpu2006.1.2/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Fri Oct 18 09:26:02 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 E5-2620 v2 @ 2.10GHz
2 "physical id"s (chips)
24 "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 : 12

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Platform Notes (Continued)

```
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
MemTotal:      132125120 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux localhost.localdomain 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41
EST 2013 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Oct 18 09:24
```

```
SPEC is set to: /cpu2006.1.2
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdal        ext4      1.7T  9.9G  1.6T   1% /
```

```
Additional information from dmidecode:
BIOS American Megatrends Inc. 3.0 07/26/2013
Memory:
16x 8 GB
14x Samsung M393B1G73BH0- 8 GB 1600 MHz 2 rank
2x Samsung M393B1G73BH0-C 8 GB 1600 MHz 2 rank
```

```
(End of data from sysinfo program)
Correct memory configuration is: 16 x 8GB
"dmidecode" didn't detect two modules properly so it reports two
two variants of modules: "M393B1G73BH0-C" and "M393B1G73BH0-"
```

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006.1.2/libs/32:/cpu2006.1.2/libs/64:/cpu2006.1.2/sh"

```
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
Binaries compiled on a system with 2x Xeon E5-2650 v2 chips
```

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General Notes (Continued)

+ 256 GB memory using RedHat EL 6.4

Base Compiler Invocation

C benchmarks:

icc -m32

C++ benchmarks:

icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/cpu2006.1.2/sh -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

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Peak Compiler Invocation (Continued)

458.sjeng: `icc -m64`

C++ benchmarks:

`icpc -m32`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
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) -auto-ilp32`

401.bzip2: `-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 -auto-ilp32 -ansi-alias`

403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3`

456.hmmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32`

462.libquantum: `basepeak = yes`

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`

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Peak Optimization Flags (Continued)

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)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/cpu2006.1.2/sh -lsmartheap

473.astar: basepeak = yes

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/Intel-ic14.0-official-linux64.20140128.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

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