# SPEC® CINT2006 Result

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## ACTION S.A.

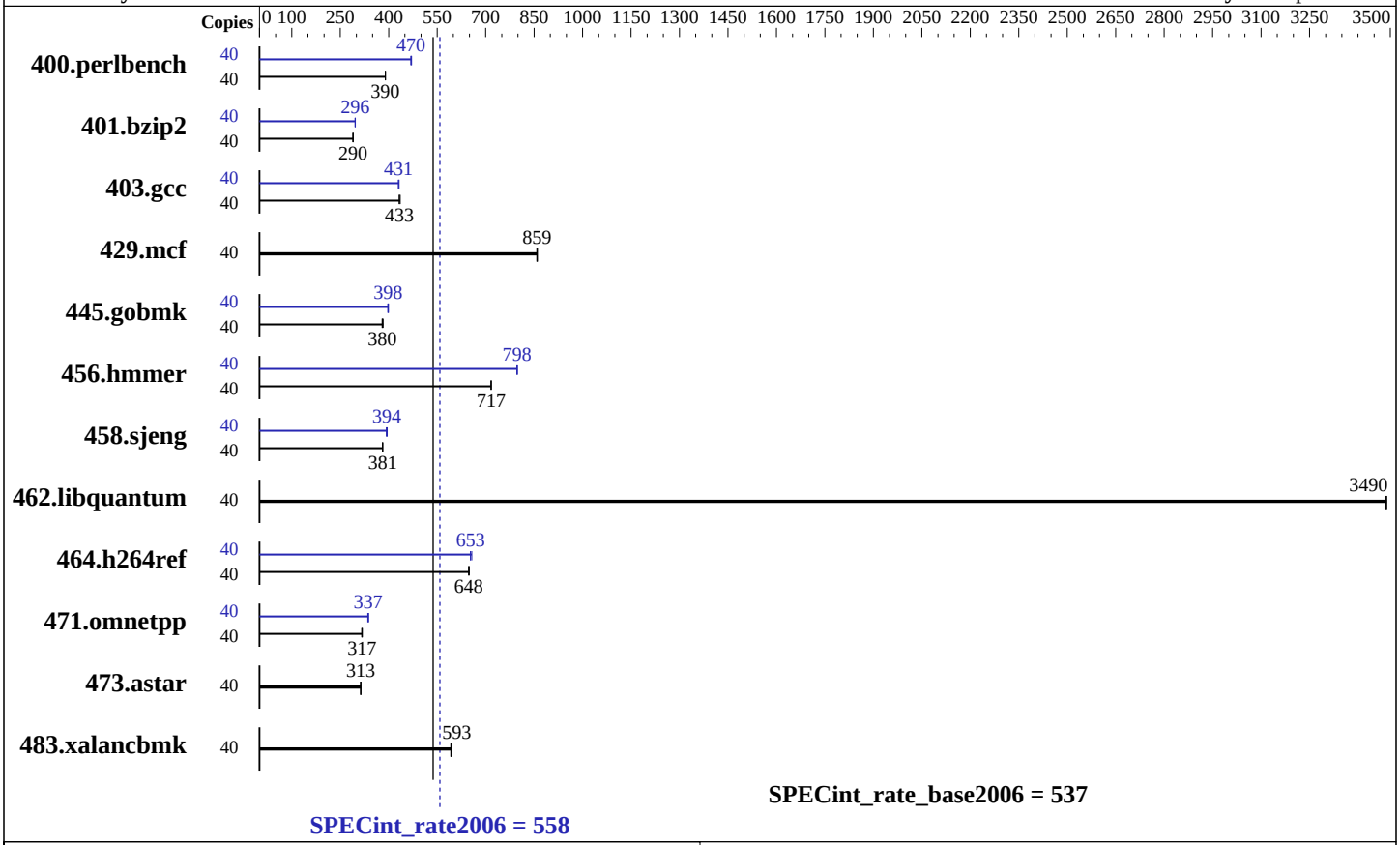
ACTINA SOLAR 210 S5 (Intel Xeon E5-2650L v2, 1.70 GHz)

SPECint®_rate2006 = 558

SPECint_rate_base2006 = 537

**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 E5-2650L v2 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.10 GHz |
| CPU MHz: | 1700 |
| FPU: | Integrated |
| CPU(s) enabled: | 20 cores, 2 chips, 10 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: | 25 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 | 40 | 1003 | 390 | **1003** | **390** | 1002 | 390 | 40 | 834 | 468 | **832** | **470** | 830 | 471 |
| 401.bzip2 | 40 | **1333** | **290** | 1331 | 290 | 1335 | 289 | 40 | 1304 | 296 | **1303** | **296** | 1301 | 297 |
| 403.gcc | 40 | **744** | **433** | 739 | 435 | 745 | 432 | 40 | 749 | 430 | 745 | 432 | **748** | **431** |
| 429.mcf | 40 | 424 | 860 | **424** | **859** | 425 | 858 | 40 | 424 | 860 | **424** | **859** | 425 | 858 |
| 445.gobmk | 40 | 1096 | 383 | 1105 | 380 | **1103** | **380** | 40 | **1053** | **398** | 1057 | 397 | 1051 | 399 |
| 456.hmmer | 40 | 521 | 716 | **520** | **717** | 520 | 717 | 40 | 468 | 798 | **468** | **798** | 469 | 797 |
| 458.sjeng | 40 | 1270 | 381 | 1268 | 382 | **1270** | **381** | 40 | 1224 | 395 | 1233 | 393 | **1228** | **394** |
| 462.libquantum | 40 | 238 | 3490 | 238 | 3490 | **238** | **3490** | 40 | 238 | 3490 | 238 | 3490 | **238** | **3490** |
| 464.h264ref | 40 | 1367 | 647 | 1363 | 649 | **1366** | **648** | 40 | 1355 | 653 | 1347 | 657 | **1355** | **653** |
| 471.omnetpp | 40 | 790 | 317 | 785 | 318 | **788** | **317** | 40 | 746 | 335 | **742** | **337** | 741 | 337 |
| 473.astar | 40 | **896** | **313** | 895 | 314 | 897 | 313 | 40 | **896** | **313** | 895 | 314 | 897 | 313 |
| 483.xalancbmk | 40 | **466** | **593** | 465 | 593 | 466 | 592 | 40 | **466** | **593** | 465 | 593 | 466 | 592 |

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 Thu Nov  7 14:51:10 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 E5-2650L v2 @ 1.70GHz
      2 "physical id"s (chips)
      40 "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 : 10
      siblings  : 20
```

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## Platform Notes (Continued)

```
        physical 0: cores 0 1 2 3 4 8 9 10 11 12
        physical 1: cores 0 1 2 3 4 8 9 10 11 12
     cache size : 25600 KB

  From /proc/meminfo
     MemTotal:       132123136 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 2.6.32-358.11.1.el6.x86_64 #1 SMP Thu Nov 7
     11:30:53 CET 2013 x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Nov 7 14:44

  SPEC is set to: /cpu2006.1.2
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/sda1      ext4    1.7T   18G  1.6T   2% /

  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>
```

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## General Notes (Continued)

```
Binaries compiled on a system with 2x Xeon E5-2650 v2 chips
+ 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`

Continued on next page

## Peak Compiler Invocation (Continued)

456.hmmer: icc -m64

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.hmmer: -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.hmmer: -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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For other inquiries, please contact webmaster@spec.org.

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