# SPEC® CINT2006 Result

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## ACTION S.A.

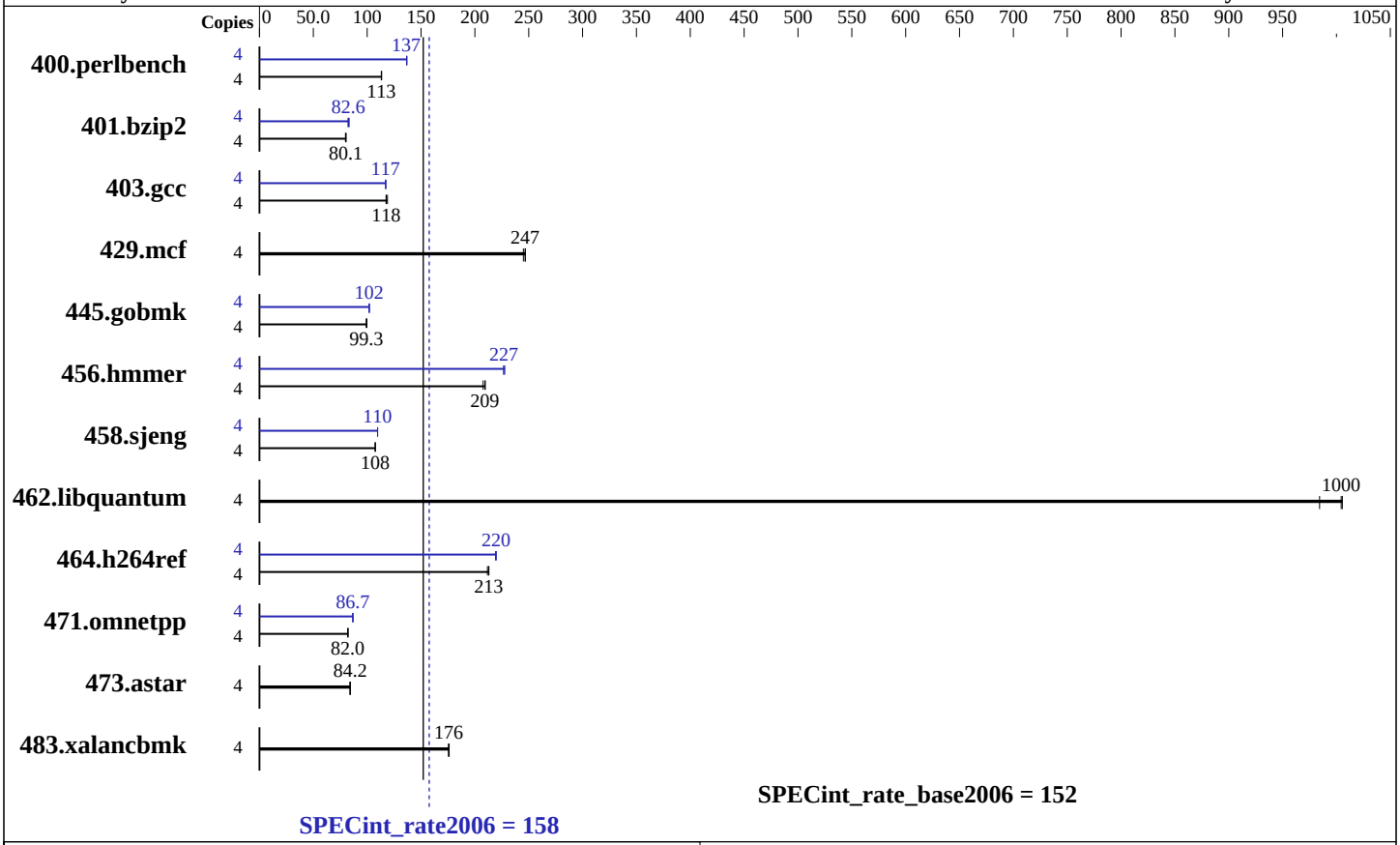
ACTINA SOLAR 110 S5 (Intel Xeon E3-1220 v2)

SPECint®_rate2006 = 158

SPECint_rate_base2006 = 152

**CPU2006 license:** 9008
**Test sponsor:** ACTION S.A.
**Tested by:** ACTION S.A.

**Test date:** Jul-2013
**Hardware Availability:** May-2012
**Software Availability:** Jun-2013




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E3-1220 v2 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.50 GHz |
| CPU MHz: | 3100 |
| 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: | 256 KB I+D on chip per core |
| L3 Cache: | 8 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 16 GB (4 x 4 GB 2Rx4 PC3-12800E-11, ECC) |
| Disk Subsystem: | 240 GB OCZ Deneva2 SSD |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 6.4 (Santiago)<br>2.6.32-358.el6.x86_64 |
| Compiler: | C/C++: Version 13.1.1.163 of Intel Compiler XE |
| 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 | 4 | 345 | 113 | **345** | **113** | 346 | 113 | 4 | 286 | 137 | 286 | 137 | **286** | **137** |
| 401.bzip2 | 4 | **482** | **80.1** | 483 | 79.9 | 480 | 80.5 | 4 | 464 | 83.3 | 470 | 82.2 | **467** | **82.6** |
| 403.gcc | 4 | 271 | 119 | **273** | **118** | 274 | 118 | 4 | 275 | 117 | 274 | 117 | **275** | **117** |
| 429.mcf | 4 | 148 | 247 | **148** | **247** | 149 | 245 | 4 | 148 | 247 | **148** | **247** | 149 | 245 |
| 445.gobmk | 4 | 421 | 99.8 | 423 | 99.1 | **423** | **99.3** | 4 | 411 | 102 | 413 | 102 | **412** | **102** |
| 456.hmmer | 4 | 178 | 210 | **178** | **209** | 180 | 208 | 4 | **165** | **227** | 165 | 227 | 164 | 228 |
| 458.sjeng | 4 | 450 | 108 | 450 | 108 | **450** | **108** | 4 | 442 | 110 | **441** | **110** | 441 | 110 |
| 462.libquantum | 4 | 84.2 | 984 | 82.4 | 1010 | **82.5** | **1000** | 4 | 84.2 | 984 | 82.4 | 1010 | **82.5** | **1000** |
| 464.h264ref | 4 | 416 | 213 | 418 | 212 | **416** | **213** | 4 | 404 | 219 | **403** | **220** | 403 | 220 |
| 471.omnetpp | 4 | **305** | **82.0** | 304 | 82.3 | 305 | 81.9 | 4 | **288** | **86.7** | 288 | 86.8 | 289 | 86.6 |
| 473.astar | 4 | **333** | **84.2** | 334 | 84.1 | 333 | 84.3 | 4 | **333** | **84.2** | 334 | 84.1 | 333 | 84.3 |
| 483.xalancbmk | 4 | 157 | 175 | **157** | **176** | 157 | 176 | 4 | 157 | 175 | **157** | **176** | 157 | 176 |

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

## Submit Notes

```
The taskset mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate taskset 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 Mon Jul  8 21:11:58 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 E3-1220 V2 @ 3.10GHz
      1 "physical id"s (chips)
      4 "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 : 4
      siblings  : 4
```

Continued on next page

## Platform Notes (Continued)

```
        physical 0: cores 0 1 2 3
     cache size : 8192 KB

  From /proc/meminfo
     MemTotal:       16304836 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 Jul 7 23:43

  SPEC is set to: /cpu2006.1.2
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/mapper/VolGroup-lv_root
                    ext4    197G   36G  152G  20% /

  Additional information from dmidecode:
    BIOS American Megatrends Inc. 2.0b 10/04/2012
    Memory:
     4x   4 GB
     4x 075D MEM1600E34G 4 GB 1600 MHz 1 rank
     1x Winbond 25X/Q Series 8 MB

  (End of data from sysinfo program)
```

## 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"

  Binaries compiled on a system with 1x E3-1220 V2 CPU + 16GB
  memory using RHEL6.4
  Transparent Huge Pages enabled with:
  echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

## 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/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`

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

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/sh -lsmartheap

473.astar: basepeak = yes

Continued on next page

## Peak Optimization Flags (Continued)

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/ActionSA-ic13.1-official-linux64_1.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/ActionSA-ic13.1-official-linux64_1.xml`


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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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