SPEC® CINT2006 Result
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ACTION S.A.

ACTINA SOLAR 110 S6 (Intel Xeon E3-1220 v3, 3.10 GHz)

$SPECint^®\_rate2006 =$ 183

$SPECint\_rate\_base2006 =$ 176

CPU2006 license: 9008	**Test date:** Dec-2015
Test sponsor: ACTION S.A.	**Hardware Availability:** Sep-2014
Tested by: ACTION S.A.	**Software Availability:** Aug-2015

Copies

- 400.perlbench: 4 / 164, 4 / 140
- 401.bzip2: 4 / 87.5, 4 / 82.0
- 403.gcc: 4 / 132, 4 / 132
- 429.mcf: 4 / 258
- 445.gobmk: 4 / 106, 4 / 106
- 456.hmmer: 4 / 253, 4 / 242
- 458.sjeng: 4 / 129, 4 / 122
- 462.libquantum: 4 / 1730
- 464.h264ref: 4 / 243, 4 / 220
- 471.omnetpp: 4 / 90.4, 4 / 87.1
- 473.astar: 4 / 94.0
- 483.xalancbmk: 4 / 235

SPECint_rate_base2006 = 176

SPECint_rate2006 = 183

Hardware

CPU Name:	Intel Xeon E3-1220 v3
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:	32 GB (4 x 8 GB 2Rx8 PC3-12800E-11, ECC)
Disk Subsystem:	1 x 240 GB SATA II SSD
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 7.1 (Maipo) 3.10.0-229.11.1.el7.x86_64
Compiler:	C/C++: Version 16.0.0.047 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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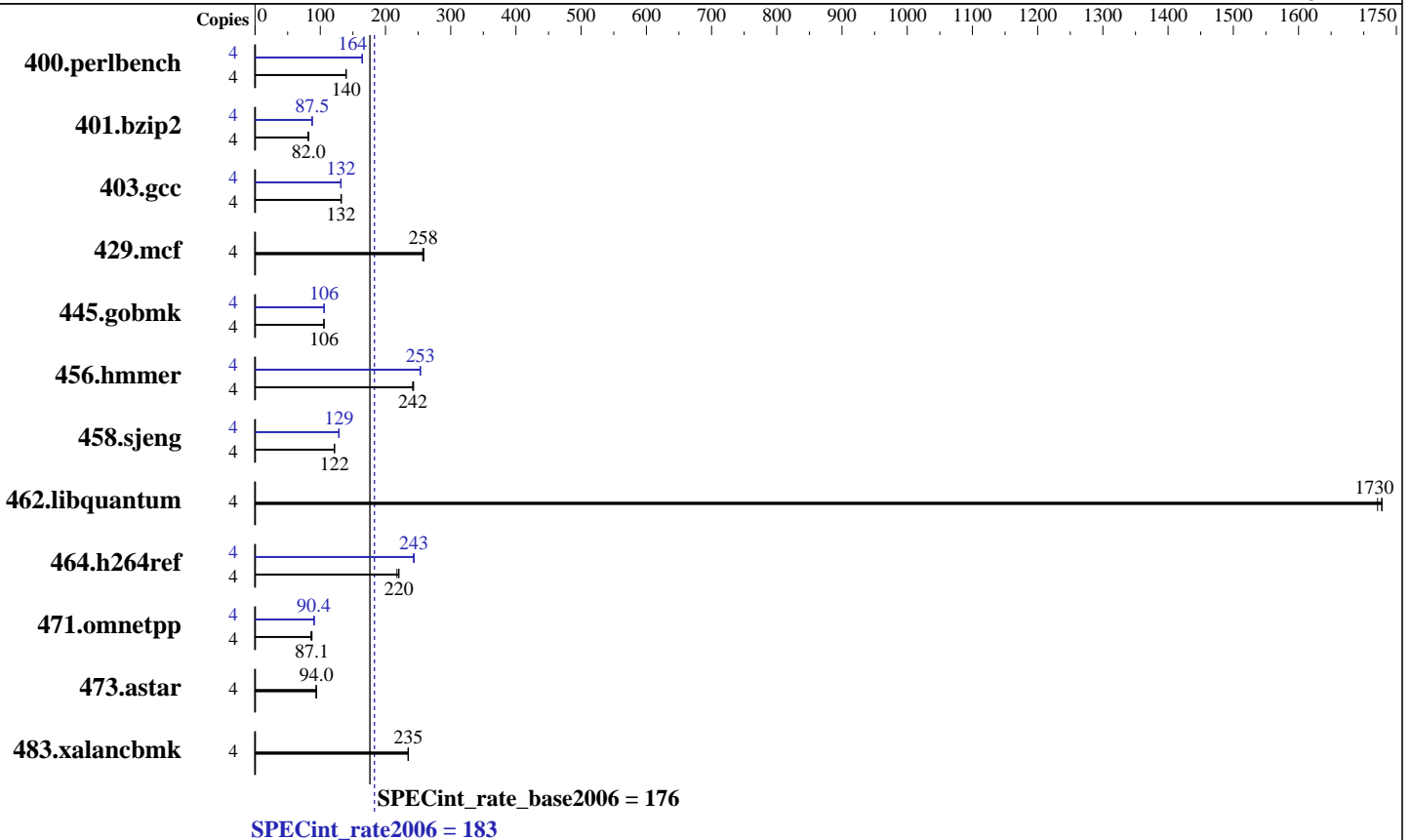SPECint_rate_base2006 =   176

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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	280	140	**280**	**140**	280	140	4	238	164	238	164	**238**	**164**
401.bzip2	4	475	81.2	**471**	**82.0**	470	82.1	4	439	87.9	443	87.2	**441**	**87.5**
403.gcc	4	243	132	**244**	**132**	244	132	4	245	131	244	132	**245**	**132**
429.mcf	4	142	257	141	259	**141**	**258**	4	142	257	141	259	**141**	**258**
445.gobmk	4	397	106	398	106	**397**	**106**	4	396	106	396	106	**396**	**106**
456.hmmer	4	**154**	**242**	153	243	154	242	4	147	254	147	253	**147**	**253**
458.sjeng	4	**398**	**122**	397	122	398	122	4	377	128	**376**	**129**	376	129
462.libquantum	4	**48.0**	**1730**	48.2	1720	48.0	1730	4	**48.0**	**1730**	48.2	1720	48.0	1730
464.h264ref	4	407	218	401	220	**401**	**220**	4	**364**	**243**	363	244	364	243
471.omnetpp	4	**287**	**87.1**	287	87.2	292	85.7	4	275	90.9	**277**	**90.4**	277	90.3
473.astar	4	299	94.0	300	93.6	**299**	**94.0**	4	299	94.0	300	93.6	**299**	**94.0**
483.xalancbmk	4	**118**	**235**	118	235	117	235	4	**118**	**235**	118	235	117	235

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

```
    Bios Settings: Default

    BMC Setting
    Fan Mode = Full Speed

    Sysinfo program /cpu2006.1.2/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on SUT Mon Dec  7 11:18:35 2015

    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 v3 @ 3.10GHz
         1 "physical id"s (chips)
```
Continued on next page

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Platform Notes (Continued)

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

From /proc/meminfo
  MemTotal:      32742600 kB
  HugePages_Total:       1
  Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
  os-release:
     NAME="Red Hat Enterprise Linux Server"
     VERSION="7.0 (Maipo)"
     ID="rhel"
     ID_LIKE="fedora"
     VERSION_ID="7.0"
     PRETTY_NAME="Red Hat Enterprise Linux"
     ANSI_COLOR="0;31"
     CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
  os-release.rpmnew:
     NAME="Red Hat Enterprise Linux Server"
     VERSION="7.1 (Maipo)"
     ID="rhel"
     ID_LIKE="fedora"
     VERSION_ID="7.1"
     PRETTY_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"
     ANSI_COLOR="0;31"
     CPE_NAME="cpe:/o:redhat:enterprise_linux:7.1:GA:server"
  redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
  system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
  system-release-cpe: cpe:/o:redhat:enterprise_linux:7.1:ga:server

uname -a:
  Linux SUT 3.10.0-229.11.1.el7.x86_64 #5 SMP Mon Sep 14 17:11:19 CEST 2015
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Dec 4 16:05

SPEC is set to: /cpu2006.1.2
  Filesystem      Type  Size  Used Avail Use% Mounted on
  /dev/sda1       ext4  212G   37G  165G  19% /

Additional information from dmidecode:
  BIOS American Megatrends Inc. 2.0 04/24/2014
  Memory:
  4x    8 GB
  4x 0793 W-MEM1600E38G 8 GB 1600 MHz 2 rank
```

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Platform Notes (Continued)

```
  (End of data from sysinfo program)
  dmidecode does not properly detect memory modules
  4 modules of 8 GB were used to run the test (32 GB total)
```

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
  Binaries compiled on a system with 2x Xeon E5-2650 v3 chips + 256 GB memory
  using RedHat EL 7.1
```

Base Compiler Invocation

C benchmarks:
```
    icc -m32 -L/opt/intel/lib/ia32
```

C++ benchmarks:
```
    icpc -m32 -L/opt/intel/lib/ia32
```

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
```
    -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
    -opt-mem-layout-trans=3
```

C++ benchmarks:
```
    -xCORE-AVX2 -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:

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Base Other Flags (Continued)

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc -m32 -L/opt/intel/lib/ia32

    400.perlbench: icc -m64

    401.bzip2: icc -m64

    456.hmmer: icc -m64

    458.sjeng: icc -m64

C++ benchmarks:
    icpc -m32 -L/opt/intel/lib/ia32

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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div

    429.mcf: basepeak = yes

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Peak Optimization Flags (Continued)

445.gobmk: `-xCORE-AVX2(pass 2)` `-prof-gen(pass 1)` `-prof-use(pass 2)` `-ansi-alias` `-opt-mem-layout-trans=3`

456.hmmer: `-xCORE-AVX2` `-ipo` `-O3` `-no-prec-div` `-unroll2` `-auto-ilp32`

458.sjeng: `-xCORE-AVX2(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: `-xCORE-AVX2(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: `-xCORE-AVX2(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 files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html
http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevD-aug-2015-For-Supermicro-Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevD-aug-2015-For-Supermicro-Platform.xml

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