SPEC® CINT2006 Result

ACTION S.A.

ACTINA SOLAR 220 X5 (Intel Xeon E5-2609 v2, 2.50 GHz)

SPECint®_rate2006 =   248

SPECint_rate_base2006 =   240

CPU2006 license: 9008	**Test date:** Mar-2014
Test sponsor: ACTION S.A.	**Hardware Availability:** Oct-2013
Tested by: ACTION S.A.	**Software Availability:** Sep-2013

SPECint_rate2006 = 248

SPECint_rate_base2006 = 240

Hardware

CPU Name:	Intel Xeon E5-2609 v2
CPU Characteristics:	
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 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:	10 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz and CL9)
Disk Subsystem:	1 x 240 GB SATA II SSD
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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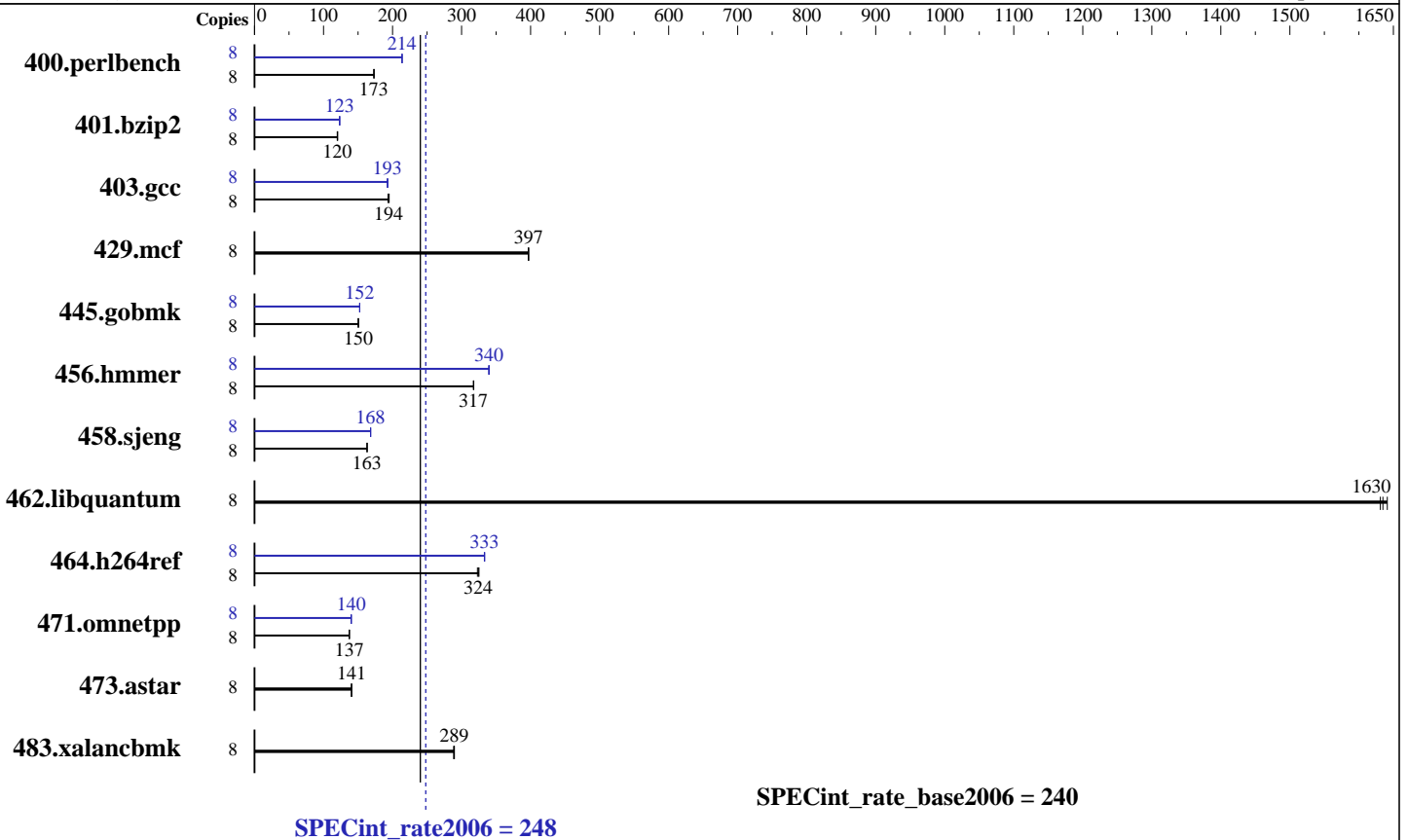
SPECint_rate_base2006 = 240

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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	8	451	173	452	173	**452**	**173**	8	365	214	366	214	**366**	**214**
401.bzip2	8	641	120	644	120	**642**	**120**	8	625	124	627	123	**626**	**123**
403.gcc	8	330	195	**332**	**194**	333	193	8	333	193	335	193	**334**	**193**
429.mcf	8	184	397	**184**	**397**	184	397	8	184	397	**184**	**397**	184	397
445.gobmk	8	**558**	**150**	557	151	559	150	8	550	152	**551**	**152**	551	152
456.hmmer	8	235	318	**235**	**317**	235	317	8	220	340	**220**	**340**	220	339
458.sjeng	8	**594**	**163**	593	163	594	163	8	575	168	**576**	**168**	576	168
462.libquantum	8	101	1640	**101**	**1630**	102	1630	8	101	1640	**101**	**1630**	102	1630
464.h264ref	8	544	325	548	323	**546**	**324**	8	531	334	532	333	**531**	**333**
471.omnetpp	8	364	137	364	138	**364**	**137**	8	356	140	**356**	**140**	357	140
473.astar	8	400	141	399	141	**399**	**141**	8	400	141	399	141	**399**	**141**
483.xalancbmk	8	191	290	**191**	**289**	191	288	8	191	290	**191**	**289**	191	288

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

```
    Bios Settings:
    System Acoustic and Performance Configuration = Performance
    Select Memory RAS Configuration = Maximum Performance
    Intel(R) Turbo Boost Technology = Enabled
    Processor C3 = Disabled
    Processor C6 = Disabled

    Sysinfo program /cpu2006.1.2/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on localhost.localdomain Mon Mar 31 15:55:36 2014

    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
```

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Platform Notes (Continued)

```
      model name : Intel(R) Xeon(R) CPU E5-2609 v2 @ 2.50GHz
         2 "physical id"s (chips)
         8 "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
         physical 1: cores 0 1 2 3
      cache size : 10240 KB

  From /proc/meminfo
     MemTotal:       132053000 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 Tue Nov 19
     17:43:04 CET 2013 x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Mar 27 14:51

  SPEC is set to: /cpu2006.1.2
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/sda1      ext4    193G   50G  133G  28% /

  Additional information from dmidecode:
    BIOS Intel Corp. SE5C600.86B.02.02.0002.122320131210 12/23/2013
    Memory:
     16x   8 GB
     16x Hynix HMT31GR7EFR4C-RD 8 GB 1867 MHz 2 rank

  (End of data from sysinfo program)
  dmidecode does not properly detect memory modules
  16 modules of 8 GB were used to run the test (128 GB total).
  Memory modules operate at speed 1333 MHz while dmidecode shows 1867 MHz
```

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"
```

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General Notes (Continued)

```
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 + 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

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Peak Compiler Invocation (Continued)

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`

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Peak Optimization Flags (Continued)

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/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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevB-apr-2014-For-Intel-Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevB-apr-2014-For-Intel-Platform.xml

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

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