SPEC® CINT2006 Result
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ACTION S.A.

ACTINA SOLAR 210 S6 (Intel Xeon E5-2609 v3, 1.90 GHz)

$SPECint^®_rate2006 = $ 321

$SPECint_rate_base2006 = $ 310

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

Copies

Benchmark	Copies	Peak	Base
400.perlbench	12 / 12	294	236
401.bzip2	12 / 12	149	139
403.gcc	12 / 12	231	232
429.mcf	12		441
445.gobmk	12 / 12	186	183
456.hmmer	12 / 12	412	413
458.sjeng	12 / 12	220	213
462.libquantum	12		3280
464.h264ref	12 / 12	412	392
471.omnetpp	12 / 12	179	173
473.astar	12		169
483.xalancbmk	12		385

SPECint_rate_base2006 = 310

SPECint_rate2006 = 321

Hardware

CPU Name:	Intel Xeon E5-2609 v3
CPU Characteristics:	
CPU MHz:	1900
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 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:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
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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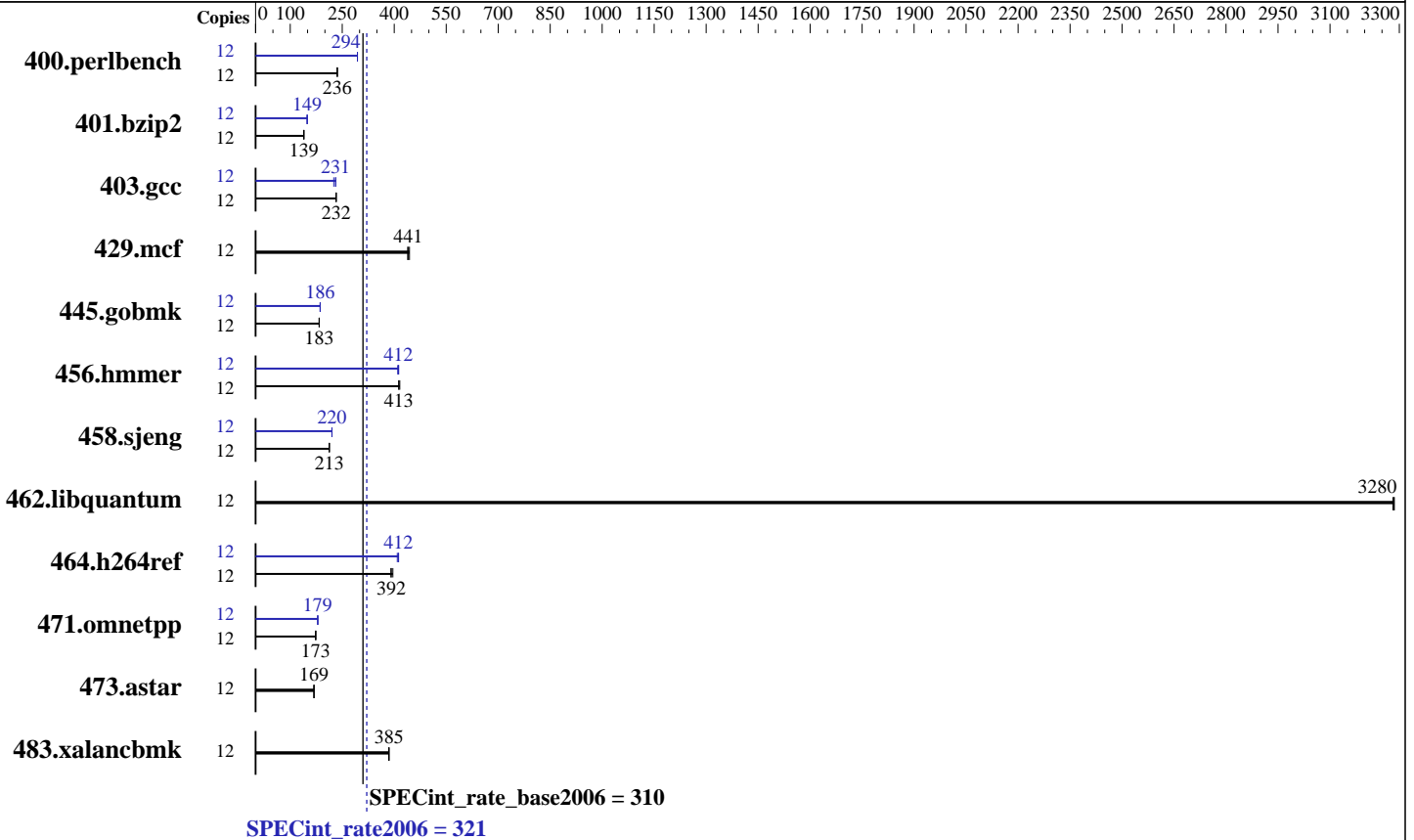SPECint_rate_base2006 = 310

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Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	12	**497**	**236**	498	235	497	236	12	399	294	**399**	**294**	399	294
401.bzip2	12	832	139	831	139	**832**	**139**	12	778	149	**778**	**149**	777	149
403.gcc	12	415	233	**416**	**232**	417	232	12	**419**	**231**	428	226	418	231
429.mcf	12	249	439	246	444	**248**	**441**	12	249	439	246	444	**248**	**441**
445.gobmk	12	686	183	**686**	**183**	686	184	12	675	186	676	186	**675**	**186**
456.hmmer	12	271	413	269	416	**271**	**413**	12	273	410	271	413	**272**	**412**
458.sjeng	12	**683**	**213**	682	213	683	213	12	**659**	**220**	659	220	659	220
462.libquantum	12	75.7	3290	75.8	3280	**75.7**	**3280**	12	75.7	3290	75.8	3280	**75.7**	**3280**
464.h264ref	12	680	390	670	396	**678**	**392**	12	644	413	650	409	**645**	**412**
471.omnetpp	12	431	174	433	173	**433**	**173**	12	**418**	**179**	418	180	419	179
473.astar	12	**500**	**169**	501	168	499	169	12	**500**	**169**	501	168	499	169
483.xalancbmk	12	**215**	**385**	216	384	215	385	12	**215**	**385**	216	384	215	385

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
    Power Technology = Energy Efficient
    Enforce POR = Disabled

    BMC Setting
    Fan Mode = Full Speed

    Sysinfo program /cpu2006.1.2/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on localhost.localdomain Thu Jan 22 21:13:26 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

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Platform Notes (Continued)

```
   model name : Intel(R) Xeon(R) CPU E5-2609 v3 @ 1.90GHz
      2 "physical id"s (chips)
      12 "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  : 6
      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:       264426792 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 Jan 22 08:40

 SPEC is set to: /cpu2006.1.2
    Filesystem      Type    Size  Used Avail Use% Mounted on
    /dev/sda1       ext4    193G   54G  130G  30% /

 Additional information from dmidecode:
   BIOS American Megatrends Inc. 1.0b 10/29/2014
   Memory:
    16x   16 GB
    2x Samsung (date:14/33) M393A2G40DB0-CPB 16 GB 1600 MHz 2 rank
    14x Samsung (date:14/4p) M393A2G40DB0-CPB 16 GB 1600 MHz 2 rank

 (End of data from sysinfo program)
 dmidecode does not properly detect memory modules
 16 modules of 16 GB were used to run the test (256 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"
```

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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 E5-2670 v3 chips + 128 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:
    -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:

    403.gcc: -Dalloca=_alloca

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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: -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
```

```
  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
```

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Peak Optimization Flags (Continued)

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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevC-jan-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-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevC-jan-2015-For-Supermicro-Platform.xml

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

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