SPEC® CINT2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 222 S6 (Intel Xeon E5-2620 v4, 2.10 GHz)

$SPECint^{®}_rate2006 = $ 665

$SPECint_rate_base2006 = $ 633

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

Test date: Feb-2017
Hardware Availability: Mar-2016
Software Availability: Mar-2016

Benchmark	Copies	base	peak
400.perlbench	32 / 32	443	526
401.bzip2	32 / 32	299	315
403.gcc	32 / 32	488	490
429.mcf	32	848	
445.gobmk	32 / 32	403	404
456.hmmer	32 / 32	916	1090
458.sjeng	32 / 32	415	440
462.libquantum	32	6110	
464.h264ref	32 / 32	750	777
471.omnetpp	32 / 32	356	389
473.astar	32	380	
483.xalancbmk	32	795	

SPECint_rate_base2006 = 633

SPECint_rate2006 = 665

Hardware

CPU Name: Intel Xeon E5-2620 v4
CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
CPU MHz: 2100
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 MB I+D on chip per chip
Other Cache: None
Memory: 512 GB (16 x 32 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)
Disk Subsystem: 1 x 240 GB SATA II SSD
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.2 (Maipo)
3.10.0-327.18.2.el7.x86_64
Compiler: C/C++: Version 17.0.0.098 of Intel C/C++ Compiler 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 V10.2

SPEC CINT2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 222 S6 (Intel Xeon E5-2620 v4, 2.10 GHz)

SPECint_rate2006 =   665

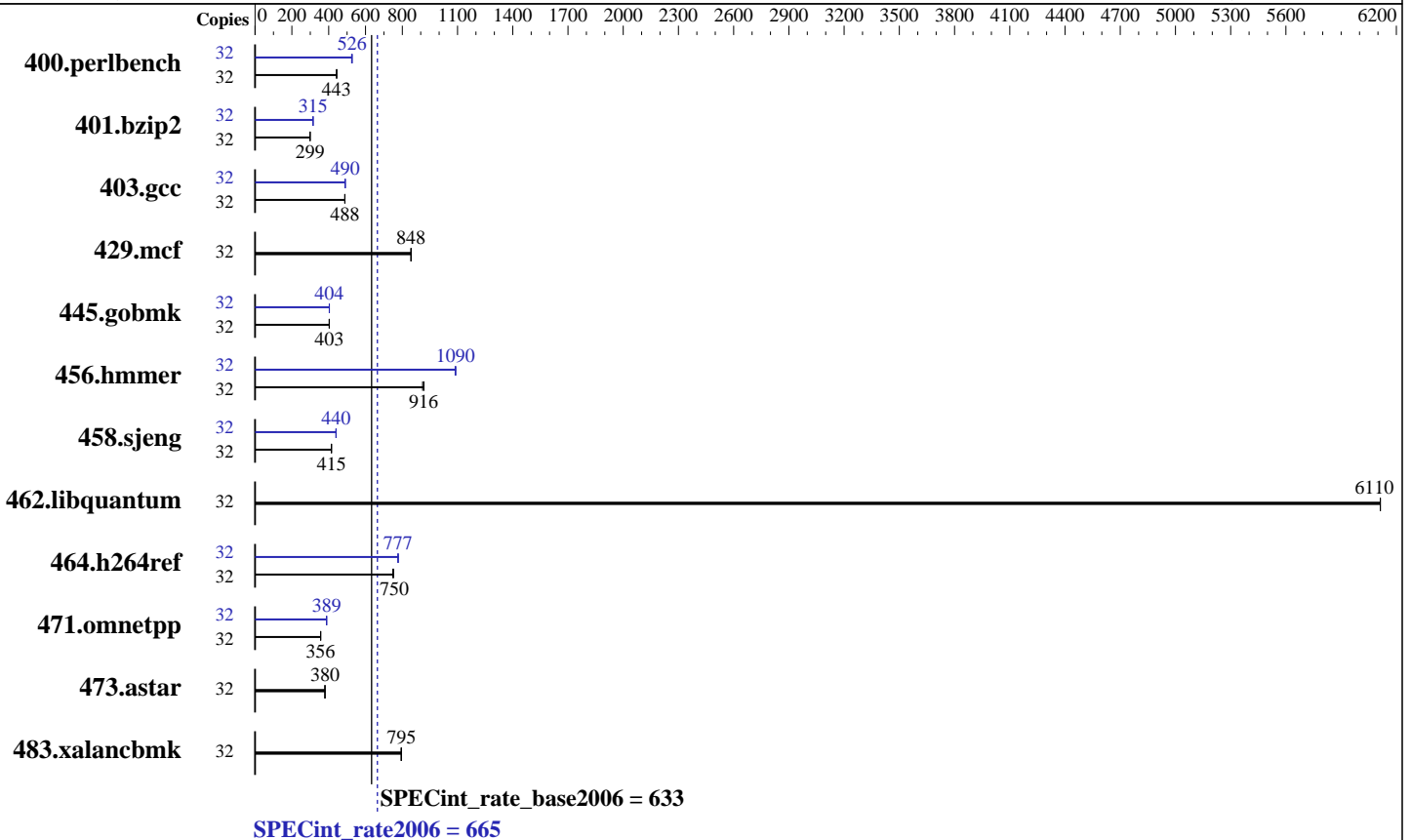SPECint_rate_base2006 =   633

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

Test date: Feb-2017
Hardware Availability: Mar-2016
Software Availability: Mar-2016

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	705	444	**706**	**443**	706	443	32	**594**	**526**	596	525	592	528
401.bzip2	32	1032	299	1034	299	**1033**	**299**	32	979	315	**980**	**315**	981	315
403.gcc	32	**528**	**488**	529	487	527	489	32	**525**	**490**	525	490	527	488
429.mcf	32	344	848	345	846	**344**	**848**	32	344	848	345	846	**344**	**848**
445.gobmk	32	833	403	**833**	**403**	832	403	32	831	404	833	403	**832**	**404**
456.hmmer	32	**326**	**916**	325	918	328	910	32	274	1090	275	1090	**274**	**1090**
458.sjeng	32	933	415	**933**	**415**	933	415	32	879	440	881	439	**880**	**440**
462.libquantum	32	108	6110	**108**	**6110**	108	6110	32	108	6110	**108**	**6110**	108	6110
464.h264ref	32	946	749	**944**	**750**	941	753	32	910	778	**912**	**777**	912	776
471.omnetpp	32	561	356	561	357	**561**	**356**	32	515	388	**515**	**389**	514	389
473.astar	32	**591**	**380**	590	381	593	379	32	**591**	**380**	590	381	593	379
483.xalancbmk	32	278	793	278	796	**278**	**795**	32	278	793	278	796	**278**	**795**

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
    Hyper-Threading (All) = Enable
    Power Technology = Energy Efficient
    Enforce POR = Disabled
    Memory Frequency = 2133

    BMC Setting
    Fan Mode = Full Speed

    Sysinfo program /cpu2006.1.2/config/sysinfo.rev6993
    Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
    running on SUT Tue Feb 7 12:37:12 2017

    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

ACTION S.A.

ACTINA SOLAR 222 S6 (Intel Xeon E5-2620 v4, 2.10 GHz)

SPECint_rate2006 = 665

SPECint_rate_base2006 = 633

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

Test date: Feb-2017
Hardware Availability: Mar-2016
Software Availability: Mar-2016

Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2620 v4 @ 2.10GHz
      2 "physical id"s (chips)
      32 "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 : 8
      siblings  : 16
      physical 0: cores 0 1 2 3 4 5 6 7
      physical 1: cores 0 1 2 3 4 5 6 7
   cache size : 20480 KB

From /proc/meminfo
   MemTotal:       528083692 kB
   HugePages_Total:        1
   Hugepagesize:        2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux Server"
      VERSION="7.2 (Maipo)"
      ID="rhel"
      ID_LIKE="fedora"
      VERSION_ID="7.2"
      PRETTY_NAME="Red Hat Enterprise Linux"
      ANSI_COLOR="0;31"
      CPE_NAME="cpe:/o:redhat:enterprise_linux:7.2:GA:server"
   os-release.rpmsave:
      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"
   redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
   system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:7.2:ga:server

uname -a:
   Linux SUT 3.10.0-327.18.2.el7.x86_64 #2 SMP Wed Jun 1 17:37:13 CEST 2016
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 7 12:25

SPEC is set to: /cpu2006.1.2
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda1       ext4  212G   79G  122G  40% /
Additional information from dmidecode:
```
Continued on next page

SPEC CINT2006 Result

ACTION S.A.

ACTINA SOLAR 222 S6 (Intel Xeon E5-2620 v4, 2.10 GHz)

SPECint_rate2006 = 665

SPECint_rate_base2006 = 633

Platform Notes (Continued)

```
    Warning: Use caution when you interpret this section. The 'dmidecode' program
    reads system data which is "intended to allow hardware to be accurately
    determined", but the intent may not be met, as there are frequent changes to
    hardware, firmware, and the "DMTF SMBIOS" standard.

   BIOS American Megatrends Inc. 2.0 12/17/2015
   Memory:
   16x Hynix Semiconductor HMA84GR7AFR4N-UH 32 GB 2 rank 2400 MHz, configured at
   2133 MHz

 (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/sh10.2"

 Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
 memory using Redhat Enterprise Linux 7.2
 Transparent Huge Pages enabled by default
 Filesystem page cache cleared with:
 echo 1>        /proc/sys/vm/drop_caches
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:
```
    icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

C++ benchmarks:
```
    icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

Base Portability Flags

```
    400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
       401.bzip2: -D_FILE_OFFSET_BITS=64
         403.gcc: -D_FILE_OFFSET_BITS=64
         429.mcf: -D_FILE_OFFSET_BITS=64
       445.gobmk: -D_FILE_OFFSET_BITS=64
       456.hmmer: -D_FILE_OFFSET_BITS=64
       458.sjeng: -D_FILE_OFFSET_BITS=64
    462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
      464.h264ref: -D_FILE_OFFSET_BITS=64
      471.omnetpp: -D_FILE_OFFSET_BITS=64
```

ACTION S.A.

ACTINA SOLAR 222 S6 (Intel Xeon E5-2620 v4, 2.10 GHz)

SPECint_rate2006 = 665

SPECint_rate_base2006 = 633

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

Test date: Feb-2017
Hardware Availability: Mar-2016
Software Availability: Mar-2016

Base Portability Flags (Continued)

```
     473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

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

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/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/compilers_and_libraries_2017/linux/lib/ia32
```

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
    401.bzip2: -DSPEC_CPU_LP64
     403.gcc: -D_FILE_OFFSET_BITS=64
     429.mcf: -D_FILE_OFFSET_BITS=64
```

SPEC CINT2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 222 S6 (Intel Xeon E5-2620 v4, 2.10 GHz)

SPECint_rate2006 =   665

SPECint_rate_base2006 = 633

CPU2006 license: 9008		**Test date:** Feb-2017	
Test sponsor: ACTION S.A.		**Hardware Availability:** Mar-2016	
Tested by: ACTION S.A.		**Software Availability:** Mar-2016	

Peak Portability Flags (Continued)

```
     445.gobmk: -D_FILE_OFFSET_BITS=64
     456.hmmer: -DSPEC_CPU_LP64
     458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
    464.h264ref: -D_FILE_OFFSET_BITS=64
    471.omnetpp: -D_FILE_OFFSET_BITS=64
      473.astar: -D_FILE_OFFSET_BITS=64
  483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
  400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
                 -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -auto-ilp32 -qopt-mem-layout-trans=3

      401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
                 -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -qopt-prefetch -auto-ilp32
                 -qopt-mem-layout-trans=3

        403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div
                 -qopt-mem-layout-trans=3

        429.mcf: basepeak = yes

     445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
                 -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -qopt-mem-layout-trans=3

     456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                 -qopt-mem-layout-trans=3

     458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
                 -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -unroll4 -auto-ilp32
                 -qopt-mem-layout-trans=3

 462.libquantum: basepeak = yes

    464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
                 -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -unroll2 -qopt-mem-layout-trans=3
```

C++ benchmarks:

Continued on next page

SPEC CINT2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 222 S6 (Intel Xeon E5-2620 v4, 2.10 GHz)

SPECint_rate2006 =   665

SPECint_rate_base2006 =   633

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

Test date: Feb-2017
Hardware Availability: Mar-2016
Software Availability: Mar-2016

Peak Optimization Flags (Continued)

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2)
-qopt-ra-region-strategy=block
-qopt-mem-layout-trans=3 -Wl,-z,muldefs
-L/sh10.2 -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-ic17.0-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-ic17.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/ACTION.SA-Platform-Flags-RevD-aug-2015-For-Supermicro-Platform.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Wed Mar 22 10:49:03 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 21 March 2017.