SPEC® CINT2006 Result

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECint®_rate2006 =   1300

SPECint_rate_base2006 = 1240

Benchmark	Copies	Base	Peak
400.perlbench	64	961	1190
401.bzip2	64	650	675
403.gcc	64	957	959
429.mcf	64	1630	
445.gobmk	64	828	863
456.hmmer	64	1640	1780
458.sjeng	64	921	981
462.libquantum	64	12500	
464.h264ref	64	1520	1550
471.omnetpp	64	663	692
473.astar	64	681	
483.xalancbmk	64	1320	

SPECint_rate_base2006 = 1240

SPECint_rate2006 = 1300

Hardware

CPU Name: Intel Xeon E5-2698 v3

CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz

CPU MHz: 2300

FPU: Integrated

CPU(s) enabled: 32 cores, 2 chips, 16 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: 40 MB I+D on chip per chip

Other Cache: None

Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)

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

SPEC CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECint_rate2006 = 1300
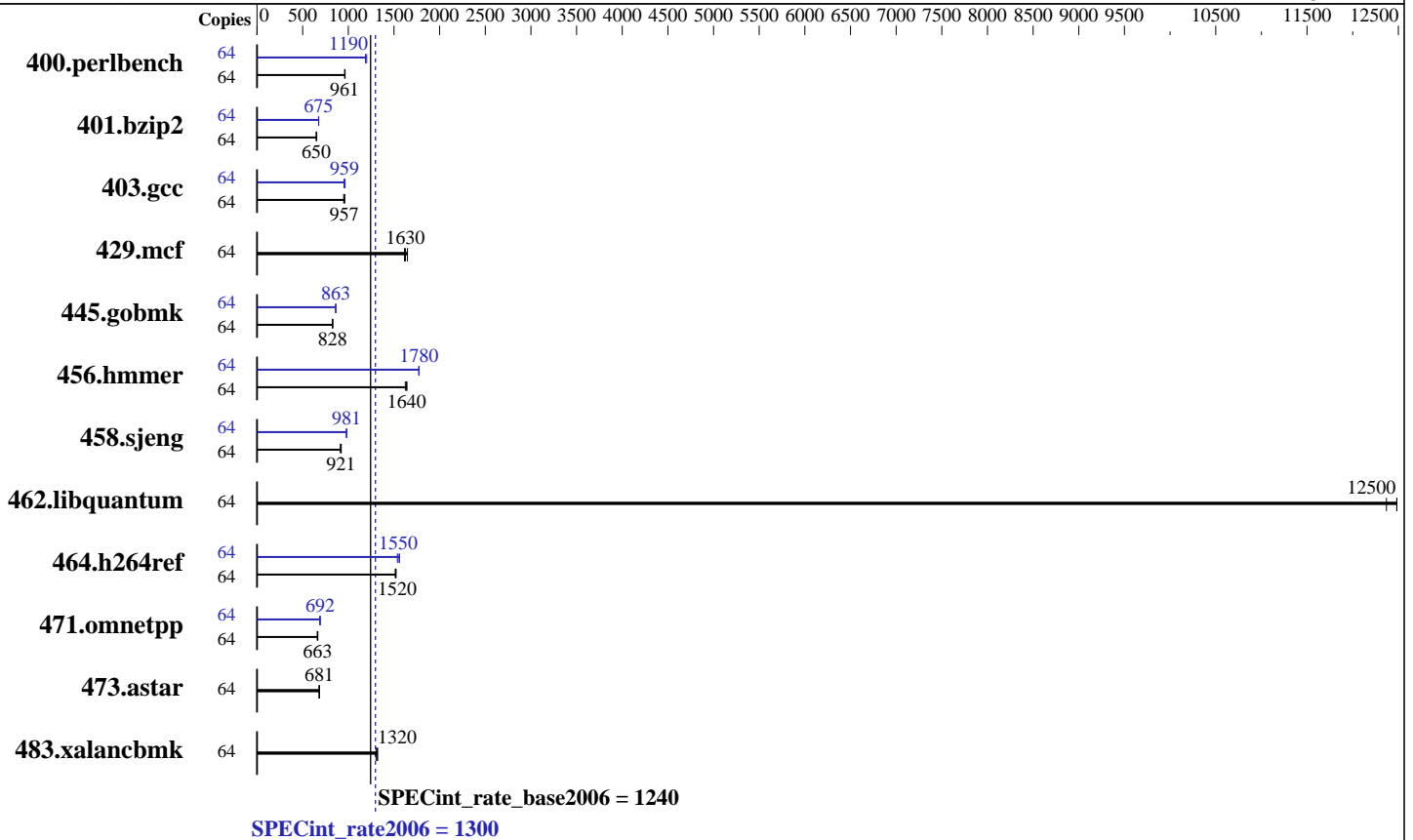
SPECint_rate_base2006 = 1240

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

Test date: Nov-2015
Hardware Availability: Sep-2014
Software Availability: Aug-2015

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	651	961	648	965	**651**	**961**	64	**526**	**1190**	520	1200	526	1190
401.bzip2	64	944	654	**950**	**650**	952	649	64	913	676	916	674	**916**	**675**
403.gcc	64	536	961	**538**	**957**	543	949	64	534	965	540	953	**537**	**959**
429.mcf	64	354	1650	**359**	**1630**	361	1620	64	354	1650	**359**	**1630**	361	1620
445.gobmk	64	**811**	**828**	811	827	810	829	64	778	863	780	861	**778**	**863**
456.hmmer	64	368	1620	364	1640	**364**	**1640**	64	**336**	**1780**	336	1780	337	1770
458.sjeng	64	849	912	839	923	**841**	**921**	64	787	984	**789**	**981**	792	978
462.libquantum	64	107	12400	106	12500	**106**	**12500**	64	107	12400	106	12500	**106**	**12500**
464.h264ref	64	**932**	**1520**	930	1520	936	1510	64	907	1560	922	1540	**916**	**1550**
471.omnetpp	64	**604**	**663**	606	660	600	666	64	582	688	578	692	**578**	**692**
473.astar	64	661	679	656	684	**659**	**681**	64	661	679	656	684	**659**	**681**
483.xalancbmk	64	339	1300	335	1320	**335**	**1320**	64	339	1300	335	1320	**335**	**1320**

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:
    Intel(R) Hyper-Threading Tech = Enabled
    Power & Performance = Performance
    Enforce POR = Disabled
    Memory Operating Speed Selection = 2133
    Cluster-on-Die = Enabled
    Set Fan Profile = Performance
    Fan PWM Offset = 0

    Sysinfo program /cpu2006.1.2/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on SUT Tue Nov 17 10:11:22 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

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECint_rate2006 =   1300

SPECint_rate_base2006 = 1240

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

Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2698 v3 @ 2.30GHz
      2 "physical id"s (chips)
      64 "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 : 16
      siblings  : 32
      physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
      physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
   cache size : 20480 KB

From /proc/meminfo
   MemTotal:       263872952 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 Nov 17 10:07

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

Continued on next page

SPEC CINT2006 Result

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECint_rate2006 =   1300

SPECint_rate_base2006 = 1240

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

Platform Notes (Continued)

```
  Additional information from dmidecode:
    BIOS Intel Corporation SE5C610.86B.01.01.0009.060120151350 06/01/2015
    Memory:
     16x   16 GB
     16x Micron 36ASF2G72PZ-2G1A2 16 GB 2134 MHz 2 rank
     8x NO DIMM NO DIMM

  (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"

 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 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
```

Continued on next page

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECint_rate2006 =   1300

SPECint_rate_base2006 = 1240

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

Base Optimization Flags (Continued)

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`

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`

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECint_rate2006 =   1300

SPECint_rate_base2006 = 1240

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

Test date: Nov-2015
Hardware Availability: Sep-2014
Software Availability: Aug-2015

Peak Optimization Flags (Continued)

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

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-RevB-aug-2015-For-Intel-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-RevB-aug-2015-For-Intel-Platform.xml

SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

ACTION S.A.

ACTINA SOLAR 220 X6 (Intel Xeon E5-2698 v3, 2.30 GHz)

SPECint_rate2006 = 1300

SPECint_rate_base2006 = 1240

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

Test date: Nov-2015
Hardware Availability: Sep-2014
Software Availability: Aug-2015

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 Tue Dec 15 16:46:27 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 December 2015.