SPEC® CINT2006 Result

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECint®_rate2006 =   1230

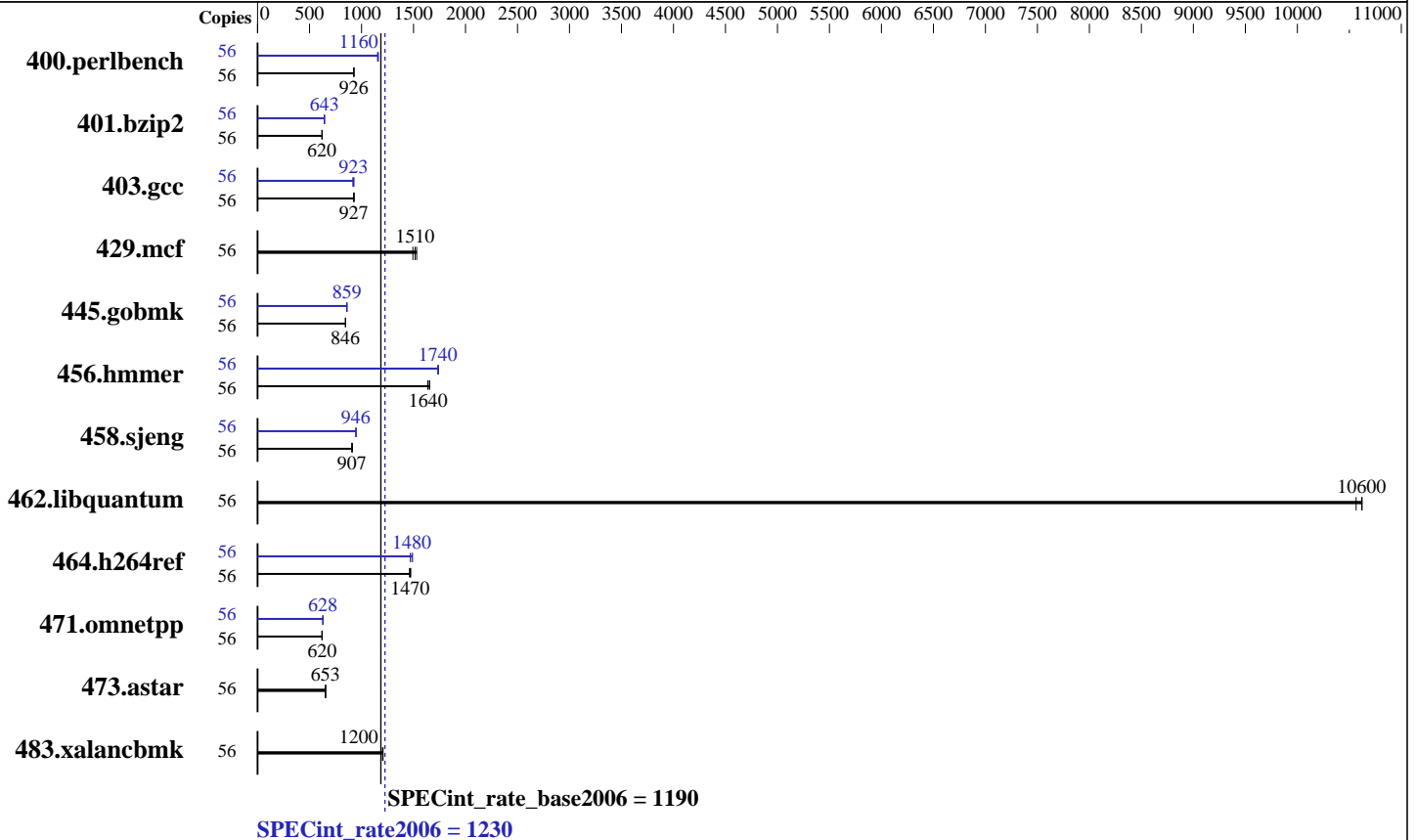SPECint_rate_base2006 = 1190

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Benchmark	Copies	Result
400.perlbench	56	1160
	56	926
401.bzip2	56	643
	56	620
403.gcc	56	923
	56	927
429.mcf	56	1510
445.gobmk	56	859
	56	846
456.hmmer	56	1740
	56	1640
458.sjeng	56	946
	56	907
462.libquantum	56	10600
464.h264ref	56	1480
	56	1470
471.omnetpp	56	628
	56	620
473.astar	56	653
483.xalancbmk	56	1200

SPECint_rate_base2006 = 1190

SPECint_rate2006 = 1230

Hardware

CPU Name: Intel Xeon E5-2697 v3

CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz

CPU MHz: 2600

FPU: Integrated

CPU(s) enabled: 28 cores, 2 chips, 14 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: 35 MB I+D on chip per chip

Other Cache: None

Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R)

Disk Subsystem: 1 x 200 GB SATA III SSD

Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0, Kernel 3.10.0-123.9.3.el7.x86_64

Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux

Auto Parallel: No

File System: xfs

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

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECint_rate2006 =   1230

SPECint_rate_base2006 = 1190

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Mar-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	56	589	928	**591**	**926**	591	925	56	471	1160	474	1150	**472**	**1160**
401.bzip2	56	**871**	**620**	870	621	872	620	56	**840**	**643**	839	644	841	643
403.gcc	56	489	923	485	929	**486**	**927**	56	492	916	486	927	**488**	**923**
429.mcf	56	334	1530	342	1490	**337**	**1510**	56	334	1530	342	1490	**337**	**1510**
445.gobmk	56	**695**	**846**	694	846	695	846	56	**684**	**859**	683	860	684	859
456.hmmer	56	319	1640	316	1660	**318**	**1640**	56	300	1740	301	1730	**301**	**1740**
458.sjeng	56	742	913	748	906	**747**	**907**	56	715	948	**717**	**946**	717	945
462.libquantum	56	109	10600	**109**	**10600**	110	10600	56	109	10600	**109**	**10600**	110	10600
464.h264ref	56	841	1470	848	1460	**844**	**1470**	56	844	1470	**835**	**1480**	831	1490
471.omnetpp	56	563	622	**564**	**620**	566	619	56	**557**	**628**	558	628	556	630
473.astar	56	600	655	602	653	**602**	**653**	56	600	655	602	653	**602**	**653**
483.xalancbmk	56	320	1210	**321**	**1200**	321	1200	56	320	1210	**321**	**1200**	321	1200

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:
Enforce POR = Disabled
Memory Frequency = 2133
Early Snoop = Disable
COD Enable = Enable
As tested, the system used a Supermicro SuperChassis 743TQ-865B-SQ chassis.
The chassis is configured with a PWS-865-PQ power supply, 2 SNK-P0050AP4 heatsink,
as well as 2 FAN-0104L4 chassis fan & 1 FAN-0103L4 rear cooling fan.
Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on X10DAL-01 Fri Mar 20 16:42:37 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
```

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECint_rate2006 =   1230

SPECint_rate_base2006 = 1190

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Platform Notes (Continued)

```
    model name : Intel(R) Xeon(R) CPU E5-2697 v3 @ 2.60GHz
       2 "physical id"s (chips)
       56 "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 : 7
       siblings  : 14
       physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
       physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
    cache size : 17920 KB

  From /proc/meminfo
    MemTotal:       131738332 kB
    HugePages_Total:       0
    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 Server 7.0 (Maipo)"
       ANSI_COLOR="0;31"
       CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
    redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
    system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

  uname -a:
    Linux X10DAL-01 3.10.0-123.9.3.el7.x86_64 #1 SMP Thu Oct 30 00:16:40 EDT 2014
    x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Mar 20 16:28

  SPEC is set to: /usr/cpu2006
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda2       xfs   183G  5.3G  178G   3% /
  Additional information from dmidecode:

    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. 1.0 03/06/2015
   Memory:
    8x Samsung (date:14/5q) M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz

  (End of data from sysinfo program)
```

SPEC CINT2006 Result

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECint_rate2006 =   1230

SPECint_rate_base2006 = 1190

CPU2006 license: 001176		**Test date:**	Mar-2015
Test sponsor: Supermicro		**Hardware Availability:**	Sep-2014
Tested by: Supermicro		**Software Availability:**	Sep-2014

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"

 Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
 memory using RedHat EL 7.0
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/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>
```

Base Compiler Invocation

C benchmarks:
```
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

C++ benchmarks:
```
icpc -m32 -L/opt/intel/composer_xe_2015/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/sh -lsmartheap
```

Base Other Flags

C benchmarks:

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

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECint_rate2006 = 1230

SPECint_rate_base2006 = 1190

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Mar-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc -m32 -L/opt/intel/composer_xe_2015/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/composer_xe_2015/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`

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`

Continued on next page

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECint_rate2006 =   1230

SPECint_rate_base2006 = 1190

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Mar-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

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/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-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revG.20141230.00.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revG.20141230.00.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 Tue Jun 30 16:17:44 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 30 June 2015.