



SPEC® CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M4 (Intel Xeon E5-2650L v4 1.70 GHz)

SPECint®2006 = 53.0

SPECint_base2006 = 51.2

CPU2006 license: 9019

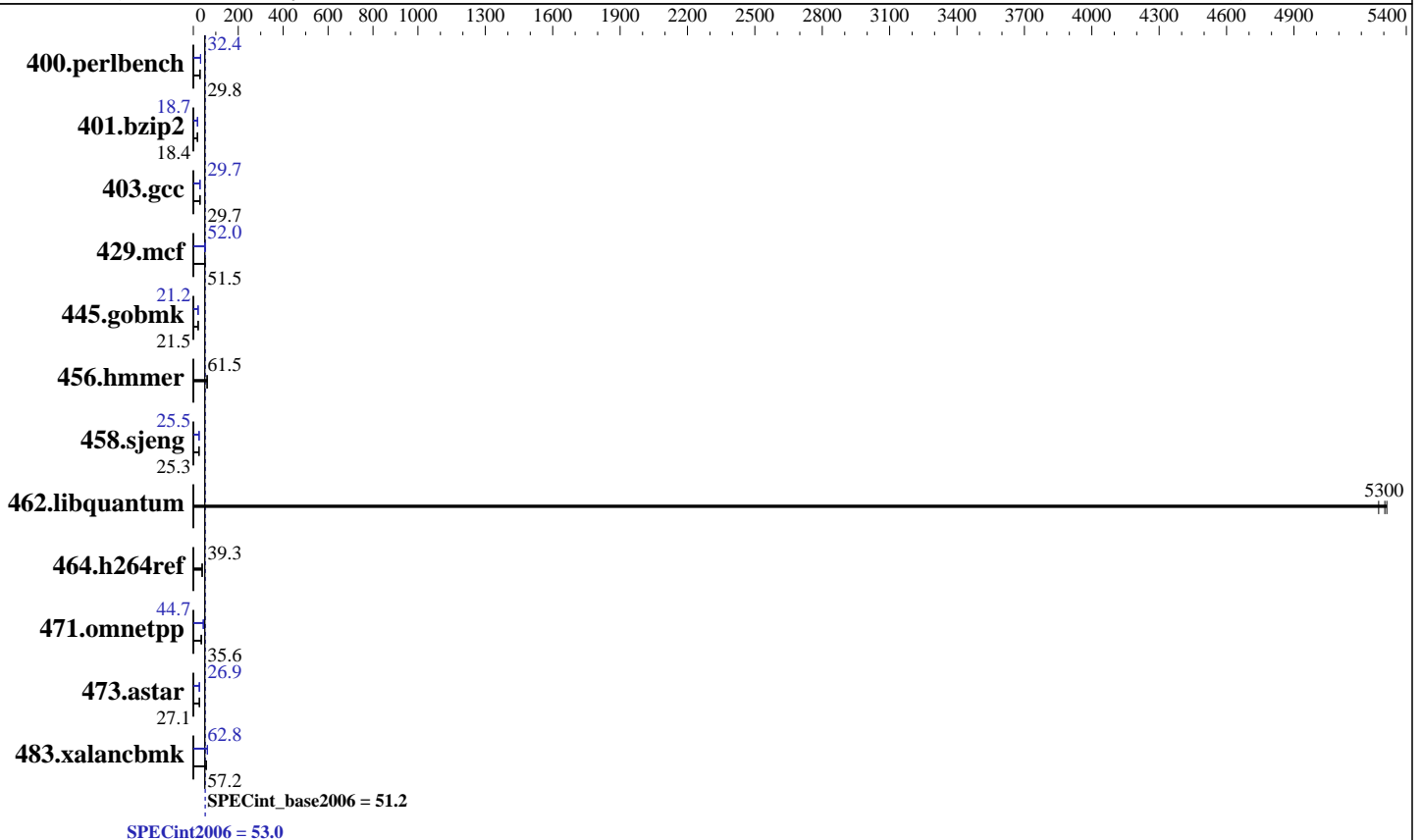
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Nov-2016

Hardware Availability: Apr-2016

Software Availability: Dec-2015



Hardware

CPU Name: Intel Xeon E5-2650L v4
CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz: 1700
FPU: Integrated
CPU(s) enabled: 28 cores, 2 chips, 14 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: 35 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R)
Disk Subsystem: 1 x 400 GB SAS SSD
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 12 SP1 (x86_64) 3.12.49-11-default
Compiler: C/C++; Version 16.0.0.101 of Intel C++ Studio XE for Linux
Auto Parallel: Yes
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M4 (Intel Xeon E5-2650L v4 1.70 GHz)

SPECint2006 = **53.0**

SPECint_base2006 = **51.2**

CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Test date: Nov-2016
Hardware Availability: Apr-2016
Software Availability: Dec-2015

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	328	29.8	<u>328</u>	<u>29.8</u>	330	29.6	301	32.4	303	32.3	<u>302</u>	<u>32.4</u>
401.bzip2	<u>524</u>	<u>18.4</u>	524	18.4	527	18.3	<u>516</u>	<u>18.7</u>	517	18.7	516	18.7
403.gcc	271	29.7	<u>271</u>	<u>29.7</u>	271	29.7	271	29.7	<u>271</u>	<u>29.7</u>	272	29.6
429.mcf	<u>177</u>	<u>51.5</u>	177	51.6	178	51.2	175	52.1	176	51.9	<u>176</u>	<u>52.0</u>
445.gobmk	489	21.5	<u>489</u>	<u>21.5</u>	489	21.4	<u>495</u>	<u>21.2</u>	495	21.2	495	21.2
456.hammer	151	61.6	<u>152</u>	<u>61.5</u>	152	61.5	151	61.6	<u>152</u>	<u>61.5</u>	152	61.5
458.sjeng	479	25.2	479	25.3	<u>479</u>	<u>25.3</u>	<u>474</u>	<u>25.5</u>	474	25.5	473	25.6
462.libquantum	3.93	5280	<u>3.91</u>	<u>5300</u>	3.90	5310	3.93	5280	<u>3.91</u>	<u>5300</u>	3.90	5310
464.h264ref	564	39.2	<u>563</u>	<u>39.3</u>	562	39.4	564	39.2	<u>563</u>	<u>39.3</u>	562	39.4
471.omnetpp	173	36.2	180	34.8	<u>175</u>	<u>35.6</u>	140	44.6	140	44.7	<u>140</u>	<u>44.7</u>
473.astar	<u>259</u>	<u>27.1</u>	260	27.0	259	27.1	262	26.8	260	27.0	<u>261</u>	<u>26.9</u>
483.xalancbmk	<u>121</u>	<u>57.2</u>	120	57.4	121	57.1	<u>110</u>	<u>62.8</u>	110	62.9	110	62.7

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS Settings:

```

Intel Hyper-Threading Technology option set to Disabled
CPU performance set to Enterprise
Power Technology set to Energy Efficient
Energy Performance BIAS setting set to Balanced Performance
Memory RAS configuration set to Maximum Performance
Memory Power Saving Mode set to Disabled
QPI Snoop Mode set to Home Directory Snoop with OSB
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on linux-4tt4 Mon Nov 28 10:01:10 2016

```

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
model name : Intel(R) Xeon(R) CPU E5-2650L v4@ 1.70GHz
2 "physical id"s (chips)

```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M4 (Intel Xeon E5-2650L v4 1.70 GHz)

SPECint2006 = 53.0

SPECint_base2006 = 51.2

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Nov-2016

Hardware Availability: Apr-2016

Software Availability: Dec-2015

Platform Notes (Continued)

28 "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 : 14
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 : 35840 KB
```

```
From /proc/meminfo
MemTotal:      264568448 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

From /etc/*release* /etc/*version*

```
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 1
# This file is deprecated and will be removed in a future service pack or
release.
# Please check /etc/os-release for details about this release.
os-release:
NAME="SLES"
VERSION="12-SP1"
VERSION_ID="12.1"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp1"
```

```
uname -a:
Linux linux-4tt4 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015
(8d714a0) x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Nov 27 21:33
```

```
SPEC is set to: /opt/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal        xfs   372G  14G  358G   4% /
```

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 Cisco Systems, Inc. C240M4.2.0.13d.0.0812161132 08/12/2016

Memory:
16x 0xCE00 M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz
8x NO DIMM NO DIMM

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M4 (Intel Xeon E5-2650L v4 1.70 GHz)

SPECint2006 = 53.0

SPECint_base2006 = 51.2

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Nov-2016

Hardware Availability: Apr-2016

Software Availability: Dec-2015

Platform Notes (Continued)

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=fine,compact,1,0"

LD_LIBRARY_PATH = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64:/opt/cpu2006-1.2/sh"

OMP_NUM_THREADS = "28"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M4 (Intel Xeon E5-2650L v4 1.70 GHz)

SPECint2006 = 53.0

SPECint_base2006 = 51.2

CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Test date: Nov-2016
Hardware Availability: Apr-2016
Software Availability: Dec-2015

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

445.gobmk: icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

C++ benchmarks (except as noted below):

icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -DSPEC_CPU_LP64

429.mcf: -DSPEC_CPU_LP64

445.gobmk: -D_FILE_OFFSET_BITS=64

456.hmmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

464.h264ref: -DSPEC_CPU_LP64

471.omnetpp: -D_FILE_OFFSET_BITS=64

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch
-ansi-alias

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div
-par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M4 (Intel Xeon E5-2650L v4 1.70 GHz)

SPECint2006 = 53.0

SPECint_base2006 = 51.2

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Nov-2016

Hardware Availability: Apr-2016

Software Availability: Dec-2015

Peak Optimization Flags (Continued)

401.bzip2 (continued):

-opt-prefetch -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc

-opt-malloc-options=3 -auto-ilp32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel

-opt-prefetch -auto-p32

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)

-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias

456.hmmr: basepeak = yes

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)

-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)

-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)

-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)

-par-num-threads=1(pass 1) -prof-use(pass 2)

-opt-ra-region-strategy=block

-ansi-alias

-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

-ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

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/Cisco-Platform-Settings-V1.2-revE.html>



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C240 M4 (Intel Xeon E5-2650L v4 1.70 GHz)

SPECint2006 = 53.0

SPECint_base2006 = 51.2

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Nov-2016

Hardware Availability: Apr-2016

Software Availability: Dec-2015

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/Cisco-Platform-Settings-V1.2-revE.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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 Dec 28 10:50:44 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 27 December 2016.