



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B420 M4 (Intel Xeon E5-4667 v3, 2.00 GHz)

**SPECint®\_rate2006 = 2280**

**SPECint\_rate\_base2006 = 2200**

CPU2006 license: 9019

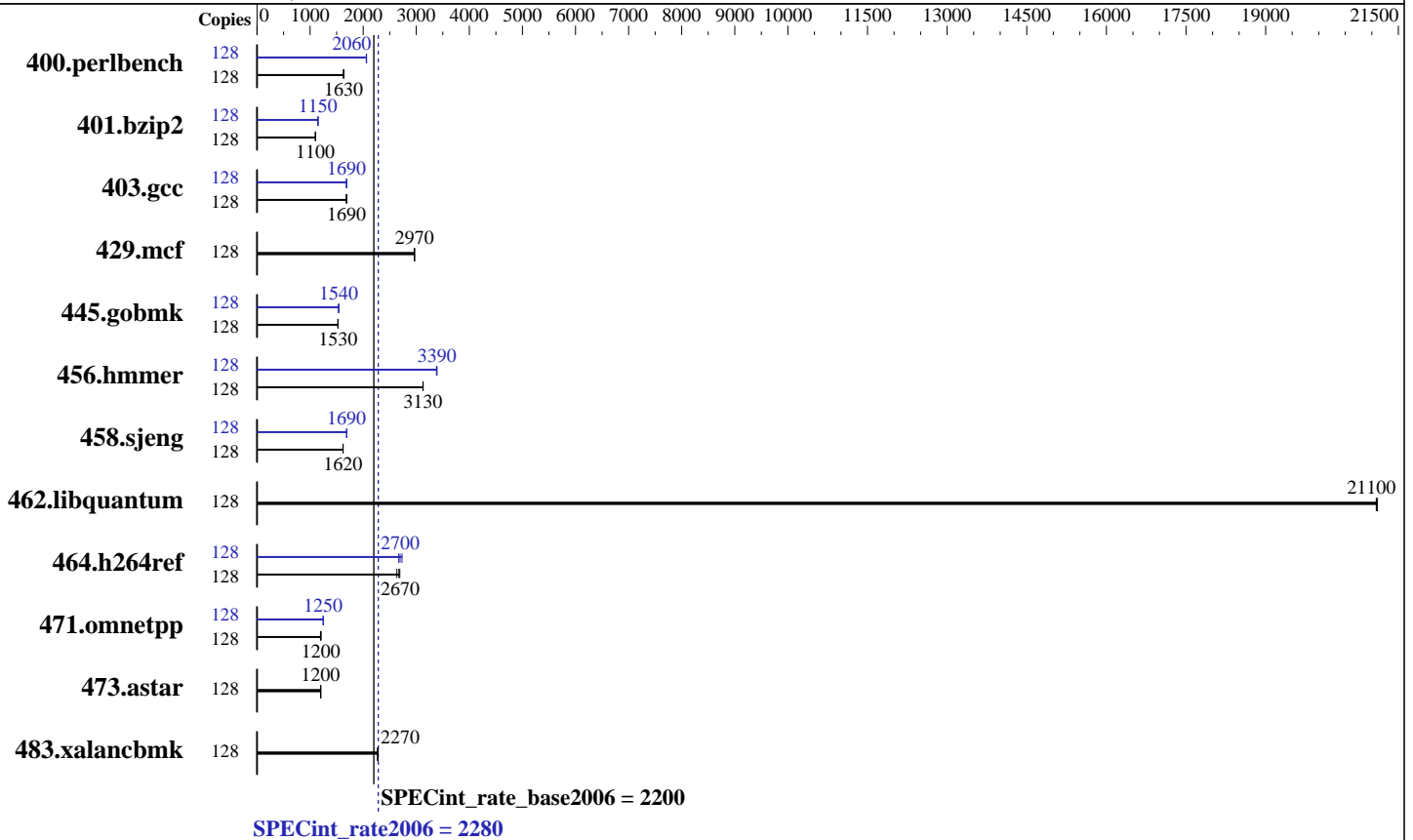
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Jul-2015

Hardware Availability: Jun-2015

Software Availability: Nov-2014



### Hardware

CPU Name: Intel Xeon E5-4667 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 64 cores, 4 chips, 16 cores/chip, 2 threads/core  
 CPU(s) orderable: 2,4 chip  
 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: 512 GB (32 x 16 GB 2Rx4 PC4-2133P-R)  
 Disk Subsystem: 1 x 300 GB SAS, 15K RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 12 (x86\_64)  
 3.12.28-4-default  
 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

## Cisco Systems

Cisco UCS B420 M4 (Intel Xeon E5-4667 v3, 2.00 GHz)

SPECint\_rate2006 = 2280

SPECint\_rate\_base2006 = 2200

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

Test date: Jul-2015  
Hardware Availability: Jun-2015  
Software Availability: Nov-2014

## Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	128	765	1630	768	1630	<b>766</b>	<b>1630</b>	128	606	2060	<b>607</b>	<b>2060</b>	607	2060
401.bzip2	128	1123	1100	1121	1100	<b>1122</b>	<b>1100</b>	128	1072	1150	1075	1150	<b>1075</b>	<b>1150</b>
403.gcc	128	609	1690	613	1680	<b>611</b>	<b>1690</b>	128	<b>611</b>	<b>1690</b>	609	1690	612	1680
429.mcf	128	394	2960	393	2970	<b>393</b>	<b>2970</b>	128	394	2960	393	2970	<b>393</b>	<b>2970</b>
445.gobmk	128	879	1530	<b>880</b>	<b>1530</b>	881	1520	128	872	1540	874	1540	<b>873</b>	<b>1540</b>
456.hammer	128	<b>382</b>	<b>3130</b>	381	3130	382	3130	128	353	3380	<b>352</b>	<b>3390</b>	352	3390
458.sjeng	128	956	1620	<b>955</b>	<b>1620</b>	955	1620	128	916	1690	917	1690	<b>917</b>	<b>1690</b>
462.libquantum	128	<b>126</b>	<b>21100</b>	126	21100	126	21100	128	<b>126</b>	<b>21100</b>	126	21100	126	21100
464.h264ref	128	1075	2630	1053	2690	<b>1060</b>	<b>2670</b>	128	1037	2730	<b>1051</b>	<b>2700</b>	1061	2670
471.omnetpp	128	669	1200	<b>665</b>	<b>1200</b>	664	1210	128	<b>642</b>	<b>1250</b>	642	1250	640	1250
473.astar	128	<b>749</b>	<b>1200</b>	750	1200	747	1200	128	<b>749</b>	<b>1200</b>	750	1200	747	1200
483.xalancbmk	128	389	2270	<b>389</b>	<b>2270</b>	387	2280	128	389	2270	<b>389</b>	<b>2270</b>	387	2280

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 Configuraton:  
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  
LV DDR Mode set to Performance-mode  
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6914  
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on linux-616o Thu Jul 9 13:52:57 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  
model name : Intel(R) Xeon(R) CPU E5-4667 v3 @ 2.00GHz  
4 "physical id"s (chips)

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B420 M4 (Intel Xeon E5-4667 v3, 2.00 GHz)

SPECint\_rate2006 = 2280

SPECint\_rate\_base2006 = 2200

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

**Test date:** Jul-2015  
**Hardware Availability:** Jun-2015  
**Software Availability:** Nov-2014

### Platform Notes (Continued)

128 "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
physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size : 40960 KB
```

```
From /proc/meminfo
MemTotal:      529325812 kB
HugePages_Total:      0
Hugepagesize:   2048 kB
```

```
From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 0
# 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"
VERSION_ID="12"
PRETTY_NAME="SUSE Linux Enterprise Server 12"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12"
```

```
uname -a:
Linux linux-616o 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014
(9879bd4) x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jul 9 13:51
```

```
SPEC is set to: /opt/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdc2       xfs   250G  11G  240G   5% /
```

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. B420M4.2.2.5.0.043020152304 04/30/2015  
Memory:

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B420 M4 (Intel Xeon E5-4667 v3, 2.00 GHz)

SPECint\_rate2006 = 2280

SPECint\_rate\_base2006 = 2200

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

Test date: Jul-2015  
Hardware Availability: Jun-2015  
Software Availability: Nov-2014

## Platform Notes (Continued)

32x 0xCE00 M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz  
16x NO DIMM NO DIMM

(End of data from sysinfo program)

## General Notes

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

LD\_LIBRARY\_PATH = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64:/opt/cpu2006-1.2/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



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B420 M4 (Intel Xeon E5-4667 v3, 2.00 GHz)

SPECint\_rate2006 = 2280

SPECint\_rate\_base2006 = 2200

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

**Test date:** Jul-2015  
**Hardware Availability:** Jun-2015  
**Software Availability:** Nov-2014

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## 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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B420 M4 (Intel Xeon E5-4667 v3, 2.00 GHz)

**SPECint\_rate2006 = 2280**

**SPECint\_rate\_base2006 = 2200**

**CPU2006 license:** 9019

**Test sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test date:** Jul-2015

**Hardware Availability:** Jun-2015

**Software Availability:** Nov-2014

## Peak Optimization Flags (Continued)

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.hmmcr: -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/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/Cisco-Platform-Settings-V1.2-revC.20150729.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/Cisco-Platform-Settings-V1.2-revC.20150729.xml>



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B420 M4 (Intel Xeon E5-4667 v3, 2.00 GHz)

SPECint\_rate2006 = 2280

SPECint\_rate\_base2006 = 2200

**CPU2006 license:** 9019

**Test sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test date:** Jul-2015

**Hardware Availability:** Jun-2015

**Software Availability:** Nov-2014

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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Jul 29 12:11:27 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 28 July 2015.