



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

SPECint®_rate2006 = 439

Cisco UCS B22 M3 (Intel Xeon E5-2420 v2, 2.20 GHz)

SPECint_rate_base2006 = 423

CPU2006 license: 9019

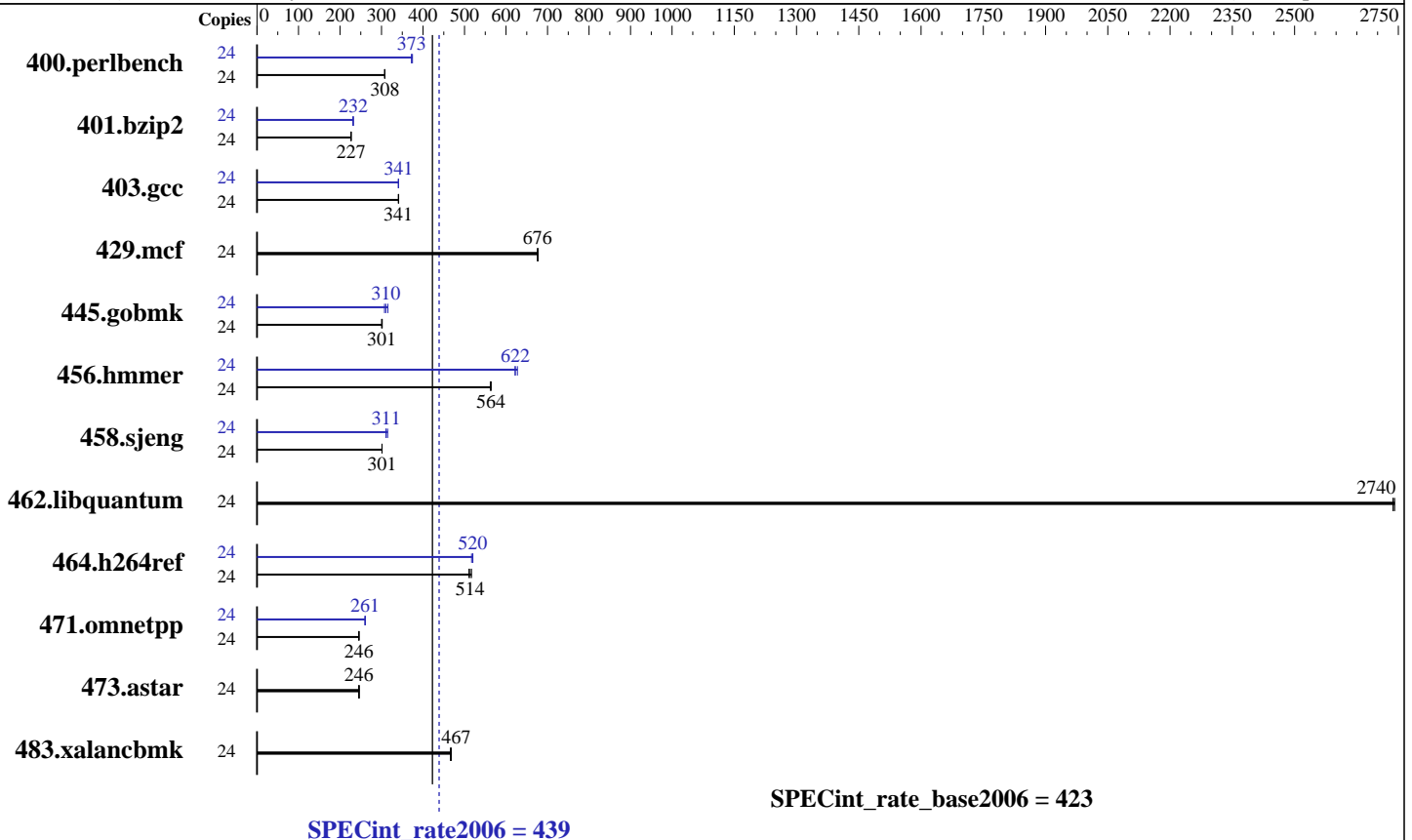
Test date: Jun-2014

Test sponsor: Cisco Systems

Hardware Availability: Jun-2014

Tested by: Cisco Systems

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2420 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.70 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 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: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 96 GB (12 x 8 GB 2Rx4 PC3L-12800R-11, ECC)
 Disk Subsystem: 1 X 146 GB 15000 RPM SAS
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
 2.6.32-431.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 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 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

SPECint_rate2006 = 439

Cisco UCS B22 M3 (Intel Xeon E5-2420 v2, 2.20 GHz)

SPECint_rate_base2006 = 423

CPU2006 license: 9019

Test date: Jun-2014

Test sponsor: Cisco Systems

Hardware Availability: Jun-2014

Tested by: Cisco Systems

Software Availability: Sep-2013

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	<u>762</u>	<u>308</u>	763	307	761	308	24	630	372	<u>629</u>	<u>373</u>	626	375
401.bzip2	24	<u>1022</u>	<u>227</u>	1021	227	1022	227	24	998	232	1002	231	<u>998</u>	<u>232</u>
403.gcc	24	567	341	566	341	<u>567</u>	<u>341</u>	24	<u>567</u>	<u>341</u>	567	341	567	341
429.mcf	24	323	677	<u>324</u>	<u>676</u>	324	676	24	323	677	<u>324</u>	<u>676</u>	324	676
445.gobmk	24	834	302	<u>837</u>	<u>301</u>	838	300	24	819	307	<u>811</u>	<u>310</u>	798	315
456.hammer	24	<u>397</u>	<u>564</u>	398	562	397	564	24	360	622	<u>360</u>	<u>622</u>	357	627
458.sjeng	24	964	301	965	301	<u>964</u>	<u>301</u>	24	<u>933</u>	<u>311</u>	935	311	923	315
462.libquantum	24	182	2740	181	2740	<u>182</u>	<u>2740</u>	24	182	2740	181	2740	<u>182</u>	<u>2740</u>
464.h264ref	24	1040	511	<u>1034</u>	<u>514</u>	1028	517	24	<u>1022</u>	<u>520</u>	1027	517	1021	520
471.omnetpp	24	613	245	<u>611</u>	<u>246</u>	609	246	24	574	261	577	260	<u>575</u>	<u>261</u>
473.astar	24	688	245	<u>686</u>	<u>246</u>	683	247	24	688	245	<u>686</u>	<u>246</u>	683	247
483.xalancbmk	24	355	466	354	468	<u>355</u>	<u>467</u>	24	355	466	354	468	<u>355</u>	<u>467</u>

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

```

Intel HT Technology = Enabled
CPU performance set to HPC
Power Technology set to Custom
CPU Power State C6 set to Disabled
CPU Power State C1 Enhanced set to Disabled
Memory RAS configuration set to Maximum Performance
DRAM Clock Throttling Set to Performance
Sysinfo program /opt/cpu2006-1.4/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on B22M3 Fri Jun 27 22:01:28 2014

```

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 E5-2420 v2 @ 2.20GHz
Continued on next page

```



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

SPECint_rate2006 = 439

Cisco UCS B22 M3 (Intel Xeon E5-2420 v2, 2.20 GHz)

SPECint_rate_base2006 = 423

CPU2006 license: 9019

Test date: Jun-2014

Test sponsor: Cisco Systems

Hardware Availability: Jun-2014

Tested by: Cisco Systems

Software Availability: Sep-2013

Platform Notes (Continued)

```

2 "physical id"s (chips)
24 "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 : 6
siblings  : 12
physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
cache size : 15360 KB

From /proc/meminfo
MemTotal:      99006376 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
Linux B22M3 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013 x86_64
x86_64 x86_64 GNU/Linux

run-level 3 Jun 27 14:25

SPEC is set to: /opt/cpu2006-1.4
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal        ext4  134G   11G  117G   9% /

Additional information from dmidecode:
BIOS Cisco Systems, Inc. B22M3.2.2.1.8.042120141915 04/21/2014
Memory:
12x 0xCE00 M393B1K70DH0-YK0 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)

```

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/opt/cpu2006-1.4/libs/32:/opt/cpu2006-1.4/libs/64:/opt/cpu2006-1.4/sh"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RedHat EL 6.4

Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

Filesystem page cache cleared with:

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

SPECint_rate2006 = 439

Cisco UCS B22 M3 (Intel Xeon E5-2420 v2, 2.20 GHz)

SPECint_rate_base2006 = 423

CPU2006 license: 9019

Test date: Jun-2014

Test sponsor: Cisco Systems

Hardware Availability: Jun-2014

Tested by: Cisco Systems

Software Availability: Sep-2013

General Notes (Continued)

```
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

C++ benchmarks:
icpc -m32

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -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

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

SPECint_rate2006 = 439

Cisco UCS B22 M3 (Intel Xeon E5-2420 v2, 2.20 GHz)

SPECint_rate_base2006 = 423

CPU2006 license: 9019

Test date: Jun-2014

Test sponsor: Cisco Systems

Hardware Availability: Jun-2014

Tested by: Cisco Systems

Software Availability: Sep-2013

Peak Compiler Invocation (Continued)

456.hmmr: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

401.bzip2: -DSPEC_CPU_LP64

456.hmmr: -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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmr: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Cisco Systems

SPECint_rate2006 = 439

Cisco UCS B22 M3 (Intel Xeon E5-2420 v2, 2.20 GHz)

SPECint_rate_base2006 = 423

CPU2006 license: 9019

Test date: Jun-2014

Test sponsor: Cisco Systems

Hardware Availability: Jun-2014

Tested by: Cisco Systems

Software Availability: Sep-2013

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xSSE4.2(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-ic14.0-official-linux64.20140128.html>
<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revB.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>
<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revB.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 Sep 24 16:18:40 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 24 September 2014.