

SPEC® OMPG2012 Result

Copyright 2012-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C220 M4 (Intel Xeon E5-2699 v3 @ 2.30 GHz)

SPECompG_peak2012 = 10.3

SPECompG_base2012 = 9.67

OMP2012 license:9019

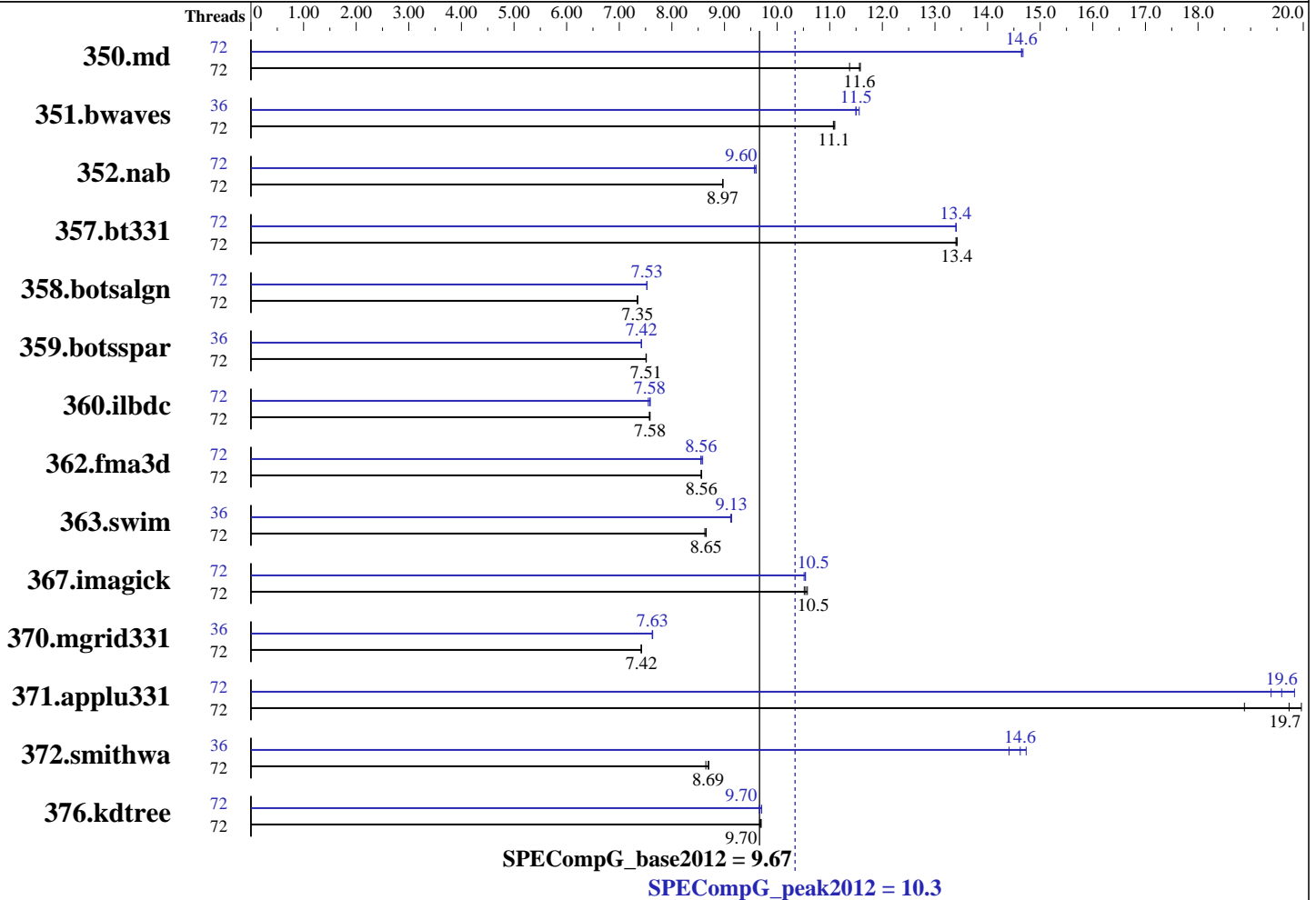
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Aug-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2013



Hardware

CPU Name: Intel Xeon E5-2699 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.6 GHz
 CPU MHz: 2300
 CPU MHz Maximum: 3600
 FPU: Integrated
 CPU(s) enabled: 36 cores, 2 chips, 18 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: 45 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-17000R-15, ECC)
 Disk Subsystem: 1 X 300GB SAS, 15K RPM
 Other Hardware: --
 Base Threads Run: 72
 Minimum Peak Threads: 36

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 11 SP3 (x86_64)
 Compiler: C/C++/Fortran: Version 13.1.3 of Intel Composer XE for Linux Build 20130607
 Auto Parallel: No
 File System: ext3
 System State: Default
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other Software: Kernel 3.0.76-0.11-default

SPEC OMPG2012 Result

Copyright 2012-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C220 M4 (Intel Xeon E5-2699 v3 @ 2.30 GHz)

SPECompG_peak2012 = 10.3

SPECompG_base2012 = 9.67

OMP2012 license:9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Aug-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2013

Maximum Peak Threads: 72

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	72	400	11.6	400	11.6	407	11.4	72	316	14.6	316	14.6	316	14.7
351.bwaves	72	408	11.1	409	11.1	409	11.1	36	394	11.5	392	11.6	394	11.5
352.nab	72	434	8.97	434	8.97	434	8.97	72	405	9.60	407	9.57	405	9.60
357.bt331	72	353	13.4	353	13.4	354	13.4	72	354	13.4	354	13.4	354	13.4
358.botsalgn	72	592	7.35	592	7.35	592	7.35	72	578	7.53	578	7.53	578	7.53
359.botsspar	72	699	7.52	699	7.51	699	7.51	36	708	7.42	707	7.42	707	7.42
360.ilbdc	72	469	7.58	469	7.58	470	7.57	72	469	7.59	471	7.55	470	7.58
362.fma3d	72	444	8.57	444	8.55	444	8.56	72	444	8.56	444	8.55	443	8.59
363.swim	72	524	8.65	523	8.65	525	8.63	36	496	9.14	496	9.13	497	9.12
367.imagick	72	665	10.6	667	10.5	669	10.5	72	667	10.5	669	10.5	667	10.5
370.mgrid331	72	596	7.42	596	7.42	596	7.42	36	579	7.64	579	7.63	579	7.63
371.applu331	72	307	19.7	321	18.9	304	20.0	72	313	19.4	306	19.8	309	19.6
372.smithwa	72	620	8.65	617	8.69	616	8.70	36	367	14.6	372	14.4	364	14.7
376.kdtree	72	464	9.70	464	9.70	465	9.67	72	466	9.66	464	9.71	464	9.70

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

Platform Notes

```
Sysinfo program /opt/omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on speccompsles Mon Aug 25 09:20:41 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/omp2012/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2699 v3 @ 2.30GHz
 2 "physical id"s (chips)
 72 "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 : 18
siblings : 36
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
cache size : 46080 KB
```

```
From /proc/meminfo
MemTotal: 264567956 kB
```

Continued on next page

SPEC OMPG2012 Result

Copyright 2012-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C220 M4 (Intel Xeon E5-2699 v3 @ 2.30 GHz)

SPECompG_peak2012 = 10.3

SPECompG_base2012 = 9.67

OMP2012 license:9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Aug-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2013

Platform Notes (Continued)

HugePages_Total: 0
Hugepagesize: 2048 kB

```
/usr/bin/lsb_release -d  
SUSE Linux Enterprise Server 11 (x86_64)
```

```
From /etc/*release* /etc/*version*  
SuSE-release:  
SUSE Linux Enterprise Server 11 (x86_64)  
VERSION = 11  
PATCHLEVEL = 3
```

```
uname -a:  
Linux speccompsles 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013  
(ccab990) x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Aug 25 09:05 last=S
```

```
SPEC is set to: /opt/omp2012  
Filesystem      Type  Size  Used Avail Use% Mounted on  
/dev/sdal       ext3  275G  154G  107G  60% /
```

```
Additional information from dmidecode:  
BIOS Cisco Systems, Inc. C220M4.2.0.2.67.072320142036 07/23/2014  
Memory:  
16x 0xCE00 M393A2G40DB0-CPB 16 GB 2133 MHz  
8x NO DIMM NO DIMM
```

(End of data from sysinfo program)

General Notes

=====
BIOS settings notes:

```
Intel Turbo Boost Technology (Turbo) : Enabled  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/transparent_hugepage/enabled  
CPU performance set to HPC  
Processor Power State C6 set to Disabled  
Power Technology set to Custom  
Memory RAS configuration set to Maximum Performance  
Energy Performance BIAS setting set to Balanced Performance  
Cluster on Die set to Disabled
```

=====
General OMP Library Settings

```
ENV_KMP_LIBRARY=turnaround  
ENV_KMP_STACKSIZE=186M  
ENV_KMP_BLOCKTIME=infinite  
ENV_OMP_DYNAMIC=FALSE  
ENV_OMP_NESTED=FALSE  
ENV_OMP_WAIT_POLICY=ACTIVE
```

Continued on next page

SPEC OMPG2012 Result

Copyright 2012-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C220 M4 (Intel Xeon E5-2699 v3 @ 2.30 GHz)

SPECompG_peak2012 = 10.3

SPECompG_base2012 = 9.67

OMP2012 license:9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Aug-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2013

General Notes (Continued)

=====
General base OMP Library Settings

ENV_KMP_AFFINITY=compact,0

=====
General peak OMP Library Settings

ENV_KMP_AFFINITY=compact,0

=====
Per benchmark peak OMP Library Settings

=====
351.bwaves:peak:

ENV_KMP_AFFINITY=compact,1

ENV_OMP_SCHEDULE=static,1

=====
362.fma3d:peak:

ENV_KMP_AFFINITY=compact,1

ENV_OMP_SCHEDULE=guided

=====
ENV_OMP_SCHEDULE=static,1

=====
363.swim:peak:

ENV_KMP_AFFINITY=compact,1

=====
372.smithwa:peak:

ENV_KMP_AFFINITY=compact,1

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Base Portability Flags

350.md: -FR

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4

SPEC OMPG2012 Result

Copyright 2012-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C220 M4 (Intel Xeon E5-2699 v3 @ 2.30 GHz)

SPECompG_peak2012 = 10.3

SPECompG_base2012 = 9.67

OMP2012 license:9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Aug-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2013

Base Portability Flags (Continued)

357.bt331: -mmodel=medium
363.swim: -mmodel=medium
367.imagick: -std=c99

Base Optimization Flags

C benchmarks:
-O3 -openmp -ipo -xAVX -ansi-alias

C++ benchmarks:
-O3 -openmp -ipo -xAVX -ansi-alias

Fortran benchmarks:
-O3 -openmp -ipo -xAVX -align array64byte

Peak Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Peak Portability Flags

350.md: -FR
357.bt331: -mmodel=medium
363.swim: -mmodel=medium
367.imagick: -std=c99

Peak Optimization Flags

C benchmarks:
352.nab: -O3 -openmp -ipo -xAVX -fno-alias -opt-malloc-options=1
-opt-calloc -fp-model fast=2 -no-prec-div -no-prec-sqrt
-ansi-alias

Continued on next page

SPEC OMPG2012 Result

Copyright 2012-2014 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C220 M4 (Intel Xeon E5-2699 v3 @ 2.30 GHz)

SPECompG_peak2012 = 10.3

SPECompG_base2012 = 9.67

OMP2012 license:9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Aug-2014

Hardware Availability: Sep-2014

Software Availability: Jun-2013

Peak Optimization Flags (Continued)

358.botsalgn: -O3 -openmp -ipo -xSSE4.2 -fno-alias -ansi-alias

359.botsspar: -O3 -openmp -ipo -xAVX -fno-alias -ansi-alias

367.imagick: -O2 -openmp -ipo -xAVX -ansi-alias

372.smithwa: -O2 -openmp -ipo -xSSE4.2 -fno-alias
-opt-streaming-stores always -opt-malloc-options=1
-ansi-alias

C++ benchmarks:

-O3 -openmp -ipo -xAVX -fno-alias -ansi-alias

Fortran benchmarks:

350.md: -O2 -openmp -ipo -xAVX -fno-alias -opt-malloc-options=1
-fp-model fast=2 -no-prec-div -no-prec-sqrt
-align array64byte

351.bwaves: -O3 -openmp -ipo -xAVX -fno-alias -fp-model fast=2
-no-prec-div -no-prec-sqrt -align array64byte

357.bt331: Same as 351.bwaves

360.ilbdc: -O3 -openmp -ipo -xAVX -opt-malloc-options=1
-align array64byte

362.fma3d: -O3 -openmp -ipo -xAVX -fno-alias -align array64byte

363.swim: -O3 -openmp -ipo -xSSE4.2 -fno-alias
-opt-streaming-stores always -opt-malloc-options=3
-align array64byte

370.mgrid331: -O2 -openmp -ipo -xSSE4.2 -fno-alias
-opt-malloc-options=3 -align array64byte

371.applu331: -O2 -openmp -ipo -xAVX -align array64byte

SPEC is a registered trademark 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 OMP2012 v1.0.
Report generated on Tue Aug 26 07:52:59 2014 by SPEC OMP2012 PS/PDF formatter v1890.