



SPEC® OMPG2012 Result

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Hewlett Packard Enterprise

(Test Sponsor: Indiana University)

SPECompG_peak2012 = Not Run

Apollo 70
(Marvell ThunderX2 CN9980 v2.1, 2.20GHz)

SPECompG_base2012 = 7.44

OMP2012 license:3440A

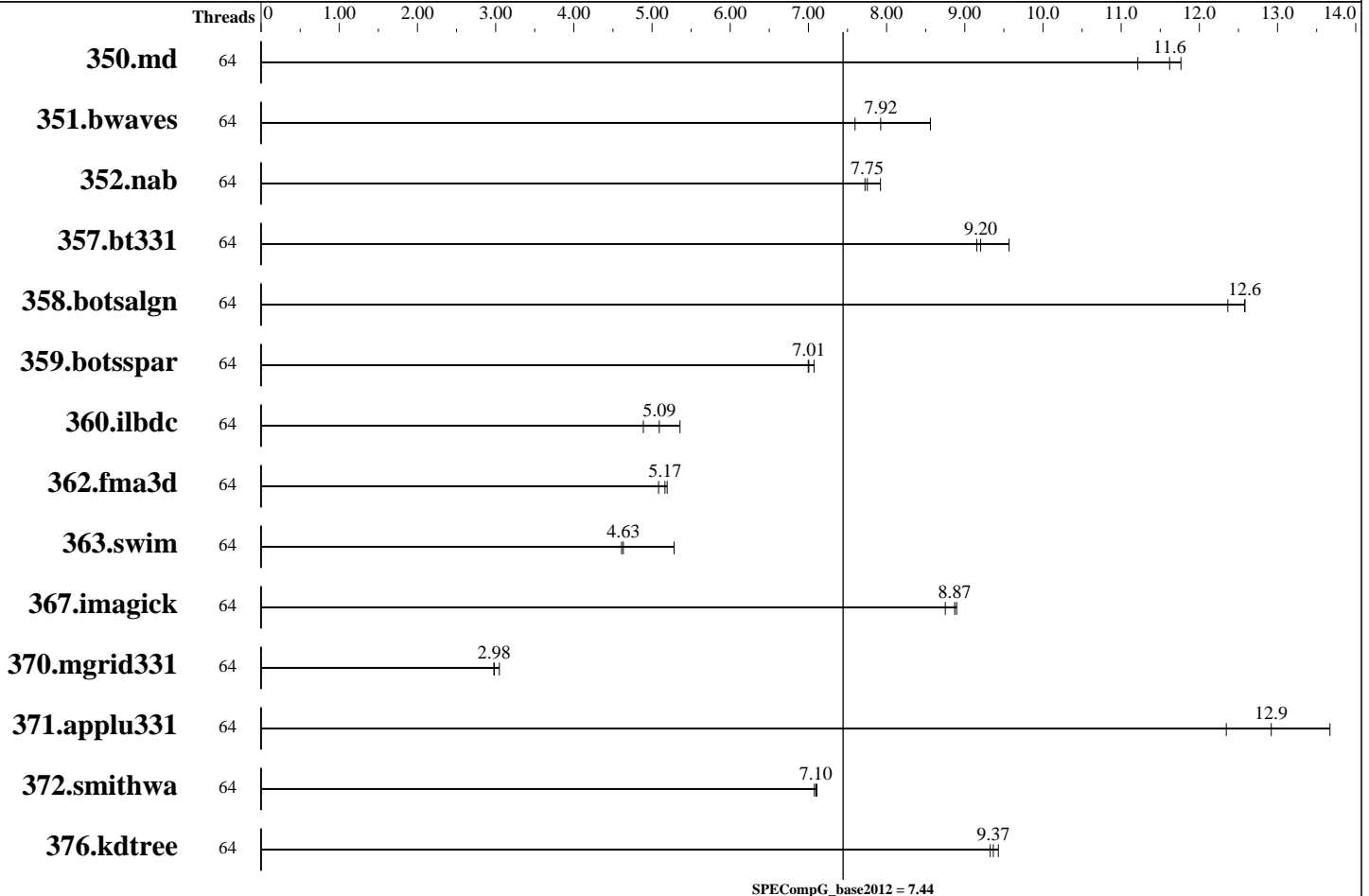
Test date: Jul-2019

Test sponsor: Indiana University

Hardware Availability: Jun-2019

Tested by: Indiana University

Software Availability: Jun-2019



Hardware

CPU Name: Cavium ThunderX2 CN9980 v2.1
 CPU Characteristics: 4-way SMT on, Turbo on
 CPU MHz: 2200
 CPU MHz Maximum: 2500
 FPU: Integrated
 CPU(s) enabled: 64 cores, 2 chips, 32 cores/chip, 4 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: 32 MB I+D on chip per core
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx8 PC4-2666V-RE2-12)
 Disk Subsystem: 1x(HPE VK000960GWSRT 960GB) SSD
 Other Hardware: None
 Base Threads Run: 64
 Minimum Peak Threads: --

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Software

Operating System: CentOS Linux release 7.6.1810 (AltArch)
 4.14.0-115.8.1.el7a.aarch64
 Compiler: C/C++/Fortran: Version 19.2 of ARM Compiler
 Build 155 (based on LLVM 7.1.0)
 Auto Parallel: No
 File System: XFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: Not Applicable
 Other Software: None



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Maximum Peak Threads: --

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	64	398	11.6	413	11.2	394	11.8							
351.bwaves	64	596	7.60	572	7.92	529	8.56							
352.nab	64	504	7.72	491	7.92	502	7.75							
357.bt331	64	496	9.57	518	9.15	515	9.20							
358.botsalgn	64	346	12.6	346	12.6	352	12.4							
359.botsspar	64	749	7.01	742	7.07	750	7.00							
360.ilbdc	64	664	5.36	728	4.89	699	5.09							
362.fma3d	64	747	5.08	732	5.19	736	5.17							
363.swim	64	858	5.28	978	4.63	982	4.61							
367.imagick	64	792	8.87	803	8.75	790	8.90							
370.mgrid331	64	1450	3.05	1482	2.98	1484	2.98							
371.applu331	64	469	12.9	443	13.7	491	12.3							
372.smithwa	64	755	7.10	757	7.08	754	7.11							
376.kdtree	64	483	9.33	481	9.37	477	9.43							

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

Platform Notes

Sysinfo program /home/lijunj/spec/omp2012-1.1/Docs/sysinfo
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)
running on armstrong.sca.iu.edu Tue Jul 9 19:52:06 2019

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

```

*
* Did not identify cpu model. If you would
* like to write your own sysinfo program, see
* www.spec.org/omp2012/config.html#sysinfo
*
*
* 0 "physical id" tags found. Perhaps this is an older system,
* or a virtualized system. Not attempting to guess how to
* count chips/cores for this system.
*

```

256 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

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Platform Notes (Continued)

From /proc/meminfo

MemTotal: 133322880 kB

HugePages_Total: 0

Hugepagesize: 524288 kB

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

centos-release: CentOS Linux release 7.6.1810 (AltArch)

centos-release-upstream: Derived from Red Hat Enterprise Linux 7.6 (Source)

os-release:

NAME="CentOS Linux"

VERSION="7 (AltArch)"

ID="centos"

ID_LIKE="rhel fedora"

VERSION_ID="7"

PRETTY_NAME="CentOS Linux 7 (AltArch)"

ANSI_COLOR="0;31"

CPE_NAME="cpe:/o:centos:centos:7"

redhat-release: CentOS Linux release 7.6.1810 (AltArch)

system-release: CentOS Linux release 7.6.1810 (AltArch)

system-release-cpe: cpe:/o:centos:centos:7

uname -a:

Linux armstrong.sca.iu.edu 4.14.0-115.8.1.el7a.aarch64 #1 SMP Wed Jun 5

15:01:21 UTC 2019 aarch64 aarch64 aarch64 GNU/Linux

run-level 3 Jul 2 15:36

SPEC is set to: /home/lijunj/spec/omp2012-1.1

Filesystem Type Size Used Avail Use% Mounted on

/dev/mapper/centos-root xfs 256G 75G 182G 30% /

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.

(End of data from sysinfo program)

General Notes

Environment Variables:

OMP_STACKSIZE=2G

ulimit -s unlimited

BIOS Info:

Version: L50_5.13_1.0.6

Release Date: 07/10/2018

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info@spec.org

http://www.spec.org/



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General Notes (Continued)

BIOS Settings:

Turbo/CPPC Mode: Autonomous Turbo

Spectre & Meltdown:

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

Base Compiler Invocation

C benchmarks:

armclang

C++ benchmarks:

armclang++

Fortran benchmarks:

armflang

Base Portability Flags

350.md: -Mfreeform
357.bt331: -mmodel=large
363.swim: -mmodel=large

Base Optimization Flags

C benchmarks:

-O3 -ffast-math -fopenmp -fsigned-char -mcpu=native

C++ benchmarks:

-O3 -ffast-math -fopenmp -mcpu=native

Fortran benchmarks:

-O3 -ffast-math -fopenmp -mcpu=native

The flags files that were used to format this result can be browsed at

http://www.spec.org/omp2012/flags/hpe_apollo70_bios.html

http://www.spec.org/omp2012/flags/arm_compiler.html



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

http://www.spec.org/omp2012/flags/hpe_apollo70_bios.xml

http://www.spec.org/omp2012/flags/arm_compiler.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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