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OpenNSL 3.4.1.6 Release Notes

Version 0.1

13-Oct-2017

Contents

1 Overview

This document provides a general description of the OpenNSL release. It also describes the supported platforms, API additions or changes, resolved issues and any relevant open issues.

OpenNSL 3.4.1.6 release adds support for the following:

- Upgrade SDK to 6.5.10. This includes updation of KAPS library to version: 1.4.13
- Updated Dell S6000/S6100 platforms to use Sonic kernel
- Add support for additional SOC properties
- Add support for LED programming APIs
- Add support for Arista 7260CX3 platform – Tomahawk 2 (BCM56970)

For product documentation, please refer to the 'doc/html/index.html' file in the OpenNSL package, or access the following URL: http://broadcom-switch.github.io/OpenNSL/doc/html/index.html.

2 Deliverables

2.1 Date of Delivery

OpenNSL version 3.4.1.6 is released on 13th Oct 2017. This is based on SDK version 6.5.10.

2.2 Distribution Method

OpenNSL is distributed via Broadcom's DOCSAFE and Broadcom's GitHub forums.

2.3 Items included in this release

Following are the items included in this release:

- OpenNSL library for supported platforms
- OpenNSL header files
- OpenNSL documentation
- OpenNSL example applications and supporting software.

3 Platform Support

This release contains support for the following platforms:

Platform	Broadcom Switching Silicon
Accton AS5712	Trident-II (BCM56854_A2)
Accton AS7712	Tomahawk (BCM56960)
Agema AG7648	Trident-II (BCM56854_A2)
Arista 7260CX3	Tomahawk 2 (BCM56970_B0)
Broadcom Q-MX reference platform	Qumran MX (BCM88375_A0)
Broadcom reference platform (SVK)	Trident+ (BCM56842_A1) Trident-II (BCM56850_A1) Tomahawk (BCM56960_A0, BCM56960_B0) Tomahawk2 (BCM56970_A0, BCM_56970_B0)
Celestica Redstone-XP	Trident-II (BCM56850_A1)
Celestica Smallstone-XP	Trident-II (BCM56850_A1)
Dell S6000	Trident-II (BCM56850_A1)
Dell S6100	Tomahawk (BCM56960_A0)
Facebook Wedge40	Trident-II (BCM56850_A1)
Facebook Wedge100	Tomahawk (BCM56960)

4 Application Support

The following table lists the support for various OpenNSL applications.

Release	BroadView	SAI
3.1	Y	Y
3.2.0	Y	Y
3.2.1	N	Y
3.3.0	N	N
3.4.1	N	Y

5 Module Support

The following table lists the support for various OpenNSL modules.

Module	XGS	DNX
l2	Y	Y
link	Y	Y

rx	Y	Y
tx	Y	Y
port	Y	Y
switch	Y	Y
vlan	Y	Y
stat	Y	Y
l3	Y	Y*(KBP)
stg	Y	Y
cosq	Y	Y
trunk	Y	Y
knet	Y	Y
tunnel	Y	Y
vxlan	Y	Y
mirror	Y	Y
policer	Y	Y
field	Y	Y
multicast	Y	Y
qos	Y	Y
mpls	Y	N
vswitch	NA**	Y

* Routing on DNX platforms is supported for customers having SLA with Broadcom.
** NA – Not applicable

6 Testing

The following table lists the high level testing done on OpenNSL API's using the sample applications.

Sample Application	XGS	DNX	Test description
L2 firewall	Y	Y	Verified L2 entry addition and deletion by checking the traffic from/to a destination. This application is also tested by booting it in warm boot mode.
Routing	Y	N	Created host and default routes and verified that traffic is routed as per the routes added. This application is also tested by booting it in warm boot mode. Note: Access to KBP module is required to run this application on DNX devices. Please contact Broadcom to get access to KBP module.
Trunk	Y	Y	Added few ports to a trunk and verified that the

			traffic is distributed across the trunk members. This application is also tested by booting it in warm boot mode.
KNET	Y	Y	Created a Linux interface that maps to a front panel port with a specified IP and net mask and verified the configured parameters from the Linux shell.
BST	Y	N	Verified display and clearing of basic BST counters.
sFlow	Y	N	Verified configuration, display of sFlow sampling rate along with the sampling of packets to CPU at configured rate.
Warm Boot	Y	N	Verified restarting of OpenNSL driver in Warm Boot mode and ensured that the L2, VLAN, Port and L3 state is retained without impacting data forwarding.
Field Processor – IP block	Y	Y	Verified configuration of field process QSET, rules, and actions to block traffic from specific range of source IPv4 addresses.
Field Processor – redirect	N	Y	Verified configuration of field process QSET, rules, actions to re-direct traffic and attach a counter to count the number of redirected packets.
VxLAN	Y	Y	Verified configuration of VxLAN tunnel, encapsulation and de-capsulation of a packet by sending traffic.
Statistics	Y	Y	Verified updating of port counters on sending traffic.
Packet Transmit	Y	Y	Transmitted desired number of pre-defined packets onto a port and verified that the packets are received correctly on the traffic generator connected to it.
Resource Manager	Y	Y	Verified the following RM functionality. • Display of RM profile • Able to add/delete L2 entry if both the port and VLAN belongs to the requested client. • Failed to add/delete L2 entry if the port or VLAN does not belong to the requested client. Updation of profile with the port list and VLAN list.
Mirror	Y	Y	Verified mirroring of traffic from a source port to a destination port.

Packet Reception	N	Y	Verified that the CPU destined packet is received by the CPU port by printing its content on the console.
Link Monitor	Y	Y	Verified that all the set of downlink ports follow the link state of uplink port.
Spanning Tree	Y	Y	Verified the following: • Configuration of spanning tree state. • Traffic behavior as per the configured spanning tree state.
Policer	Y	Y	Verified the following: • Creation of a simple two rate, three color policer. • Attaching policer to field processor rule • Marking of packets exceeding peak rate (to red color). • Attaching a stat counter for capturing “red” and “not red” packets
MPLS	Y	N	Verified the following: • Swap incoming MPLS label • Update TTL value • Push MPLS label with TTL update
Qos	Y	Y	Verified the following: • VLAN translation • Priority remarking • Priority to Traffic class mapping
Egress CoS queue	Y	Y	Verified the following: • Port shaping • Weighted queues • Strict priority queue

7 Issues resolved

ID	Description
FP-258256	Output folders of reference platforms not present in ODP code

8 Known Issues

ID	Description
FP-230782	QSFP ports on Accton AS5712 platform are not supported
FP-233309	Warmboot feature is not supported on Accton platforms

9 Previous Releases

Date	Release	Feature Set
15th May 2017	3.3.0.3	• Add support for x86 based Qumran MX platform (BCM88375_A0) • Add support for Wedge 100 (32x100G) platform • Add support for Agema 7648 platform • Add support for Accton AS7712-32X platform • Add support for MPLS OpenNSL APIs • ODP packaging changes – individual binary packages for each platform
30th Dec	3.3.0.2	• SDK upgrade to version 6.5.6 • Add support for Qumran MX platform • Deprecated support for Interface Masters 2948-6XL platform
24th Dec 2016	3.2.1.6	Incorrect use of memcmp to compare strings in KNET
23rd Nov 2016	3.2.1.5	Fixed creating /126 v6 route when alpm is enable and alpm_128 is disabled
13th Nov 2016	3.2.1.4	Added support for the following: • "techsupport" command • "l3 alpm show brief" command on Trident2
12th Oct 2016	3.2.1.3	Added support for the following elements: • SDK upgrade to version 6.5.5
2nd Sep 2016	3.2.0.5	Added support for the following elements: • opennslFieldActionL3Switch • opennsl_port_priority_group_config_xxx API's • opennsl_port_priority_group_mapping_xxx API's
10th Aug 2016	3.2.0.4	Fixes to support bcm_qos_port_map_get() API Opened up additional hash controls that can be used for trunk/ECMP traffic hashing
22nd Jul 2016	3.2.0.2	Add support for the following: • API's required for Black Hole Detection (BHD) application •
21st Jun 2016	3.2.0.1	Add support for the following: • additional platform configuration properties • Celestica Smallstone platform • OF-DPA driver API's
12th May	3.1.0.12	Adds support for VRRP API's

2016		Adds support for additional port API's
4th May 2016	3.1.0.11	Adds support for the following. • Support for additional API's in L2 and Port module • Support for ALPM feature
19th Apr 2016	3.1.0.10	Adds support for Resource Manager.
11th Apr 2016	3.1.0.9	Adds support for the following. • Support for additional API's in Field module • Support for additional API's in Packet module • Support for an API to get OpenNSL revision
24th Mar 2016	3.1.0.8	Adds the following new features: • Support for CoS module. • Support for CoS API's • Support for L2 table activity API's • Support for additional port management API's
9th Mar 2016	3.1.0.7	• SDK upgrade to version 6.4.10 • Support for customizing platform initialization • Support for VXLAN, Mirroring, Field Processor, QoS, Flex Statistics and Tunnel modules • Support for Dell S6000 Switch • Support for L2 cache management APIs • Support for Trunk failover • Increased the number of KNET filters from 128 to 256. • Support for additional Spanning Tree APIs • Support for additional L2 callback events • Licensing changes for specific OpenNSL modules.
4th Dec 2015	3.0.0.4	• SDK upgrade to 6.4.8 • Support for Accton AS5712 Switch • Support for Broadcom reference platform with Tomahawk B0 switching silicon • Support for sFlow • Added API's to support for L3 statistics and resilient ECMP • Pruning reserved fields from structures and enumerations