OpenNSL 3.1.0.16 Release Notes

Version 0.1

30-Aug-2016

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 3.1.0.16 release adds support for the following:

SDK upgrade to version 6.4.10

Adds support for Resource Manager
- Resource Manager (RM) is used for partitioning switch resources and ensuring traffic/resource isolation among control plane applications. It mediates access to the hardware resources from multiple logical switch pipelines. The RM API is a layer in the OpenNSL library above the SDK API as mentioned in the below block diagram. Currently this covers only a subset of modules in the SDK.

Control Plane Application 1	Control Plane Application 2
OpenNSL	
	Resource Manager (RM)
SDK	
ASIC	
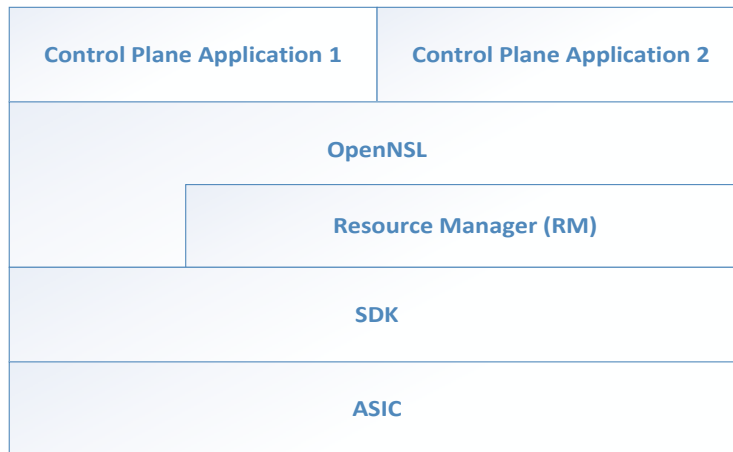
Adds support for the following modules
- Field Processor
- Quality of Service (QoS)
- Class of Service (CoS)
- VxLAN
- Mirror
- Flex Statistics
- Tunnel

Adds support for the following enhancements
- Support for Trunk failover API's
- Support for additional API's in Field module

- Support for additional API's in Packet module
- Support for L2 cache management APIs
- Support for L2 table activity API's
- Support for additional port management API's
- Support for additional Spanning Tree APIs
- Support for additional L2 callback events
- Support for additional OSPF v4/v6 API's
- Support for an API to get OpenNSL revision
- Support for Dell S6000 Switch
- Support for customizing platform initialization
- Increased the number of KNET filters from 128 to 1024
- Licensing changes for specific OpenNSL modules
- Support for Diagnostic shell in CDP package

Adds support for the following sample applications
- Mirroring
- Field Processor
- STP
- Link monitor
- VxLAN
- Packet Transmit
- Resource Manager

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 3.1.0.16 is released on 30th Aug 2016. This is based on SDK version 6.4.10.

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
Interface Masters Niagara 2948-6XL switch	Trident-II (BCM56850_A1)
Wedge Switch	Trident-II (BCM56850_A1)
Celestica Redstone-XP	Trident-II (BCM56850_A1)
Accton AS5712	Trident-II (BCM56854_A2)
Dell S6000	Trident-II (BCM56850_A1)

4 Testing

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

Sample Application	Test description
L2 firewall	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	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.
Trunk	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	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	Verified display and clearing of basic BST counters.
sFlow	Verified configuration, display of sFlow sampling rate along with the sampling of packets to CPU at configured rate.
Warm Boot	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	Verified configuration of Field process

	QSET, rules, and actions to block traffic from specific range of source IPv4 addresses.
VxLAN	Verified configuration of VxLAN tunnel, encapsulation and de-capsulation of a packet by sending traffic.
Statistics	Verified updating of port counters on sending traffic.
Packet Transmit	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	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.

5 Issues resolved

ID	Description
FP-238477	l3a_ip4_options_profile_id attribute opennsl_l3_intf_t opened up in openNSL not working as expected
FP-225259	CDP tarball compilation fails with CDP_EXCLUDE macro error
FP-232760	GPL modules does not compile if LINUX_UAPI_SPLIT is not exported
FP-239331	Crash while allocating packet structure in opennsl 3.0.0.4 Version
FP-242483	Added support for opennsl_qos_port_map_type_get() API
FP-242922	Fix reporting of an error code when L2 and INGRESS flags are passed to opennsl_qos_port_map_type_get() API

6 Known Issues

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

7 Previous Releases

Date	Release Number	Feature Set

26th Jul 2016	3.1.0.15	Fix to resolve an issue with using opennsl_qos_port_map_type_get() API
15th Jul 2016	3.1.0.14	Added support for opennsl_qos_port_map_type_get() API Increase KNET filters to 1024 for as5712 platform
13th Jul 2016	3.1.0.13	Adds support for the following • Diagnostic shell in CDP package • opennsl_qos_port_map_type() API
12th May 2016	3.1.0.12	Adds support for the following. • Support for VRRP API's Adds support for opennsl_port_subsidiary_ports_get() API
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