

# OpenNSL

## Release Note

### Ver. 1.3

### (AG5648)

---

Author: BU3-SW2 working Group

DELTA Network Corporation  
256 Yang Guang Street, Neihu, Taipei 11491  
Century Taiwan, R.O.C

Sep 08, 2017

#### Signature of Approval

	Name	Signature	Date
Author	Hans Tseng		
Group Leader	Wayne Lu		
Project Manager	Hans Tseng		

---

Delta Network Corporation Proprietary

This document is proprietary to Delta Network Corporation. Use or disclosure of this document or the information contained therein, for any purpose other than internal division use, is not permitted without the prior authorization of Delta Network Corporation

# Contents:

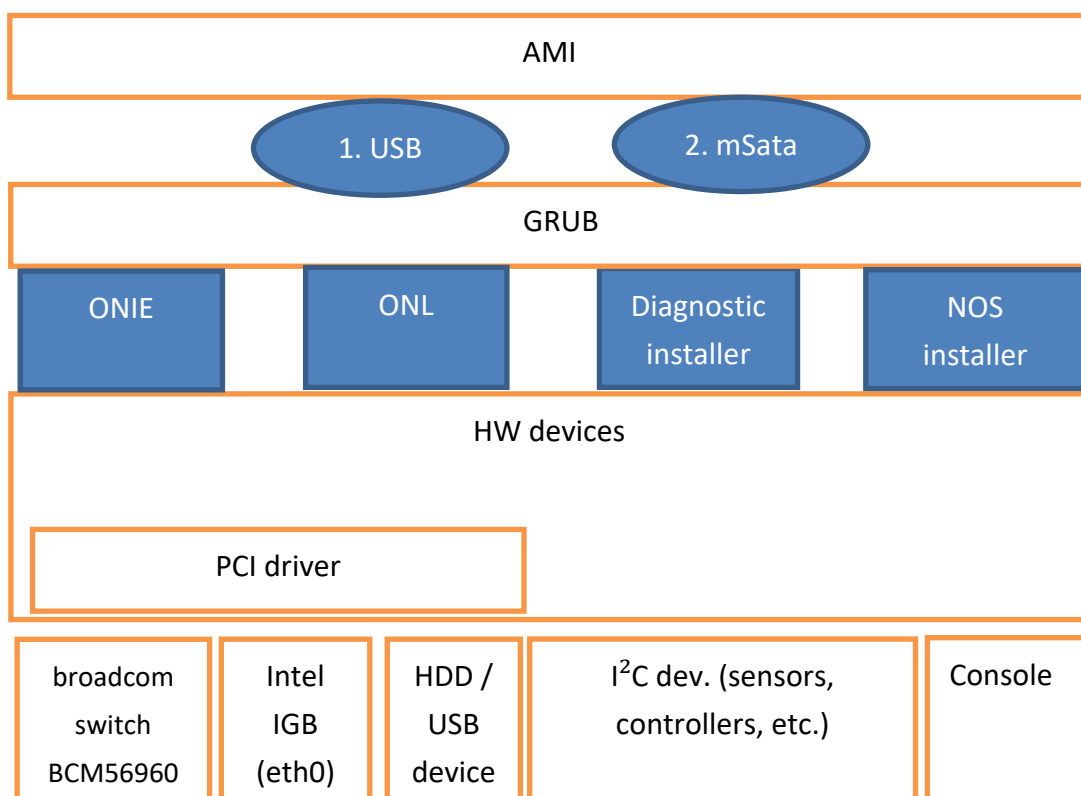
1. General description .....	3
2. Base Hardware information .....	4
3. ONL.....	4
4. Install OpenNSL Package .....	4
5. Software Features support .....	5
6. New Features support .....	6
7. Known Bugs and Limitations.....	6
8. Description of Bug Fixed .....	6

## Revision History

Date	Version	Author	Comment
07/06/2017	v.1.0	Hans Tseng	1. First edition 2. Base on the openns1 3.3.0.2 3. Version: <a href="#">OpenNSL AG5648-3.3.0.2-1.deb</a>
07/12/2017	v.1.1	Hans Tseng	1. Released the openns1 package <a href="#">OpenNSL AG5648-3.3.0.2--2.deb</a> 2. Fix the wrong share lib of libopenns1.so.1
08/10/2017	v.1.2	Hans Tseng	1. Add features list
09/08/2017	V1.3	Hans Tseng	1. update the ag5648 openns1 package to version 3.3.0.3 2. add the rload to load soc file 3. disable the low power mode while bring up switch

# 1. General description

The switch device is pre-installed ONIE in mSata storage; user can access system either by console port. BIOS is AMI BIOS, a bunch of system messages are shown in the console while booting. The Diagnostic program on ONIE installer fully leverages BCM shell by adding one extra menu specific to the device. And the ONL base on the ONL github commit ID “add948d33f305d41961ebf07b3983cdd0fb5f238” to develop. The conceptual SW block diagram is as below:



Then boot the system can through console port press <DEL> or <ESC> key to select the boot mode (the boot option priority is 1. mSATA 3ME , 2. UEFI: Built-in EFI Shell)

Console port settings is: 115200, n, 8, 1

The versions of main software components used in system are listed as below:

ONL kernel: 3.16.39

ONL OS : Debian Jessie

## 2. Base Hardware information

Main Chip	Company	Description
Intel Rangeley C2538 -1.7GHz	<i>Intel</i>	X86 CPU
BCM56960	<i>Broadcom</i>	Switch Controller
DDR3 ECC SO-DIMM		System Memory
16MB SPI NOR Flash *2		Flash ROM
mSATA SSD		Storage

## 3. ONL

Open Network Linux (ONL) is a Linux distribution for bare metal switches. ONL builds an ONIE-compatible installer and a switch image which contains a complete Debian distribution with added drivers and configuration for running on bare metal switches.

While logging ONL via enter username “root” and the password “onl”

## 4. Install OpenNSL Package

### 4.1 Download package

Download the package to the switch device and here is an examples for using tftp tool to download package

```
root@localhost:~# tftp IPaddress
tftp> binary
tftp> get OpenNSL_AG5648-3.3.0.3-1.deb
tftp> quit
```

### 4.2 Install the package

```
root@localhost:~# dpkg -i OpenNSL_AG5648-3.3.0.3-1.deb
```

Note: It may be necessary to run the following command before installing OpenNSL because sometimes the ONIE install leaves some packages in a half-configured state:

```
dpkg --configure -a
```

#### 4.3 Insert kernel module

```
root@localhost:~# mknod /dev/linux-kernel-bde c 127 0
root@localhost:~# mknod /dev/linux-user-bde c 126 0
root@localhost:~# mknod /dev/linux-bcm-knet c 122 0
root@localhost:~# insmod linux-kernel-bde.ko
root@localhost:~# insmod linux-user-bde.ko
root@localhost:~# insmod linux-bcm-knet.ko use_rx_skb=1
```

#### 4.4 Configure the port speed

```
root@localhost:~# cd /etc/opennsl
```

- set port speed to 100G

```
root@localhost:~# cp -af opennsl_100G.cfg opennsl.cfg
```

- breakout the port speed to 25G

```
root@localhost:~# cp -af opennsl_25G.cfg opennsl.cfg
```

- check the port status

```
root@localhost:~# cd - && ./example_drivshell
```

## 5. Software Features support

Specification				Version	Date	Description
<p>This released package is base on the Broadcom OpenNSL 3.3.0.2 , please the visit <a href="https://github.com/Broadcom-Switch/OpenNSL">opennnels github https://github.com/Broadcom-Switch/OpenNSL</a> to get the more detail information and limitation. If more information or referenced documentation are needed please contact the Broadcom.</p> <p>Broadcom supports those module which listed in the following tables.</p>				3.3.0.2-1	07/13/2017	
l2	link	rx	tx			
port	switch	vlan	stat			
l3	stg	cosq	trunk			

Delta Network Corporation Proprietary

This document is proprietary to Delta Network Corporation. Use or disclosure of this document or the information contained therein, for any purpose other than internal division use, is not permitted without the prior authorization of Delta Network Corporation

vxlan	mirror	policer	field			
multicast	Qos	MPLS				
1. Provided the rload file which located at /etc/opennsl/opennsl_rc.soc and it will be loaded while execute the opennsl example program. Please see the opennsl_rc.soc file which is included some examples code.				3.3.0.3-1	09/08/2017	

## 6. New Features support

Features Description	SKU	Requested by	Available Version	Date	Status	Reference

## 7. Known Bugs and Limitations

Bug ID/Reporter	Problems	Version	Open Version	Comments
1.				
2.				

## 8. Description of Bug Fixed

### Diagnostic:

Bug ID/Reporter	Description	Fixed Version	Open Date	Close Date	Status
1					
2					

### Support

Please email to [hans.tseng@delta.com.tw](mailto:hans.tseng@delta.com.tw) or call +886-2-87973250 ext 3046 for DNI support.