

---

# OFDPA

## Release Note

### Ver. 1.2

### (AG9032V1)

---

Author: BU3-SW2 working Group

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

Dec 11, 2018

#### 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:

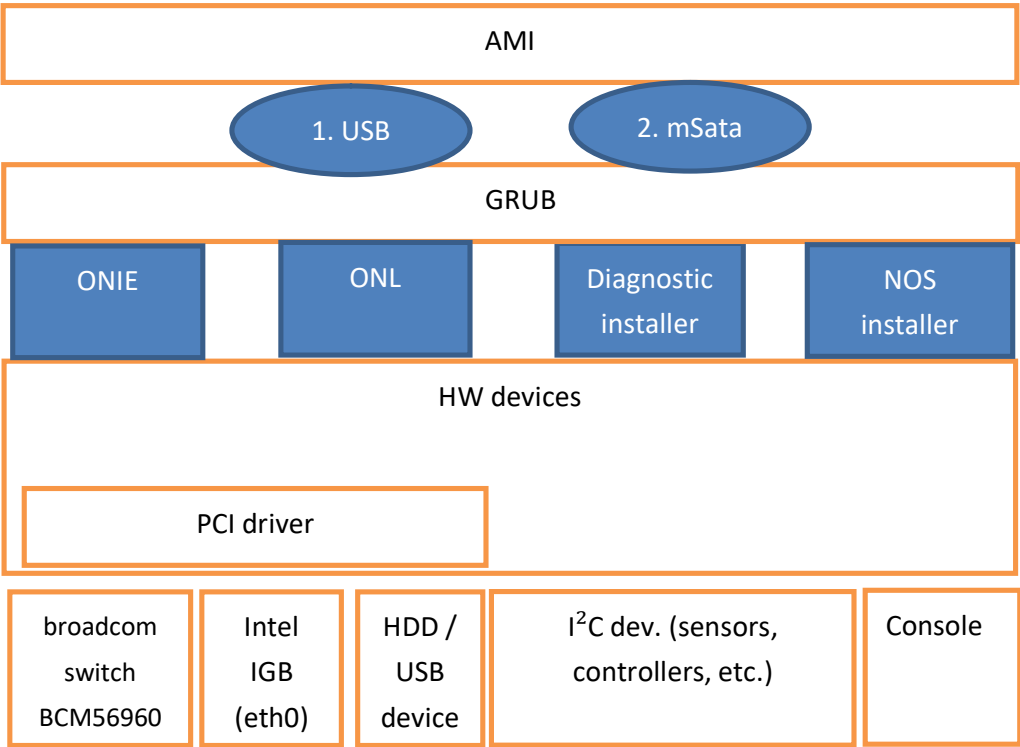
1.	General description .....	3
2.	Base Hardware information .....	4
3.	ONL .....	4
4.	Install OFDPAPackage .....	4
5.	Software Features support .....	6
6.	New Features support .....	7
7.	Known Bugs .....	7
8.	Description of Bug Fixed .....	7

## Revision History

Date	Version	Author	Comment
07/21/2017	V1.0	Hans Tseng	1. First edition 2. Released the "ofdpa-ag9032v1_0.3.0.3.1_amd64.deb" which base on the ofdpa 3.0.3.1 3. See the feature support to understand the limitation.
08/04/2017	V1.1	Hans Tseng	1. Update the feature list
11/22/2018	V1.2	Hans Tsens	1. Add the OFDPA version 3.0.5.0 which relative ONL kernel 3.16.56 2. Fix the port mapping 3. Add SW,HW and manufacturer information in ofdpaagent 4. Add the FEC detection in the configuration

# 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 or 3.16/56

## 2. Base Hardware information

Main Chip	Company	Description
Intel Rangeley C2538 -1.7GHz	<i>Intel</i>	X86 CPU
BCM96560	<i>Broadcom</i>	Switch Controller
4G DDR3 ECC SO-DIMM		System Memory
16MB SPI NOR Flash *2		Flash ROM
32G 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”. Please visit <https://github.com/opencomputeproject/OpenNetworkLinux> to get more informations.

## 4. Install OFDPA Package

### 4.1 Dependency of OFDPA package

There are two version of OFDPA which are 3.0.3.1 and 3.0.5.0. And those are relative with ONL kernel

OFDP’s version: 3.0.3.1 → ONL’s kernel: 3.16.39

OFDP’s version: 3.0.5.0 → ONL’s kernel: 3.16.56

Please make sure to use the right OFDPA version with your ONL kernel

### 4.2 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
```

---

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

---

```
tftp> binary
tftp> get ofdpa-ag9032v1_0.3.0.3.1_amd64.deb
tftp> quit
```

#### 4.3 Install the package

```
root@localhost:~# dpkg -i ofdpa-ag9032v1_0.3.0.3.1_amd64.deb
```

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

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

#### 4.4 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:~# insmod linux-kernel-bde.ko
root@localhost:~# insmod linux-user-bde.ko
```

#### 4.5 Configure the port speed

```
root@localhost:~# cd /Broadcom/ofdpa
```

- set port speed to 100G

```
root@localhost:~# cp -af ofdpa_rc.cfg-100G ofdpa_rc.cfg
```

- breakout the port speed to 25G

```
root@localhost:~# cp -af ofdpa_rc.cfg-25G ofdpa_rc.cfg
```

- check the port status

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

## 5. Software Features support

Specification				Version	Date	Description
<p>This released package is base on the Broadcom OFDPA 3.0.3.1 , please the visit OFDPA github <a href="https://github.com/Broadcom-Switch/of-dpa">https://github.com/Broadcom-Switch/of-dpa</a> to get the more referenced information and limitation. If more information or referenced documentation are needed please contact the Broadcom.</p> <p>Base the on the ofdpa 3.0.3.1 EA version, Broadcom provided those features which listed in the following tables. For currently Ag9032v1( Tomahwak switch ASIC) only supports the features which are marked in red.</p>				3.0.3.1	07/10/2017	
Bridging and Routing	Policy ACL	Policy ACL MAC + IPv6 wide match	MPLS ECMP Groups			
MPLS L3 VPN LER	MPLS LSR	MPLS 1:1 Protection	Bridging and Routing QoS			
MPLS QoS - Trust Tables	L2 Policer Meters	G.8013 Ethernet OAM	Section OAM			
G.8113.1 OAM	Congestion Management &Scheduling	Single level and multi- level protection	VLAN translate			
Egress PCP DSCP Remark Table	VLAN Cross- Connect	Statistics Counters	MPLS VPWS			
<p>Base the on the ofdpa 3.0.5.0 EA version, Broadcom provided those features which listed in the following tables. For currently Ag9032v1( Tomahwak switch ASIC) only supports the features which are marked in red.</p>				3.0.5.9	22/11/2018	
Bridging and Routing	Policy ACL	Policy ACL MAC + IPv6 wide match	MPLS ECMP Groups			
MPLS L3 VPN LER	MPLS LSR	MPLS 1:1 Protection	Bridging and Routing QoS			
MPLS QoS -	L2 Policer	G.8013	Section OAM			

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

<b>Trust Tables</b>	Meters	Ethernet OAM				
G.8113.1 OAM	Congestion Management &Scheduling	Single level and multi-level protection	<b>VLAN translate</b>			
<b>Egress PCP DSCP Remark Table</b>	<b>VLAN Cross-Connect</b>	<b>Statistics Counters</b>	<b>MPLS VPWS</b>			
<b>Data Center overlay tunnels(VxLAN)</b>						

## 6. New Features support

Features Description	SKU	Requested by	Available Version	Date	Status	Reference

## 7. Known Bugs

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.

---

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