OFDPA
Release Note
Ver. 1.2
(AG9032V1)

Author: BU3-SW2 working Group

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Signature of Approval

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Contents:

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 Add the FEV 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:

AMI

1. USB   **2. mSata**

GRUB

ONIE	ONL	Diagnostic installer	NOS installer

HW devices

PCI driver

broadcom switch BCM56960	Intel IGB (eth0)	HDD / USB device	I^{2}C dev. (sensors, controllers, etc.)	Console
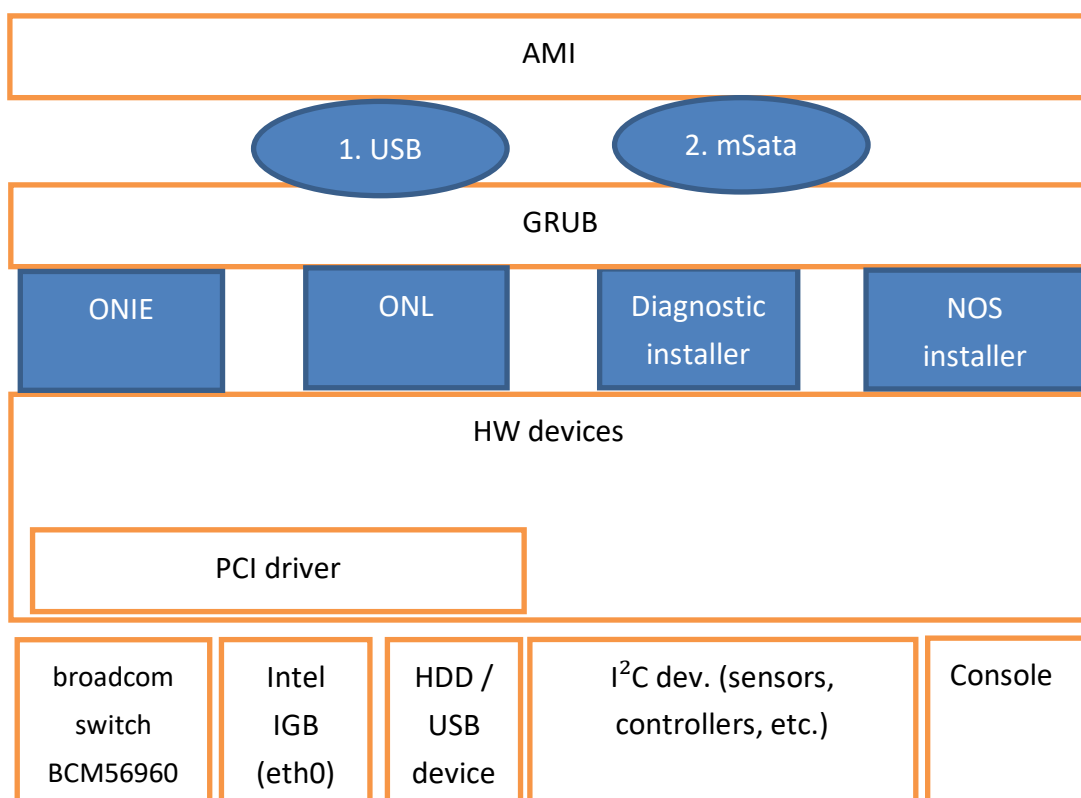
Then boot the system can through console port press <DEL> or <ESC> key to select the boot mode (the boot option priority is 1. mSATA 3ME , 2. UEFI: Built-in EFI Shell)

     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

ONL OS：Debian Jessie

2. Base Hardware information

Main Chip	Company	Description
Intel Rangeley C2538 -1.7GHz	*Intel*	X86 CPU
BCM96560	*Broadcom*	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
```

```
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
This released package is base on the Broadcom OFDPA 3.0.3.1 , please the visit OFDPA github https://github.com/Broadcom-Switch/of-dpa to get the more referenced information and limitation. If more information or referenced documentation are needed please contact the Broadcom. 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.				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**			

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 or call +886-2-87973250 ext 3046 for DNI support.