



OPEN NETWORKING  
FOUNDATION

# PBB UCA header field Extension

Version 0.1  
May 20, 2013

ONF TS-011



ONF Document Type: OpenFlow Spec

ONF Document Name: openflow-switch-extension-ext256

## Disclaimer

THIS SPECIFICATION HAS BEEN APPROVED BY THE BOARD OF DIRECTORS OF THE OPEN NETWORKING FOUNDATION (“ONF”) BUT WILL NOT BE A FINAL SPECIFICATION UNTIL RATIFIED BY THE MEMBERS PER ONF’S POLICIES AND PROCEDURES. THE CONTENTS OF THIS SPECIFICATION MAY BE CHANGED PRIOR TO PUBLICATION AND SUCH CHANGES MAY INCLUDE THE ADDITION OR DELETION OF NECESSARY CLAIMS OF PATENT AND OTHER INTELLECTUAL PROPERTY RIGHTS. THEREFORE, ONF PROVIDES THIS SPECIFICATION TO YOU ON AN “AS IS” BASIS, AND WITHOUT WARRANTY OF ANY KIND.

THIS SPECIFICATION IS PROVIDED “AS IS” WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGEMENT, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION OR SAMPLE.

Without limitation, ONF disclaims all liability, including liability for infringement of any proprietary rights, relating to use of information in this specification and to the implementation of this specification, and ONF disclaims all liability for cost of procurement of substitute goods or services, lost profits, loss of use, loss of data or any incidental, consequential, direct, indirect, or special damages, whether under contract, tort, warranty or otherwise, arising in any way out of use or reliance upon this specification or any information herein.

No license, express or implied, by estoppel or otherwise, to any Open Networking Foundation or Open Networking Foundation member intellectual property rights is granted herein.

Except that a license is hereby granted by ONF to copy and reproduce this specification for internal use only.

Contact the Open Networking Foundation at <https://www.opennetworking.org> for information on specification licensing through membership agreements.

Any marks and brands contained herein are the property of their respective owners.

WITHOUT LIMITING THE DISCLAIMER ABOVE, THIS SPECIFICATION OF THE OPEN NETWORKING FOUNDATION (“ONF”) IS SUBJECT TO THE ROYALTY FREE, REASONABLE AND NONDISCRIMINATORY (“RANDZ”) LICENSING COMMITMENTS OF THE MEMBERS OF ONF PURSUANT TO THE ONF INTELLECTUAL PROPERTY RIGHTS POLICY. ONF DOES NOT WARRANT THAT ALL NECESSARY CLAIMS OF PATENT WHICH MAY BE IMPLICATED BY THE IMPLEMENTATION OF THIS SPECIFICATION ARE OWNED OR LICENSABLE BY ONF’S MEMBERS AND THEREFORE SUBJECT TO THE RANDZ COMMITMENT OF THE MEMBERS.

## Contents

<b>1 Introduction</b>	<b>2</b>
<b>2 How it works</b>	<b>2</b>
<b>3 PBB UCA Experimenter ID</b>	<b>2</b>
<b>4 PBB UCA match field</b>	<b>2</b>

## 1 Introduction

This document describes an ONF extension for OpenFlow version 1.3.X that matches the PBB UCA header field.

## 2 How it works

A new OXM match field is defined. This field map to the PBB UCA header field present in the PBB service instance tag. It can be used to either match on this field or to rewrite it.

## 3 PBB UCA Experimenter ID

The Experimenter ID of this extension is:

```
ONF_EXPERIMENTER_ID = 0x4F4E4600
```

## 4 PBB UCA match field

This extension defines the following experimenter oxm types:

```
/* OXM types */
enum onf_oxm_exp_type {
    ONFOXMT_ET_PBB_UCA = 2560,    /* PBB UCA header field. */
};
```

The OXM fields have the size, prerequisites and masking capability specified in the following table.

Field	Bits	Mask	Pre-requisite	Description
ONFOXMT_ET_PBB_UCA	1	No	ETH_TYPE=0x88E7	The UCA field in the first PBB service instance tag.

Table~1: Example match fields details.

The ONFOXN\_ET\_PBB\_UCA oxm type uses the following action structure :

```
/* Structure for OXM field output match. */
struct onf_oxm_pbb_uca {
    uint32_t    oxm_header;    /* oxm_class = OFPXM_C_EXPERIMENTER */
    uint32_t    experimenter;  /* ONF_EXPERIMENTER_ID. */
    uint16_t    exp_type;      /* ONFOXN_ET_PBB_UCA. */
    uint8_t     pbb_uca;      /* PBB UCA header field. */
};
OFP_ASSERT(sizeof(struct onf_oxm_pbb_uca) == 11);
```

The `oxm_header` field must be set with class `OFPXM_C_EXPERIMENTER` and the proper OXM length and mask bit.

The `experimenter` field is the Experimenter ID (see 3).

The `exp_type` field is the experimenter oxm type. It is set to `ONFOXN_ET_PBB_UCA`.

The `pbb_uca` field is the PBB UCA header field to match. The highest 7 bits are unused and must be set to zero.