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PBB UCA header field Extension

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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 {
    ONFOXM_ET_PBB_UCA = 41,    /* 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
ONFOXM_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 ONFOXM_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,
                               oxm_field = ONFOXM_ET_PBB_UCA. */
    uint32_t    experimenter; /* ONF_EXPERIMENTER_ID. */
    uint16_t    reserved;     /* Backward compatibility. */
    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`, field type `ONFOXM_ET_PBB_UCA` and the proper OXM length and mask bit.

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

The `reserved` field should be set to zero.

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