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Bad-mask error Extension

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1 Introduction

This document describes an ONF extension for OpenFlow version 1.3.X that returns errors for unsupported masks in set-field actions.

2 How it works

One new error code is defined for unsupported masks in set-field actions. If a set-field action in a flow mod message contains an OXM mask, the switch must reject the flow mod and immediately return an `ofp_error_msg` with `ONFPET_EXPERIMENTER` type, `ONF_EXPERIMENTER_ID` experimenter ID and `ONFERR_ET_AC_BAD_SET_MASK` code.

3 Bad mask error Experimenter ID

The Experimenter ID of this extension is:

```
ONF_EXPERIMENTER_ID = 0x4F4E4600
```

4 Bad mask error message

The following error is defined by this extension:

```
/* Error codes */
enum onf_error_exp_type {
    ONFERR_ET_AC_BAD_SET_MASK = 4250, /* One mask is invalid. */
};
```

The error `ONFERR_ET_AC_BAD_SET_MASK` uses the following structure:

```
/* Message structure for all errors. */
struct onf_error_msg {
    struct ofp_header header;
    uint16_t type;          /* OFPET_EXPERIMENTER. */
    uint16_t exp_type;     /* ONFERR_ET_AC_BAD_SET_MASK. */
    uint32_t experimenter; /* ONF_EXPERIMENTER_ID. */
    uint8_t data[0];      /* Up to 64 bytes of failed request. */
};
OFP_ASSERT(sizeof(struct onf_error_header) == sizeof(struct ofp_error_experimenter_msg));
```

The `type` field must be set to `OFPET_EXPERIMENTER`.

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

The `data` fields contains a copy of the failed request message, truncated to 64 bytes.

The `exp_type` field is set to `ONFERR_ET_AC_BAD_SET_MASK`.