Ethernet PW ECN

PWE3 - IETF75
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draft-stein-pwe3-ethpwcong

The idea was presented at IETF-74

As promised a draft has been submitted

The draft focuses on AC congestion – not PSN congestion

Main ideas :
- requires use of the control word
- usually piggybacks messages on existing PW packets
- defines Drop Eligibility Indication (DEI) flag
- defines forward (FECN) and backward (BECN) congestion notification flags (as in RFC 4619)

PSN

AC

AC

PE

PE

congestion
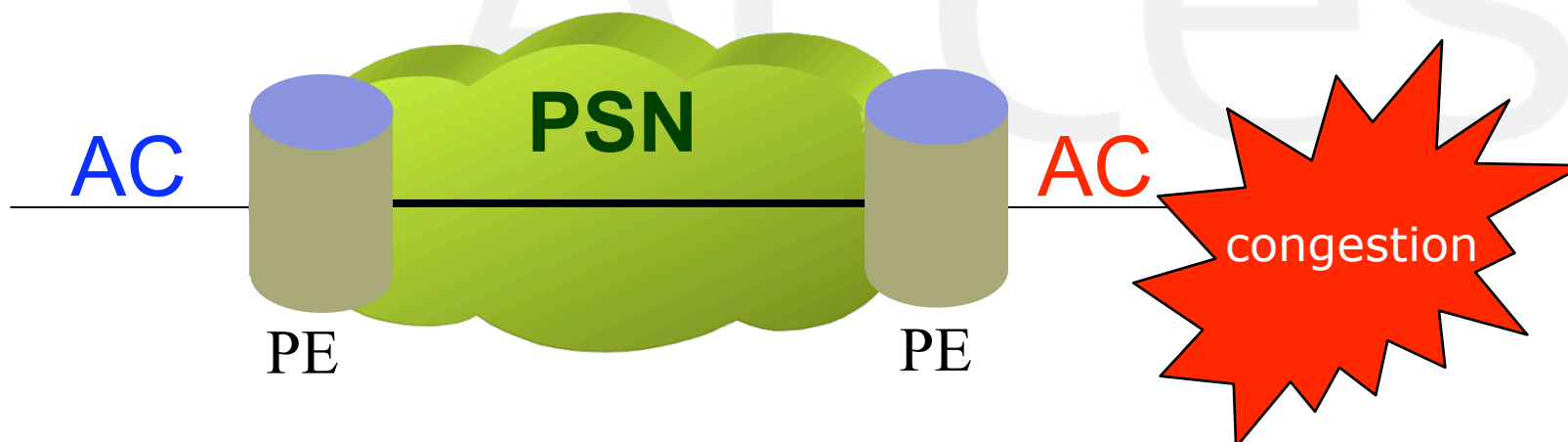
Open issue

When there are no packets capable of going in the desired direction special ECN packets need to be generated

The draft proposes :
- sending zero-length payload
- setting the ECN fields as needed
- setting the CW length field to zero

An objection has been raised that zero in the length field is inappropriate

Alternative – sending a runt Ethernet packet with non-zero length

Which way does the WG prefer ?

MPLS PSN congestion

While handling AC congestion is important, it is only the first step

There are two mechanisms in the draft
  that pave the way for handling PSN congestion

- Drop Eligibility Indicator is equally applicable for PSN congestion

- Intermediate nodes MAY set ECN bits (but may not clear them)

Intermediate node problem

Intermediate nodes would need to peak under the MPLS label

In any case they could not send (important) backward indications as they don't know the label in the backward direction

There are three possible solutions to this problem :

1. Intermediate node – intermediate node sends forward indications
   egress PE receiving indication sends BECN

1. Loss detection – egress PE detecting packet loss infers congestion and sends BECN

2. PDV signature detection – PEs acquire accurate time (e.g. using 1588 or NTP), egress PE detecting congestion sends BECN

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This draft is needed :

- as it stands - to handle AC congestion for Ethernet PWs

- as a platform - on which to build the next steps

It is requested to accept this draft as a WG draft