A Unified Control Channel for Pseudowires
draft-nadeau-pwe3-vccv-2-02

Thomas D. Nadeau
Luca Martini

IETF 81

Overview

- The draft describes a unified control channel for Virtual Circuit Connectivity Verification (VCCV) which could represent VCCV version 2.

- Supports all supported access circuit and transport types currently defined for PWs, as well as those supported by The MPLS Transport Profile.

- This new mode is intended to update and supersede the capability and operational rules described in RFC5085

Current Operation and Issues

- A variety of VCCV CC and CV types other wise know as "modes" have been created, not only to support current hardware, but to support legacy hardware

- The MPLS Transport Profile (MPLS-TP) requirements [RFC5654] require support of VCCV when an MPLS-TP PSN is in use.
  - The GAL-ACH had to be created; this effectively resulted in another mode of operation.

- The difficulty of operating these different combinations of "modes" have been detailed in an implementation survey the PWE3 Working Group conducted.

Solution: VCCV 2.0

- The draft simplifies the modes of operation of VCCV down to a single mode of operation we refer to as type 4.

- This mode simply defines two ways to run VCCV:
    1) with a control word.
    2) without a control word, but with a ACH encapsulation making it easy to handle all of the other cases handled by the other modes of VCCV.

- In both cases it will be mandatory to implement and use that mode if it is supported, thus simplifying the implementation and operation of the protocol.

VCCV Capability Advertisement

- The capability advertisement MUST match that c-bit setting that is advertised in the PW FEC element.
    - If the c-bit is set, indicating the use of the control word, type 1 MUST be advertised and type 4 MUST NOT be advertised. If the c-bit is not set, indicating that the control word is not in use, type 4 MUST be advertised, and type 1 MUST NOT be advertised.

- A PE supporting Type 4 MAY advertise other CC types as defined in RFC5085 but if the remote PE also supports Type 4, then Type 4 MUST be used superseding the Capability Advertisement Selection rules of section 7 from RFC5085.

- If a remote PE does not support Type 4, then the rules from section 7 of RFC5085 apply. If a CW is in use, then Type 4 is not applicable, and therefore the normal capability advertisement selection rules of section 7from RFC5085 apply.

Outstanding Issues

- Placement of the PW label and GAL have been swapped since last version based on feedback from the mailing list.

- How to proceed?
  - Do we create a new draft that clearly supersedes RFC5085?
  - Do we progress RFC5085 to PS with these changes as updates based on the WG's and implementation input (i.e.: implementation survey)?
  - Adopt this as a WG draft?