DISCLAIMER:

This document has been submitted for discussion in the IEEE P802.1Qdj project as an individual contribution. As such, the views expressed in this contribution are those of the author and do not represent a position of the IEEE Standards Working Group, IEEE, or IEEE Standards Association. See more about documents at: https://1.ieee802.org/documents/.

This is just an initial contribution on the control plane information exchange between TSN Domains. The intention of this contribution is to facilitate the discussions via a form that is close to and based on P802.1Qdj/D0.1. This contribution is just the very first step for having some initial text on the table for discussion.

PROPOSAL:

Add a new subclause to address control plane information exchange at TSN Domain boundaries.

46.1.7.1 TSN Domain boundary information

The following control information is exchanged between TSN Domains at their boundary.

46.1.7.1.1 TSN Domain ID

The TSN Domain ID is provided in the TSN Domain ID TLV (Annex D.17) carried by LLDPDUs.

46.1.7.1.2 Stream information

The following control information is exchanged between TSN Domains at their boundary. This information is actually exchanged between the two CNCs of the two TSN Domains if the fully centralized configuration model (46.1.3.3) is used for the given TSN Domains. If there is a hierarchy of CNCs, then the TSN Domain boundary stream information can be directly provided from a CNC at higher hierarchy level to a CNC at a lower hierarchy level.

46.1.7.1.2.1 Stream ID

Stream ID as specified in 46.2.3.1.

46.1.7.1.2.2 VID

The VID used for the Stream at the boundary port, outside of the TSN Domain.

46.1.7.1.2.3 PCP

The PCP used for the Stream at the boundary port, outside of the TSN Domain.

46.1.7.1.2.4 Ingress Port

The port where the Stream enters the TSN Domain. This includes the corresponding bridge ID and port ID.

46.1.7.1.2.5 Egress Ports

The ports where the Stream leaves the TSN Domain. This includes the corresponding bridge IDs and port IDs.

46.1.7.1.2.6 Traffic Specification

Traffic Specification as specified in 46.2.3.5 with the extension that it is relevant for the boundary of the previous hop TSN Domain and not for the Talker.

46.1.7.1.2.6 AccumulatedLatency

The AccumulatedLatency as specified in 46.2.3.1; indicating the maximum latency t that a single frame of the Stream can encounter along its path(s) within the given TSN Domain.

46.1.7.1.2.7 NumSeamlessTrees

NumSeamlessTrees as specified in 46.2.3.6.1.

Annex D
(normative)

IEEE 802.1 Organizationally Specific TLVs

D.1 Requirements of the IEEE 802.1 Organizationally Specific TLV sets

Insert the following row to the end of Table D-1

IEEE 802.1 subtype	TLV name	TLV set name	TLV reference	Feature clause reference
zz	TSN Domain ID	tsnSet	D2.17	46.1.7.1.1

D.2 Organizationally Specific TLV definitions

Insert the following subclause to the end of D.2 and re-number accordingly.

D.17 TSN Domain ID TLV

The TSN Domain ID TLV is an optional fixed length TLV that allows a VLAN Bridge to advertise the TSN Domain it belongs to.

Figure D-Z shows the TSN Domain ID TLV format.

TLV type = 127 (7 bits)	TLV information string length = 6 (9 bits)	802.1OUI 00-80-C2 (3 octets)	802.1 subtype = Z (1 octet)	TSN Domain identifier (n octets)

Figure D-Z—TSN Domain ID TLV format