To: Jari Arkko, IETF chair
        Alia Atlas, Adrian Farrel, Routing Area Directors
        Julien Meuric, JP Vasseur, PCE Working Group chairs
From: Glenn Parsons, IEEE 802.1 Working Group chair
        Michael Johas Teener, IEEE 802.1 TSN Task Group chair
        Stephen Haddock, IEEE 802.1 Interworking Task Group chair

The IEEE 802.1 Time-Sensitive Networking and Interworking Task Groups have initiated several standards projects that we believe have relevance to completed and ongoing work in the IETF PCE Working Group, including (Project Authorization Requests attached):

- P802.1CB Frame Replication and Elimination for Reliability

- Two amendments to IEEE Std 802.1Q-2011, Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks:

    o P802.1Qca Path Control and Reservation
    o P802.1Qcc Stream Reservation Protocol (SRP) Enhancements and Performance Improvements

The architecture emerging from the work on these standards includes the need for a supervisory function that can accept, as inputs:

a. The current or intended topology of a network.
b. Requests for an explicit topology.
c. Requests for "circuits" (paths through the network with some amount of circuit-related state at each hop) in order to achieve various goals for Quality of Service.

And which generates as outputs:

d. A path, or paths, from a Talker to one or more Listeners.
e. Hop-by-hop parameters for the network nodes' 802.1-defined queuing functions, as necessary to achieve the desired QoS, e.g., priorities, shaper parameters, explicit schedules, etc.

The Qualities of Service being offered include:

- A requirement to register a data flow (circuit) before using it, with the concomitant possibility of that registration being denied.
- A 100% guarantee of maximum and minimum latency across a network.
- A 100% guarantee against packet loss due to congestion.
- The ability to send a serial-numbered stream of packets on two or more paths, and discard the duplicates before delivery.

We have use cases for these paths to be derived from the current network topology, with or without constraints, or from the configured intention of the network administrator for the topology. Some use cases require the paths to be remade in the event of a physical topology change, some would prohibit this. IEEE 802.1 TSN wants to make these features available to a pure bridged network, and to a network including a variety of routing and bridging capabilities.

To the best knowledge of the common members of IETF and IEEE 802.1 TSN TG, these requirements have much in common with the problems solved and being worked on by the IETF PCE WG.

The IEEE 802.1 WG would prefer to work in cooperation with at least the IETF PCE WG to achieve these goals, and you may suggest other contacts within the IETF. This cooperation could include, for example:

- Joint participation by individuals (of course)
- Liaison messages
- Access to working documents
- Allocation of code points in each others' standards
- Division of labor between bridging and routing technologies
- Division of labor between queuing techniques and protocol exchanges.

If there is interest from IETF members in cooperating with IEEE 802.1 to offer these services, we would suggest initiating one or a few teleconferences to discuss the matter further, and establish parameters for possible future cooperation.

Note that a separate liaison on P802.1Qca, of particular interest to the IETF ISIS WG, is also being sent.