Annex to IEEE P802.1Qdv, Enhancements to Cyclic Queuing and Forwarding (ECQF)

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dv-finn-ECQF-annex-1122-v01
Sources for this suggested outline

1. [mCQF] new-finn-multiple-CQF-0921-v02, Norman Finn
2. [PQ] new-finn-pulsed-queuing-amendment-0122-v02, Norman Finn.
3. [Agg1] dv-finn-CQF-stream-aggregation-v01, Norman Finn
5. [Syn] new-finn-CQF-sync-method-1121-v1, Norman Finn
Purpose of this contribution

This author suggested five main parts for the structure of P802.1Qdv in new-finn-pulsed-queuing-amendment-0122-v02:

1. Conformance sections in Clause 5 [PQ].
2. Sections in Clause 8 to augment Asynchronous Traffic Shaping (ATS) to support count-based and time-based output bin assignment [PQ].
3. A protocol for adjusting receiver bin timing boundaries [Syn].
4. Managed objects to control ECQF [PQ].
5. An informative annex describing the application of ECQF to solve typical usage scenarios.

The present contribution offers an outline for the informative annex.
Annex AZ (Informative) Enhanced Cyclic Queuing and Forwarding (ECQF)

AZ.1 Introduction
Very brief introduction to QCQF, and a section-by-section description of the remainder of the annex, in the typical 802.1Q style.

AZ.2 ECQF timing model
A description of the timing model, which is essential for understanding latency and buffer requirement calculations. Taken from [mCQF] section 2.

AZ.2 ECQF multiple classes of service
A description of the requirements for operating more than one ECQF queue on the same port. Taken from [mCQF] section 3.
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AZ.4 Count-based bin assignment

Operation of count-based bin assignment, its interaction with time-base bin assignment, and its uses for ingress conditioning and cycle time changes. Taken from [mCQF] section 7.
AZ.5 Stream aggregation using ECQF

AZ.5.1 Introduction

A brief description of stream aggregation, including a brief description of the differences between explicit and implicit aggregation, and the relationship between QoS aggregation and forwarding decisions. Also, a list of subsections in AZ.5. From [Agg1] and [Agg2].

AZ.5.2 Aggregation

Using time-based and count-based bin assignment to combine a number of Streams into an aggregate Stream (for QoS purposes). From [Agg2].

AZ.5.3 Dis-aggregation

Using time-based and count-based bin assignment to separate an aggregate Stream into individual Streams. From [Agg2].
AZ.5 Stream aggregation using ECQF

AZ.5.4 Combined aggregation and dis-aggregation

Applying both aggregation and dis-aggregation to the same Streams in a single bridge. From [Agg2].
Annex AZ (Informative) Enhanced Cyclic Queuing and Forwarding (ECQF)

AZ.6 Buffer requirements
   Buffer size computation, including ingress conditioning, intentional additional delay, and stream aggregation. From [mCQF], [Agg1] and [Agg2].

AZ.7 End-to-end latency
   Latency computation. From [mCQF].

AZ.8 Additional considerations
   This section discusses a number of miscellaneous issues brought up in [mCQF] including interaction with frame preemption, very long links, balancing latency and bandwidth utilization, and other.
Thank you