Title:	LS on Response to *LS on TSN support in 3GPP Release-16 stage 2 completion*
Response to:	LS S2-2004336 on Response to *LS on TSN support in 3GPP Release-16 stage 2 completion*
Release:	Release 16
Work Item:	Vertical_LAN

Source:	3GPP SA WG2
To:	IEEE 802.1
Cc:	-

Contact person: Shabnam Sultana

Shabnam.sultana@ericsson.com

Contacts: Glenn Parsons, Chair, IEEE 802.1, glenn.parsons@ericsson.com

Jessy Rouyer, Vice-Chair, IEEE 802.1, jessy.rouyer@nokia.com

János Farkas, Chair, IEEE 802.1 TSN TG, janos.farkas@ericsson.com

Send any reply LS to: 3GPP Liaisons Coordinator, **mailto:3GPPLiaison@etsi.org**

Attachments: -

1   Overall description

3GPP SA WG2 thanks IEEE 802.1 for their detailed review and feedback regarding integration of 5G System with IEEE TSN. The specifications have been updated, to the extent possible, addressing the concerns and improvement suggestions received from IEEE 802.1 feedback. The latest versions of the 3GPP specifications (namely, TS 23.501, TS 23.502, TS 23.503) reflect the changes approved so far.

3GPP Release 16 has been closed for any functional changes, unless there are FASMO (frequent and serious mis operations) corrections. Updates performed so far has been aligned according to this principle. Additionally, some aspects pointed out by the LS response will require 3GPP to create additional work.

Examples of some of the updates that have been made:

IEEE: 1) Compliance to IEEE 802.1 standards

SA WG2: most of the items identified have been addressed when functional changes were not required.

IEEE: 2) Loop prevention (active topology enforcement)

SA WG2: this is considered to be new functionality thus it has not been addressed in Rel-16.

IEEE: 3) Frame forwarding mechanisms

SA WG2: Minor clarifications have been made which fall within the scope of Release 16, rest of the items are being discussed as part of FS_IIoT Rel-17 study item.

IEEE: Further Comments (TS 23.501 and TS 23.502, TS 23.503)

SA WG2: The aspect related to**: "Clause 16 "Coordinated Shared Network (CSN)" of IEEE Std 802.1AS-2020 may be useful to address this situation. We would in particular draw your attention to the case of a common CSN network clock."** has not been addressed and nor do we have any immediate plan to look into it. Rest of the issues have been resolved as per updated specifications, where applicable.

Latest versions of the 3GPP specifications can be found at:

TS 23.501 v16.6.0: https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3144

TS 23.502 v16.6.0: https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3145

TS 23.503 v16.6.0: https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3334

SA WG2 would like to ask some additional questions for clarification:

The ingress and egress bridge port information of a TSN Stream is required for the 5G System (5GS) for its internal operations and resource management when the 5GS acts as a virtual TSN bridge.

Is it possible to identify the ingress and egress ports of a TSN bridge for a particular TSN Stream, e.g., from management information? If yes, then please provide the details on the following:

- Does the CNC configure these management parameters for each TSN Stream? What are the corresponding YANG parameters?

- Is it possible to identify the ingress port of the 5GS bridge for a particular TSN stream? e.g. using
  - Information element ieee8021QBridgeStaticMulticastReceivePort, or
  - Information element ieee8021QBridgeStaticUnicastReceivePort, or
  - Information Element in the 802.1CB clause 9.1 Stream identity table, or
  - Other management information?

- Is it possible to identify the egress port of the 5GS bridge for a particular TSN stream? e.g. using
  - Only the PSFP information provided by CNC. Or
  - The PSFP information together with the static filtering entry from the CNC, or
  - Other management information?

Furthermore, additional information of a TSN Stream at the ingress bridge port is also required for the 5G System (5GS) for its internal resource management when the 5GS acts as a virtual TSN bridge, such as the time of the arrival of the traffic burst, the periodicity, the priority used for the TSN stream, and burst size. Is it possible to retrieve this information, e.g., from management information?

2   Actions

To IEEE 802.1

ACTION: SA WG2 kindly requests for feedback on the additional questions as technical progress of our current work has dependency on the response.

3   Dates of next TSG SA WG2 meetings

TSG SA WG2#142-e   November 16 – November 20, 2020   Electronic Meeting