USB4 Re-timer 0.96 ENGINEERING CHANGE NOTICE FORM

Title: LT_Resume on TBT3 Link
Applied to: USB4 Re-timer Specification Version 0.96

Brief description of the functional changes:
Changes the conditions to forward an LT_Resume Transaction on a TBT3 Link for a Re-timer that is adjacent to a USB Type-C connector.

Benefits as a result of the changes:
Better compatibility with the TBT3 eco-system.

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
None

An analysis of the hardware implications:
None

An analysis of the software implications:
None

An analysis of the compliance testing implications:
Need to add testing to verify that an LT_Resume Transaction is only forwarded after the *Forward Switch Done* bit is set.

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Actual Change

(a). Section 6.2.1.2.1

From Text:

A Re-timer shall forward an LT_Resume Transaction received on one USB4 Port to its other USB4 Port.

To Text:

A Cable Re-timer shall send an LT_Resume Transaction to its Router Facing Port after the *TX Active* bit is set to 1b in the Lane 0 Adapter in its Router Facing Port.

The behavior of a Cable Re-timer towards its Cable Facing Port is implementation specific.

If an On-board Re-timer is adjacent to a USB Type-C connector and it receives an LT_Resume Transaction on its Router Facing Port, it shall forward the LT_Resume Transaction to its Cable Facing Port only after the *Forward Switch Done* bit is set to 1b in the Lane 0 Adapter in its Cable Facing Port. Otherwise, an On-board Re-timer shall forward an LT_Resume Transaction received on one USB4 Port to its other USB4 Port.

Note: The requirements above make sure that a Re-timer adjacent to a USB Type-C connector, whether it is a Cable Re-timer or an On-board Re-timer, sends the LT_Resume transaction towards the USB Type-C connector only after the transmitter facing the USB Type-C connector is sending data received by its corresponding receiver using a recovered clock with SSC.