USB4 1.0 ENGINEERING CHANGE NOTICE FORM

Title: Gen 2 FEC Encoding for DESKEW
Applied to: USB4 Specification Version 1.0

Brief description of the functional changes:

Clarify the encoding rules in Gen2 with RS-FEC when sending DESKEW Ordered Set followed by a subsequent Ordered set. Current syntax is found to have some ambiguity.

Benefits as a result of the changes:

Clarify the encoding rules, removing ambiguities

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:

Unknown. May affect for example devices performing CL0s->CL1/2 transitions in Gen2.

An analysis of the hardware implications:

Unknown

An analysis of the software implications:

None

An analysis of the compliance testing implications:

None

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Actual Change

(a). Section <Section 4.3.6> <Title: RS-FEC>, <Page 139>

From Text:

When operating at Gen 2 speed, the 16-byte Ordered Set Symbol payload shall contain:

- For a SLOS Ordered Set or a CL_WAKE2.X Ordered Set, 128 bits of the Ordered Set.
- For all other Ordered Sets, two 64-bit Ordered Sets. When only one Ordered Set needs to be sent, the second Ordered Set shall be a SKIP Ordered Set. See Section 4.4.3 for the structure of a SKIP Ordered Set.

To Text:

When operating at Gen 2 speed, the 16-byte Ordered Set Symbol payload shall contain:

- For a SLOS Ordered Set or a CL_WAKE2.X Ordered Set, 128 bits of the Ordered Set.
- For all other Ordered Sets, two 64-bit Ordered Sets.
- When only one Ordered Set needs to be sent, the second Ordered Set shall be a SKIP Ordered Set.
- When a DESKEW Ordered Set is placed first in a 16-byte payload, the second Ordered Set shall be SKIP.
- See Section 4.4.3 for the structure of a SKIP Ordered Set.