

USB4 1.0 ENGINEERING CHANGE NOTICE FORM

Title: Remove Requirements that TBT3-Compatible Device Router Support Unused Link Configurations Applied to: USB4 Specification Version 1.0

Brief description of the functional changes:

Removes the requirement that a TBT3-Compatible Device Router support Link configurations where only Lane 1 is Active. A TBT3 CM does not use this configuration, so support is not necessary. Also, clarifies that a TBT3-Compatible Device Router only has to support operation with two Single-Lane Links, if it supports TBT3-compatibility on its UFP. A Device Router that does not support TBT3-Compatibility on its UFP, will not interact with a TBT3 Connection Manager.

Benefits as a result of the changes:

Removes unnecessary requirements.

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:

None

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Actual Change

(a). Section 13.2.3.1 USB4 Link Transitions

From Text:

When TBT3 Mode is established on the Link, a USB4 Port shall support the transitions described

in Section 4.2.2 with the following changes:

- For a Device Router, the USB4 Port shall support operation with two independent Single-Lane Links. Unlike Section 4.2.2, this configuration is not just a transient state between Link Initialization and Lane Bonding. In TBT3 Mode, both Links may operate as independent Single-Lane Links and are configured and managed separately by the Connection Manager.
- For a Device Router, the USB4 Port shall support operation with a Single-Lane Link using the Lane 1 Adapter of the USB4 Port (i.e. only the Lane 1 Adapter is in CL0 state).
- For a Device Router, the USB4 Port shall support configuration where the Lane 1 Adapter is the Upstream Adapter when the Lane 1 Adapter is the only Adapter in CL0 state.

To Text:

When TBT3 Mode is established on the Link, a USB4 Port shall support the transitions described

in Section 4.2.2 with the following change:

- For a Device Router that supports TBT3 Mode on its Upstream Facing Port, the all USB4 Ports shall support operation with two independent Single-Lane Links. Unlike Section 4.2.2, this configuration is not just a transient state between Link Initialization and Lane Bonding. In TBT3 Mode, both Links may operate as independent Single-Lane Links and are configured and managed separately by the Connection Manager.
- ~~• For a Device Router, the USB4 Port shall support operation with a Single-Lane Link using the Lane 1 Adapter of the USB4 Port (i.e. only the Lane 1 Adapter is in CL0 state).~~
- ~~• For a Device Router, the USB4 Port shall support configuration where the Lane 1 Adapter is the Upstream Adapter when the Lane 1 Adapter is the only Adapter in CL0 state.~~