

USB4 1.0 ENGINEERING CHANGE NOTICE FORM

Title: Storing Credits and TMU Packet
Applied to: USB4 Specification Version 1.0

Brief description of the functional changes:

Ingress Lane Adapter should not store Credits Packets and TMU Packets in the Ingress buffers.

Benefits as a result of the changes:

The specification is more accurate, and directs implementors to be aware of the storage of those packets.

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). 5.3.2.1 Ingress Adapter

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The *IFC Flag* and *ISE Flag* in Path Configuration Space determine which flow control scheme is used for a Path. Table 5-10 defines the flow control schemes that are used for each set of *IFC Flag* and *ISE Flag* values.

Table 5-10. Ingress Adapter Flow Control Schemes

Scheme	IFC Flag	ISE Flag
Flow Control Disabled	0b	0b
Dedicated Flow Control	1b	0b
Shared Flow Control	0b	1b
Restricted Shared Flow Control	1b	1b

An Ingress Adapter shall always use the Dedicated Flow Control scheme for a Path that corresponds to HopID 0 (i.e. for Control Packets). ~~An Ingress Adapter that is not a Host Interface Adapter shall always use the Flow Control Disabled scheme for the Paths that correspond to HopIDs 1 through 7.~~

All other Paths shall be configurable during Path Setup. A configurable Path shall use the flow control scheme as determined by its IFC Flag and *ISE Flag*.

(b). 5.3.2 Flow Control

Credits are used to track the number of Transport Layer Packets that an Ingress Adapter can receive. One credit corresponds to one Transport Layer Packet of up to the maximum size. For example, if an Ingress Adapter advertises three credits, it has buffer space to accept three maximum-sized Transport Layer Packets (even though the actual Transport Layer Packets it receives may be less than the maximum size).

~~Link Management Packets are not subject to flow control and shall not be stored in any of the Flow Control Buffers defined in this section. See the respective sections for handling each type of Link Management Packets.~~