

USB Power Delivery ENGINEERING CHANGE NOTICE

Title: Disallowing PR_Swap in EPR mode

Applied to: USB Power Delivery Specification Revision 3.2

Version 1.0

Brief description of the functional changes proposed:
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The ECN disallows PR_Swap while in EPR mode.
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Benefits as a result of the proposed changes:
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This avoids creating a backdoor way of exiting EPR mode.
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An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
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All systems will already know how to handle a Reject message when sending a PR_Swap message. Some systems may need to change to avoid sending PR_Swap in EPR mode.
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An analysis of the hardware implications:
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If anything it may simplify HW since it is now clear that handling a PR_Swap from EPR to 5V is not required.
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An analysis of the software implications:
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Updates to comprehend the new reason to send Reject.
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An analysis of the compliance testing implications:
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A negative test may need to be created to make sure EPR DUTs send Reject to PR_Swap while in EPR mode.
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Actual Change Requested

(a). Section 6.3.4, Page 133

New bullet (valid reasons to send Reject):

- It **Shall** be sent by the recipient of a PR_Swap Message while in EPR Mode.

(b). Section 6.3.10, Page 135

From:

The **PR_Swap** Message **May** be sent by either Port Partner to request an exchange of power roles. The recipient of the Message **Shall** respond by sending an **Accept** Message, a **Wait** Message or a **Reject** Message (see **Section 6.9 “Accept, Reject and Wait”**).

- If an **Accept** Message is sent, the *Source* and *Sink* **Shall** do a *Power Role Swap*.
- If a **Reject** Message is sent, the requester is informed that the recipient is unable, or unwilling, to do a *Power Role Swap* and no action **Shall** be taken.
- If a **Wait** Message is sent, the requester is informed that a *Power Role Swap* might be possible in the future but that no immediate action **Shall** be taken.

To:

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- If a **Wait** Message is sent, the requester is informed that a *Power Role Swap* might be possible in the future but that no immediate action **Shall** be taken.

The **PR_Swap** Message **Shall Not** be sent while in EPR Mode. While in EPR Mode if a Power Role Swap is required, an EPR Mode exit **Shall** be done first.