USB Power Delivery ENGINEERING CHANGE NOTICE

Title: Stricter Modal Operation Supported Definition

Applied to: USB Power Delivery Specification Revision 3.0 Version 2.0

Brief description of the functional changes proposed:
The ID Header VDO's "Modal Operation Supported" bit requirement is ambiguous, with some setting the bit when the responder is an AMC (but not AMA), or only setting the bit when the data role is UFP. This change will make the property static regardless of present data role, and makes it clear in only describes the modal operation support of the cable plug, or a UFP, and requires the bit to reflect the ACK or NAK of DiscoverSVIDs and DiscoverModes.

Benefits as a result of the proposed changes:
The Modal Operation Supported property will be more useful, as Modal Operation bit cleared will indicate to the Discover Identity initiator that the response from Discover SVIDs will be a NAK, so they may skip those commands.
Consequently, this would reduce the occurrence of an initiator receiving a NAK from Discover SVIDs and Discover Modes from an AMC (without AMA) although Modal Operation is set.

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:
Software on AMC side may use the Modal Operation bit being cleared to skip Discover SVIDs and Discover Modes steps.

USB Power Delivery ENGINEERING CHANGE NOTICE

An analysis of the compliance testing implications:

USB Power Delivery ENGINEERING CHANGE NOTICE

Actual Change Requested

(a). Section 6.4.4.3.1.1 ID Header VDO Page 141, Table 6-29

From:

Table 6-29 ID Header VDO

Bit(s)	Description	Reference
B26	Modal Operation Supported: • **Shall** be set to one if the product supports Modal Operation (Alternate Modes). • **Shall** be set to zero otherwise	Section 6.4.4.3.1.1.4

To Text:

Table 6-29 ID Header VDO

Bit(s)	Description	Reference
B26	Modal Operation Supported: • **Shall** be set to one if the product (UFP/Cable Plug) is capable of supporting Modal Operation (Alternate Modes). • **Shall** be set to zero otherwise	Section 6.4.4.3.1.1.4

(b). Section 6.4.4.3.1.1.5 Modal Operation Supported

From Text:

The Modal Operation Supported bit is used to indicate whether or the not the Product supports Modes.

To Text:

The Modal Operation Supported bit is used to indicate whether or ~~the~~ not the Product (either a Cable Plug or a device that can operate in the UFP role) is capable of supporting Modes. The Modal Operation Supported bit does not describe a DFP's Alternate Mode Controller functionality.

A product that supports Modal Operation **Shall** respond to Discover SVIDs with a list of SVIDs for all the Modes it is capable of supporting whether or not those Modes can currently be entered.