USB Power Delivery ENGINEERING CHANGE NOTICE FORM

Title: EPR Source Caps Editorial
Applied to: USB Power Delivery Specification Revision 3.1
Version 1.2

Brief description of the functional changes proposed:
Corrects description and usage of the EPR_Source_Capabilities message.

Benefits as a result of the proposed changes:
Clarifies the use of the EPR_Source_Capabilities message.

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:
Compliance already correctly interpreted the misleading text.

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Actual Change Requested

(a). Section 6.5.15

From Text:

6.5.15 EPR Capabilities Message

The EPR Capabilities Message is an extended data message made of Power Data Objects (PDO) defined in Section 6.4.1. It is used to form *EPR_Source_Capabilities* Messages and *EPR_Sink_Capabilities* Messages. Sources expose their EPR power capabilities by sending an *EPR_Source_Capabilities* Message. Sinks expose their EPR power requirements by returning an *EPR_Sink_Capabilities* Message when requested. Both are composed of a number of 32-bit Power Data Objects (see Table 6-7).

An EPR Capabilities Message ***Shall*** have a 5V Fixed Supply PDO containing the sending Port's information in the first object position followed by up to 10 additional PDOs. The EPR Capabilities Messages ***Shall*** only be sent in response to an *EPR_Get_Source_Cap* or an *EPR_Get_Sink_Cap* message. The PDOs in an *EPR_Source_Capabilities* message ***Shall*** only be accessed using the *EPR_Request* message when in EPR Mode.

To Text:

6.5.15 EPR Capabilities Message

The EPR Capabilities Message is an extended data message made of Power Data Objects (PDO) defined in Section 6.4.1. It is used to form *EPR_Source_Capabilities* Messages and *EPR_Sink_Capabilities* Messages. Sources expose their EPR power capabilities by sending an *EPR_Source_Capabilities* Message. Sinks expose their EPR power requirements by returning an *EPR_Sink_Capabilities* Message when requested. Both are composed of a number of 32-bit Power Data Objects (see Table 6-7).

An EPR Capabilities Message ***Shall*** have a 5V Fixed Supply PDO containing the sending Port's information in the first object position followed by up to 10 additional PDOs. ~~The EPR Capabilities Messages~~ ***~~Shall~~*** ~~only be sent in response to an~~ ***~~EPR_Get_Source_Cap~~*** ~~or an~~ ***~~EPR_Get_Sink_Cap~~*** ~~message. The PDOs in an~~ ***~~EPR_Source_Capabilities~~*** ~~message~~ ***~~Shall~~*** ~~only be accessed using the~~ ***~~EPR_Request~~*** ~~message when in EPR Mode.~~

(b). Section 6.5.15.2

From Text:

6.5.15.2 EPR_Source_Capabilities Message

The *EPR_Source_Capabilities* is an EPR Capabilities message containing a list of Power Data Objects that the EPR Source is capable of supplying. It is sent by an EPR Source in order to convey its capabilities to a Sink. An EPR Source ***Shall*** send the *EPR_Source_Capabilities* message:

· When entering EPR Mode

· While in EPR Modes when its capabilities change

· In response to an *EPR_Get_Source_Cap* Message

An EPR Sink operating in EPR Mode ***Shall*** evaluate every *EPR_Source_Capabilities* Message it receives and ***Shall*** respond with a *EPR_Request* Message. If its power consumption exceeds the Source's capabilities it ***Shall*** re-negotiate so as not to exceed the Source's most recently Advertised capabilities.

While operating in SPR Mode, an EPR Sink receiving an *EPR_Source_Capabilities* message in response to an

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EPR_Get_Source_Cap Messages ***Shall Not*** respond with an *EPR_Request* Message.

To Text:

6.5.15.2 EPR_Source_Capabilities Message
The *EPR_Source_Capabilities* is an EPR Capabilities message containing a list of Power Data Objects that the EPR Source is capable of supplying. It is sent by an EPR Source in order to convey its capabilities to a Sink. An EPR Source ***Shall*** send the *EPR_Source_Capabilities* message:
· When entering EPR Mode
· While in EPR Modes when its capabilities change
· In response to an *EPR_Get_Source_Cap* Message
An EPR Sink operating in EPR Mode ***Shall*** evaluate every *EPR_Source_Capabilities* Message it receives and ***Shall*** respond with a *EPR_Request* Message. If its power consumption exceeds the Source's capabilities it ***Shall*** re-negotiate so as not to exceed the Source's most recently Advertised capabilities.
While operating in SPR Mode, an EPR Sink receiving an *EPR_Source_Capabilities* message in response to an *EPR_Get_Source_Cap* Messages ***Shall Not*** respond with an *EPR_Request* Message.
The PDOs in an ***EPR_Source_Capabilities*** message ***Shall*** only be requested using the ***EPR_Request*** message and only when in EPR Mode.

(b). Section 6.5.15.3

From Text:

6.5.15.3 EPR_Sink_Capabilities Message
The *EPR_Sink_Capabilities* is an EPR Capabilities message that contains a list of Power Data Objects that the EPR Sink requires to operate. It is sent by an EPR Sink in order to convey its power requirements to an EPR Source. The EPR Sink ***Shall*** send the *EPR_Sink_Capabilities* message in response to an *EPR_Get_Sink_Cap* Message.

To Text:

6.5.15.3 EPR_Sink_Capabilities Message
The *EPR_Sink_Capabilities* is an EPR Capabilities message that contains a list of Power Data Objects that the EPR Sink requires to operate. It is sent by an EPR Sink in order to convey its power requirements to an EPR Source. The EPR Sink ***Shall*** send the *EPR_Sink_Capabilities* message in response to an *EPR_Get_Sink_Cap* Message, but on no other occasion.