LLDP extension fields

Info (not part of baseline)

Type 3 and Type 4 devices are required to send Power via MDI TLV frames with the "Type 3 and Type 4 extension" fields included. We know that some Type 1 and Type 2 devices, contrary to the LLDP specification, ignore Power via MDI fields that have a length different from the expected length.

We can increase interoperability with these non-compliant devices by allowing Type 3 and Type 4 devices to fall back to Type 1/Type 2 style fields when needed.

The approach taken here is to only require a Type 3/4 device to include these fields when connected to another Type 3/4 device. Specifically for PSEs connected to a Class 4 or lower device it is challenging the figure what the PD Type is. The requirement as worded does not impose a specific way to test for that, it will be up the PSE to make a determination. One way could be to start out with Type 3/4 fields and switch over when the PD sends Type 1/2 style fields.

79.3.2 Power via MDI TLV

Replace paragraph in 79.3.2 as follows:

~~If a Type 1 or Type 2 power entity implements Data Link Layer classification, it shall support the Power Via MDI TLV DLL classification extension fields shown in Figure 79–3 after the PI has been powered. If a Type 3 or Type 4 power entity implements Data Link Layer classification, it shall support both the DLL classification extension fields and Type 3 and Type 4 extension fields shown in Figure 79–3 after the PI has been powered. Type 1 and Type 2 devices shall not include the Type 3 and Type 4 extension fields in the transmitted Power via MDI TLV.~~

Power entities that implement Data Link Layer classification shall support the Power via MDI TLV DLL classification extension fields shown in Figure 79–3 after the PI has been powered. Type 3 or Type 4 power entities that implement Data Link Layer classification and are connected to another Type 3 or Type 4 power entity shall support the Type 3 and Type 4 extension fields shown in Figure 79–3 after the PI has been powered. Such entities when connected to a Type 1 or Type 2 power entity may support the Type 3 and Type 4 extension fields shown in Figure 79–3 after the PI has been powered. Type 1 and Type 2 devices shall not include the Type 3 and Type 4 extension fields in the transmitted Power via MDI TLV.