The Basics of DCBX

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What is DCBX?

- Data Center Bridging Capability Exchange

- Three components

    A set of LLDPv2 802.1 extension TLVs that are interesting to users of the technologies developed by DCB

    A capability to *suggest* parameter settings to the remote end

    A capability to allow the local device to configure its parameters based on the observed configuration of the far end

- DCBX does not:

    Expect, process, or generate acknowledgements or NAKs

- Three forms of parameter passing:

    Informational

    Symmetric

    Asymmetric

Informational Parameter Passing

- This is just plain 'ole LLDP

- LLDPv2 802.1 extension TLVs defined

LLDP Review

- Two databases

    Local: contains the local device's parameters

    Remote: contains the device parameters received from the remote device

- LLDP does the following:

    Periodically transmits the Local Database

    Updates the Remote Database based on LLDP PDUs received from the remote device

- Higher level things read the remote database and write the local database

    e.g. management functions

- Any rules about how the local parameters are set is beyond the scope of the LLDP standard
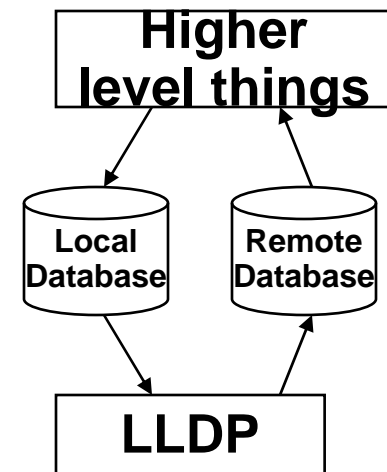
Higher level things

Local Database

Remote Database

LLDP
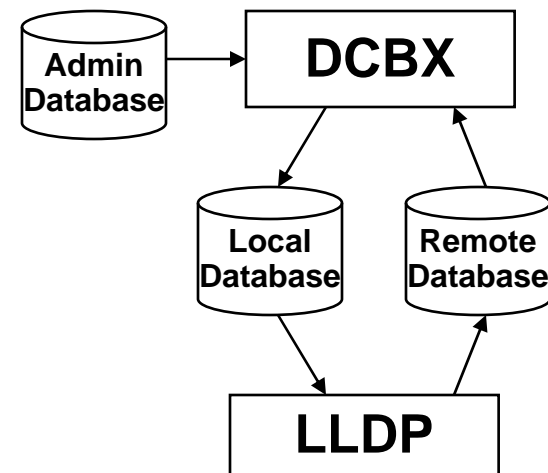
Symmetric Parameter Passing

- Provides a mechanism for the local device to configure its parameters based on those observed from the remote device

  Used for specific parameters for which the normal result is each end of the link to have the same configuration (e.g. PFC)

- Symmetric Parameter Passing does the following:

```
Do forever
    if (!Local Willing or Remote Parameter == NULL or Remote Willing =
=TRUE)
        Local Parameter = Admin Parameter
    else
        Local Parameter = Remote Parameter
    end if
loop
```

- That's all folks!

Assymetric Parameter Passing

- Provides a mechanism for the local device to configure its parameters based on a recommendation observed from the remote device

  Used for specific parameters for which the normal result is that each end of the link does not necessarily have the same configuration (e.g. ETS)

- Recommendations are just another LLDPv2 802.1 extension TLV

- Assymetric Parameter Passing does the following:

```
Do forever
    if (!Local Willing or Remote Recommendation == NULL)
        Local Parameter = Admin Parameter
    else
        Local Parameter = Remote Recommendation
    end if
loop
```

- That's all folks!
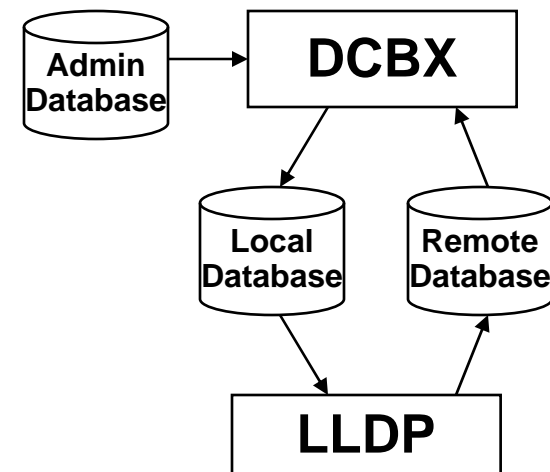
Does this violate the intent of LLDP?

- Depends on your point of view; however:

    DCBX does not expect any special behavior from LLDP

    It does not produce acks or naks

    Does not care what the remote side does

    Is not chatty

    Consumes a small number of octets to perform its function

- Is it a negotiation?

    If you are willing define a negotiation as an agreement between two parties in which one party does not care nor does it listen to or respond to whatever the other party decides, then yes maybe.