Portal Associations in P802.1CS D2.1

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P802.1CS D2.0

1. Clause 7.2 of IEEE P802.1CS D2.0 (the January 2019 draft), state machine creation, was very complex, and tied tightly to LLDP, even where LLDP was not required.
2. The text in D2.0 was somewhat confused, especially in the names of the primitives in Clause 10, between the creation and the operation of the LRP-DT and LRP-DS state machines.
3. The descriptions of TCP operations were vague.
4. Bottorff and Congdon suggest simplifying the state machine creation mechanism and decoupling LLDP from control of LRP by the application.
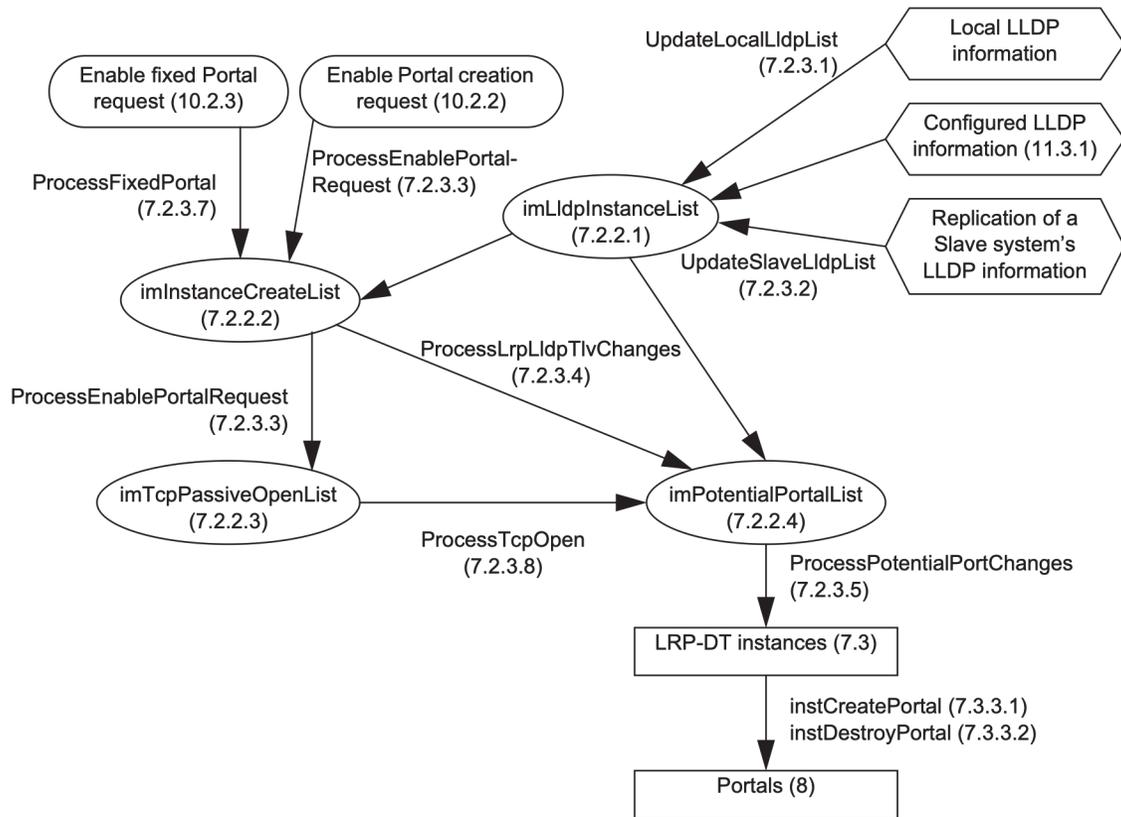
D2.0 State machine creation D2.1
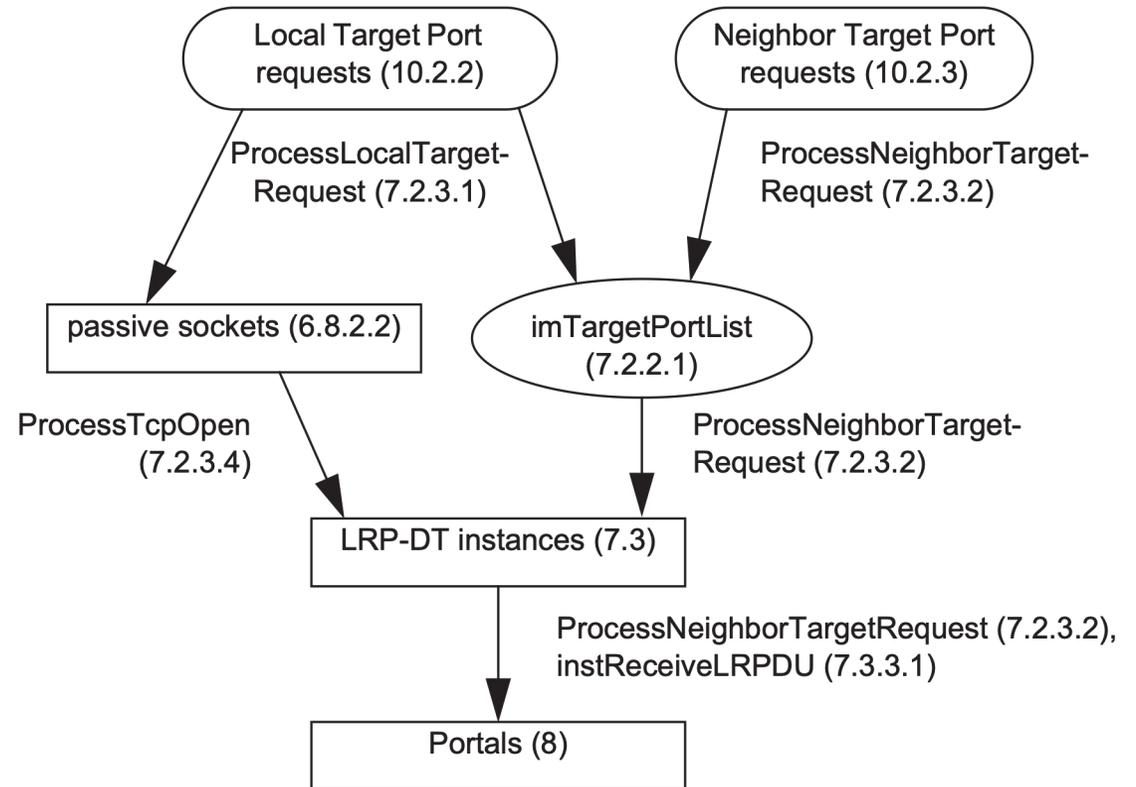

Figure 6-8—State machine creation

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State machine creation

1. The application creates (via primitives) local target ports and attaches remote target ports to them. (This database can be the same information that is supplied by LLDP, if used.)
2. This database creates LRP-DT instances and, if the remote target information is complete, Portals, and the Portals start Hello transmission.
3. Passive TCP LRP-DT instances are always created. Receipt of an incoming connection creates a Portal that does **not** yet send Hellos.
4. When a Hello is received, local target port must exist. Whether remote target port is in table or not, Hello is offered to application, and if approved, Portal is created and remote port is added (if necessary) to table.
5. **Application controls the table** – not LLDP directly – so Portals and LRP-DT instances are deleted by manipulating the table.

Main changes

- Three tables in Clause 7 and Clause 11 → one table in Clause 7.
- No read-write objects in MIB.
- TCP is handled in terms of POSIX sockets.
- Application is free to couple LLDP and/or port state to the creation/destruction of Portals (Applicant + Registrar) arbitrarily.
- Portal maintenance primitives are now:
  - Local Target Port request
  - Remote Target Port request (Enable [Fixed] Create & Destroy requests gone)
  - First Hello indication (was: Portal Create indication)
  - Associate Portal request (was: Complete Portal create)
  - Portal Status indication (unchanged)

Summary

- D2.1 is **19 pages shorter** than D2.0.
- D2.1 is **21.6% simpler** than D2.0.
- D2.1 was more difficult for the Editor than expected.
- The simplification is, I think, worth the effort.

Thank you