Secure device onboarding for DPU/IPUs

Title	*Secure device onboarding for DPU/IPUs*
Difficulty	**MEDIUM**

Description

Traditional PXE/HTTP methods for device onboarding are no longer applicable in secure environments. Many companies started to adopt a new standard SZTP (RFC 8572).

- Developing SZTP client that can run on every DPU and IPU for secure device onboarding and late binding.
    - Working with the existing SZTPD bootstrap server.
    - Including Device Identity handling per IEEE 802.1AR (stored in TPM2.0 or alike secure storage).
    - Including images and configuration scripts downloading in a secure way and flushing the initial image on the device.

Testing the code in a real environment in the OPI hardware lab as well as documenting best practices and gotchas.

Additional Information

More details here https://github.com/opiproject/sztp/blob/main/ZTP.md

https://github.com/opiproject/sztp/tree/main/sztp-agent

Learning Objectives

Process of Implementing a specification (RFC).

Expected Outcome

sZTP client code enhanced to include additional features.

Education Level

Students are required to be enrolled in an undergraduate program to be eligible.

Skills

Go Language.

Future plans

Enhance the Provisioning and Lifecycle process with additional implementation activities.

Preferred Hours and Length of Internship

Full-time (40 hours a week for 12 weeks during the summer) or Part-time (20 hours a week for 24 weeks starting in summer and ending in fall)

Mentor(s) Names and Contact Info

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