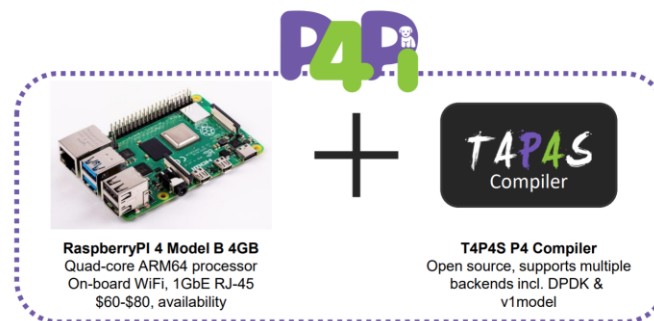




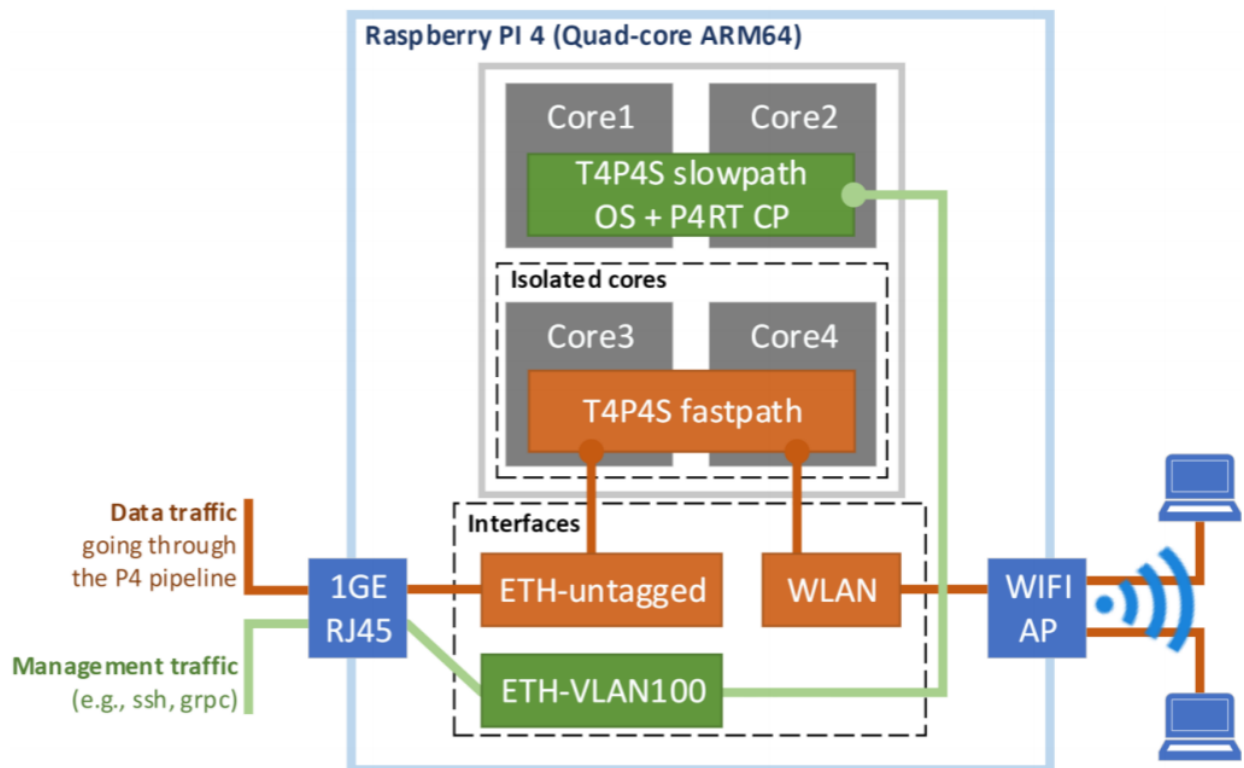
P4PI L2 Enhanced Switch

Abstract

P4PI is P4 (Data plane programming language) on Raspberry PI SBC (Single Board Computer used in many implementations including IOT). **P4PI** is a small scale functional programmable switch/Router based on open source code (T4P4S P4 Compiler) and open source hardware.

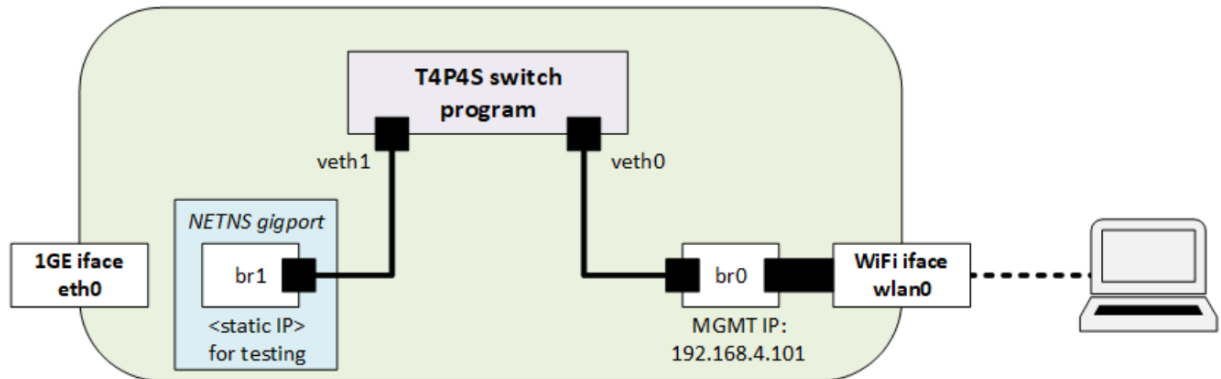


P4PI reference architecture:





The data plain is P4 programmable with several switch architectures available. We will use the V1 model architecture to program a L2 switch using T4P4S switch program.



Further information can be found in the P4Pi repo: <https://github.com/p4lang/p4pi>

Objective

The purpose of this project is to develop a private encrypted network (Tunneling) using 2 P4Pi devices.

Project Overview

1. Install basic L2 switch on RaspberryPi 4 (<https://github.com/p4lang/p4pi/wiki>, <https://github.com/p4lang/p4pi/wiki/Running-P4-examples-on-P4Pi>).
2. Implement encrypted tunneling
3. Define KPIs (Key Performance Indicators) and analyze the performance of the system.

Notes

- The above list is an estimate. Goals and tasks might be modified during the first few weeks of the projects before the finalization of High Level Design Document.
- General requirements for all LCCN Projects are specified at the lab website: <https://lccn.cs.technion.ac.il/lab-courses/>



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