

Abstract

In this talk, we present Tassen, an API for Control and User Plane Separation (CUPS) for a disaggregated Broadband Network Gateway (BNG). The goal of Tassen is to facilitate the development and integration of multi-vendor disaggregated BNG solutions. We do this by formally specifying the packet forwarding pipeline of a traditional BNG using the P4 language, and by using P4Runtime and gRPC to derive an API to manage forwarding state at runtime. Similarly, we use the OpenConfig standard models and gNMI to configure traffic management (HQoS), interfaces, and other aspects of a BNG user plane. We discuss the benefits for testing and validation of both control plane and user plane implementations, as well as challenges to support Tassen on different merchant silicon targets, with or without SEBA. Finally, we will touch upon the relationship with 3GPP's Packet Forwarding Control Protocol (PFCP) for mobile core disaggregation that is being considered by the Broadband Forum as the standard for BNG CUPS. We discuss how Tassen can be used both as an alternative or complementary to PFCP.