SDN Fundamentals & Techniques

Lecture 5 : SDN Basics

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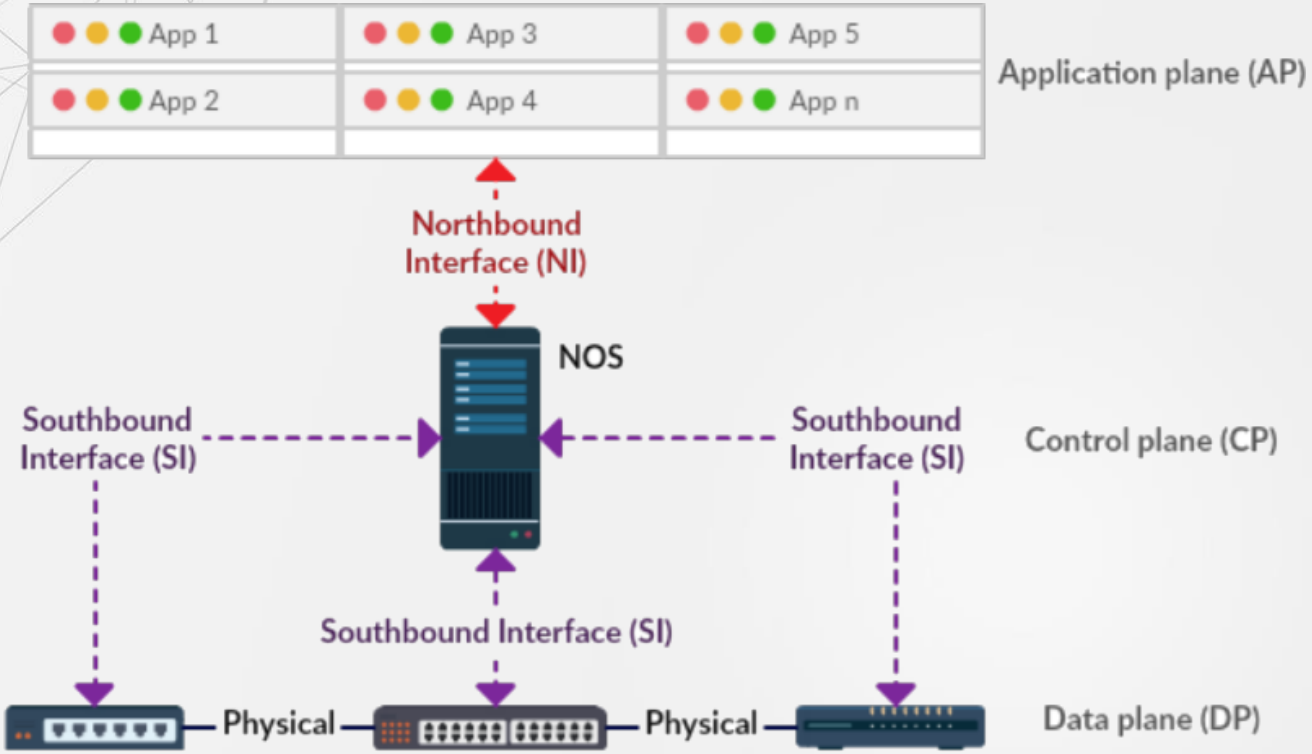
Reminder of the grading system

- **In/after-class Quizzes (30% of course grade)**
  - Short Quiz consisting of multiple-choice questions that sum up the main take-away of the relevant session.
- **Practical Assignments – Active participation to the obligatory SDN experiments (40% of course grade)**
  - Each student will make different demos individually and report on them.
- **Final Examination (30% of course grade)**
  - Open book or in classroom?
  - Multiple-choice questions or descriptive examination?

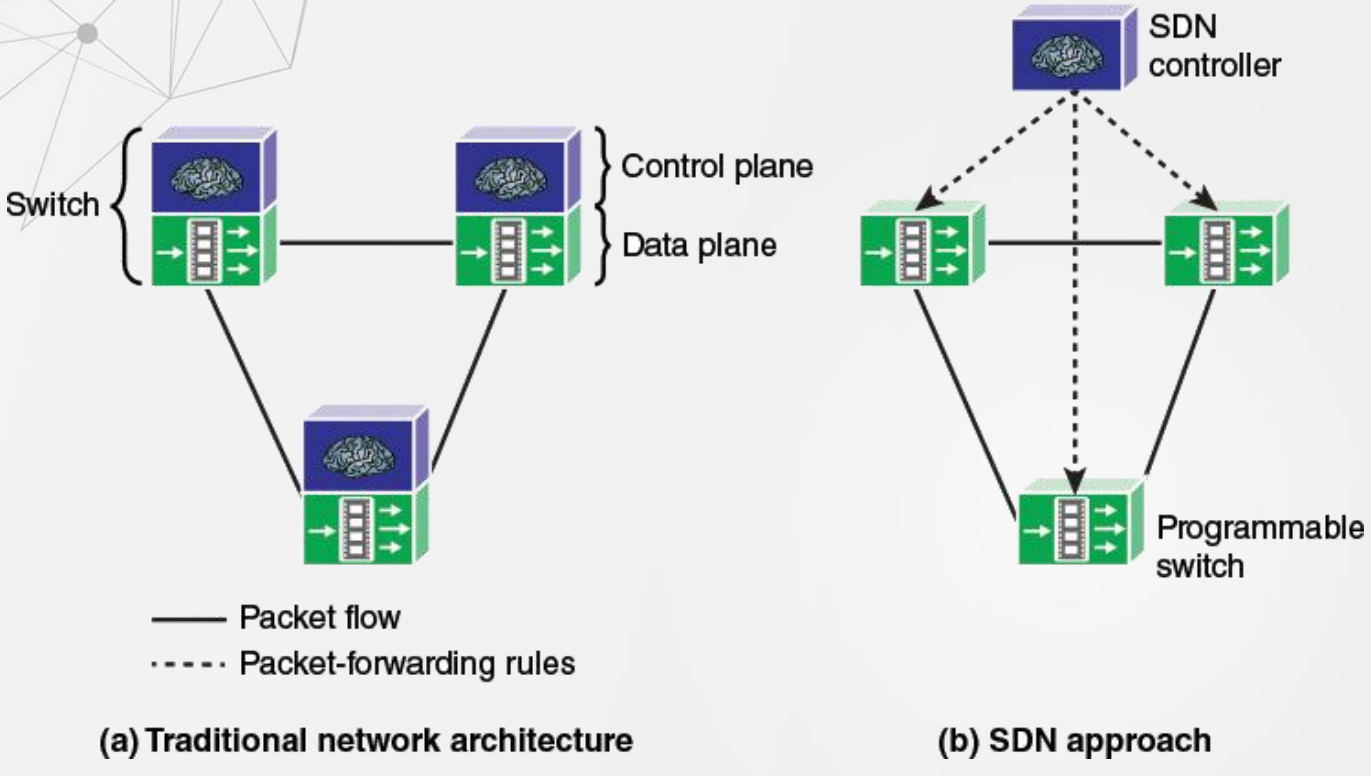
Software-Defined Networking (SDN) technology

Separates the network control plane from the forwarding plane to enable more automated provisioning and policy-based management of network resources.

SDN Separates the control plane from the data plane



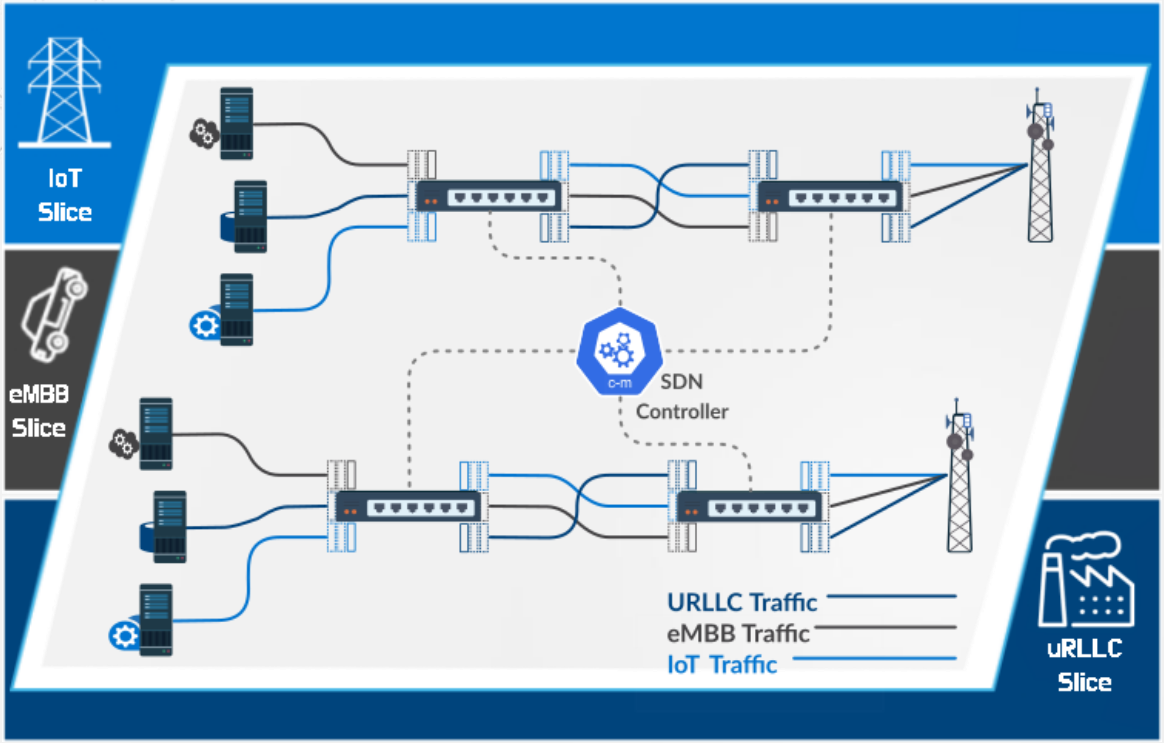
SDN shifts the intelligence of the network to a controller



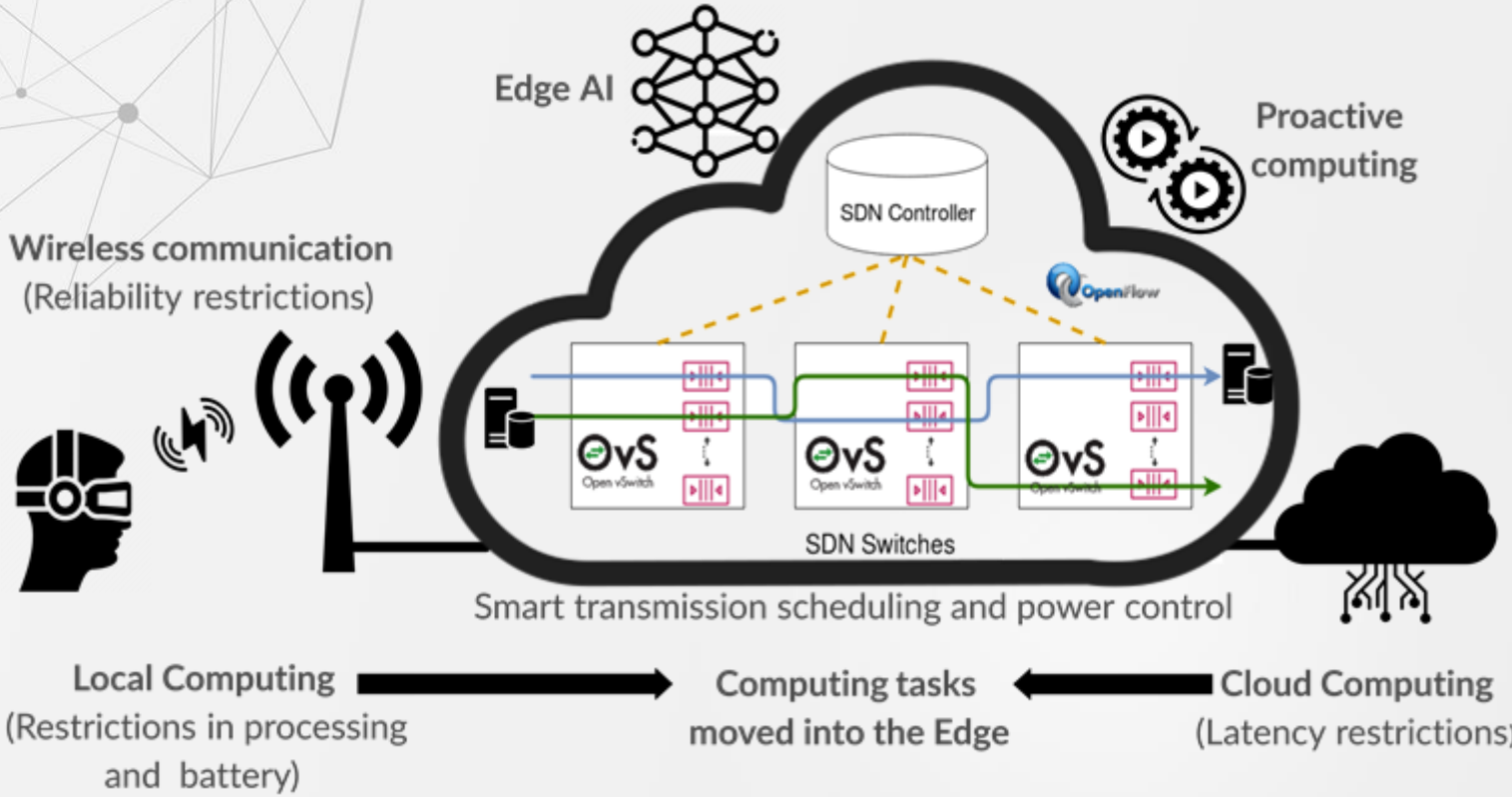
Advantages of SDN : Flexibility, Security, Cost reduction

Centralized network	Flexibility and Innovation
Security	Cost reduction
Quality of Service	Cloud Abstraction

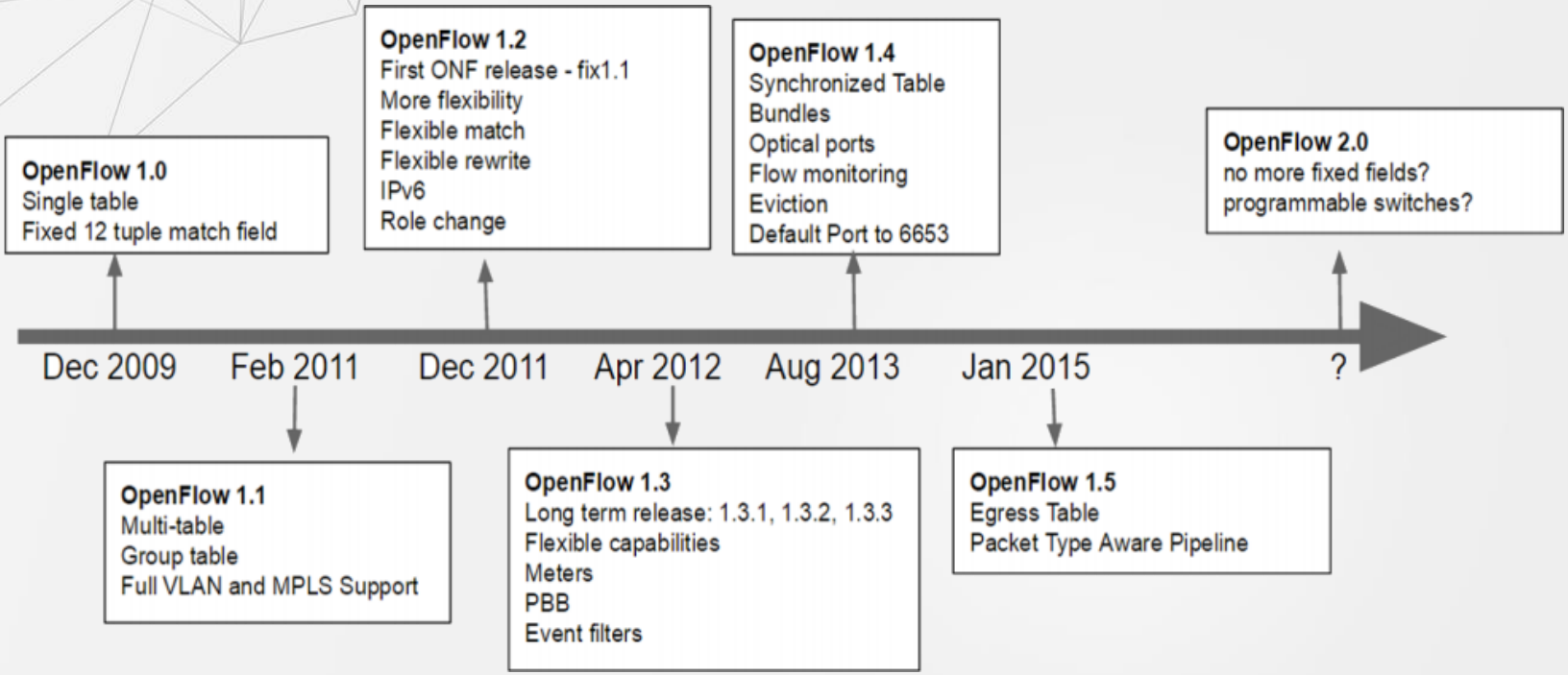
SDN use case I: Orchestration of mobile network services (5G Network



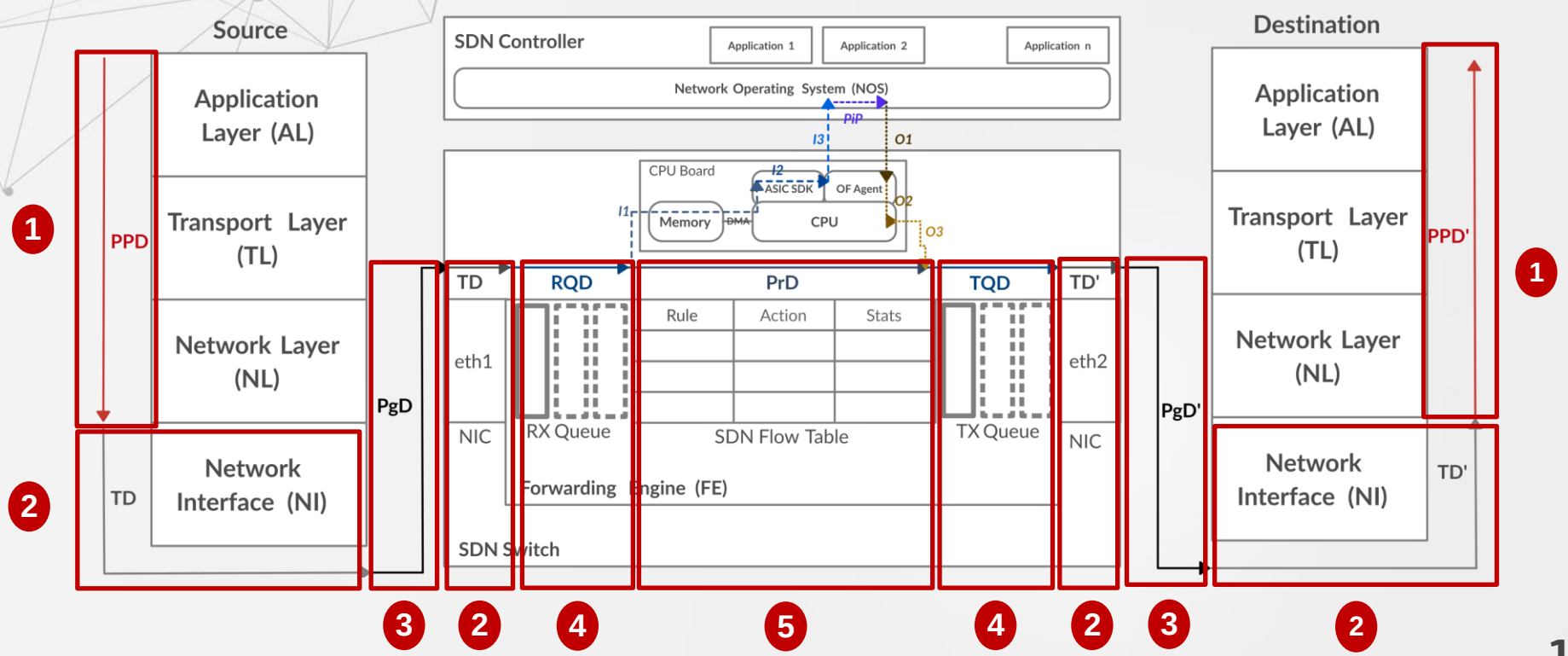
SDN use case II: Extended Reality



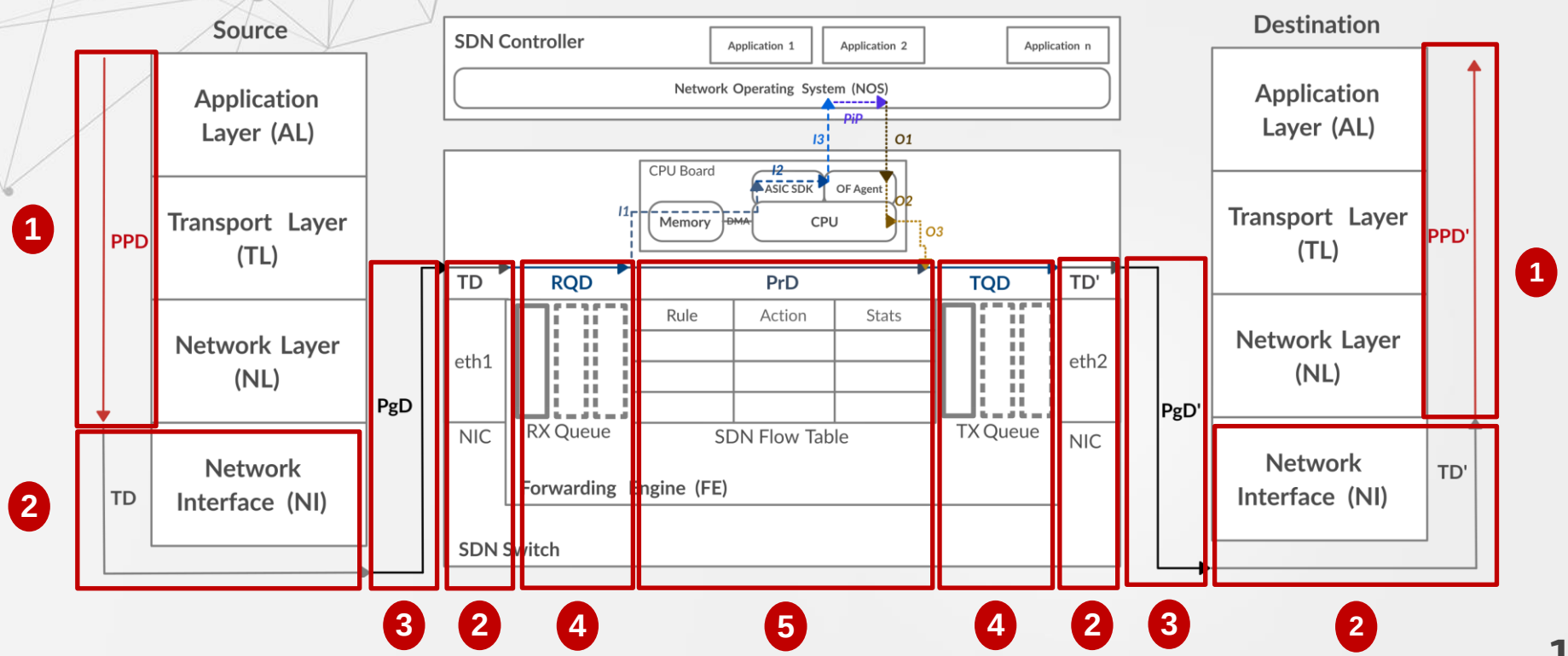
Southbound API protocols : OpenFlow



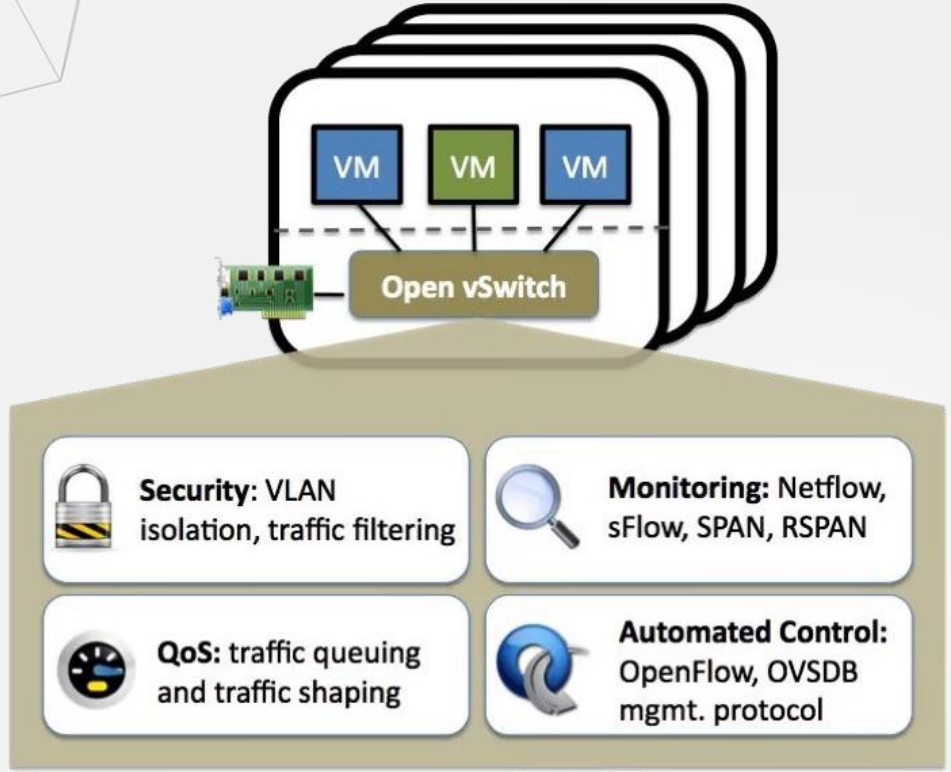
End-to-End SDN based Communication



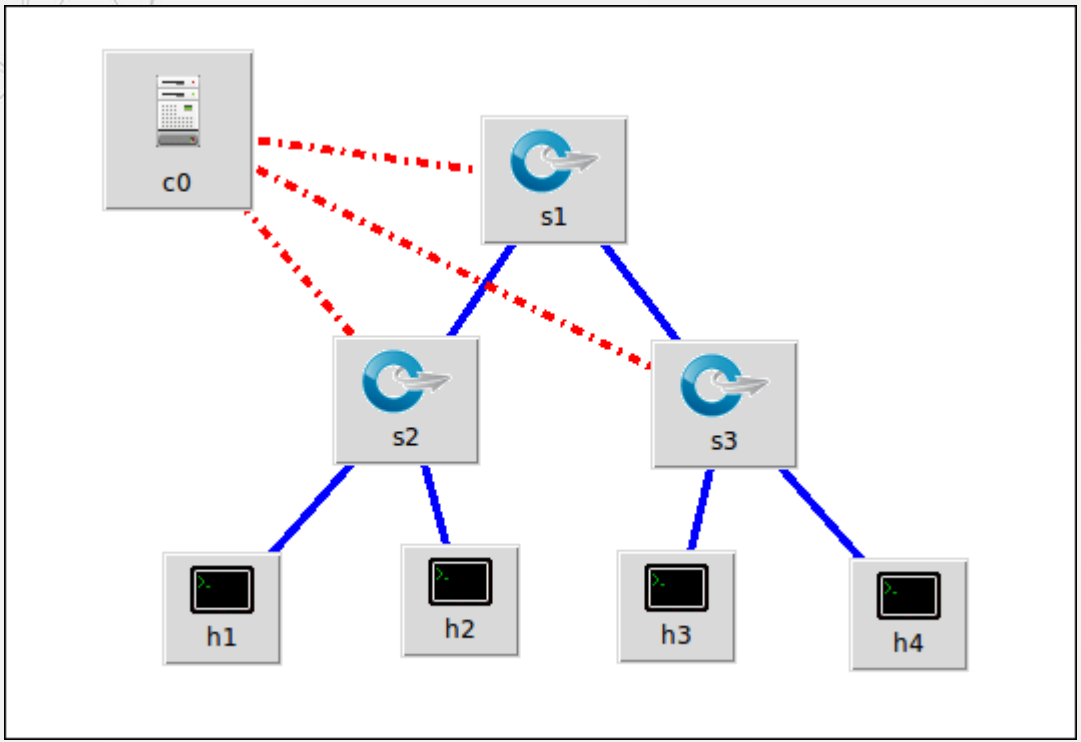
End-to-End SDN based Communication



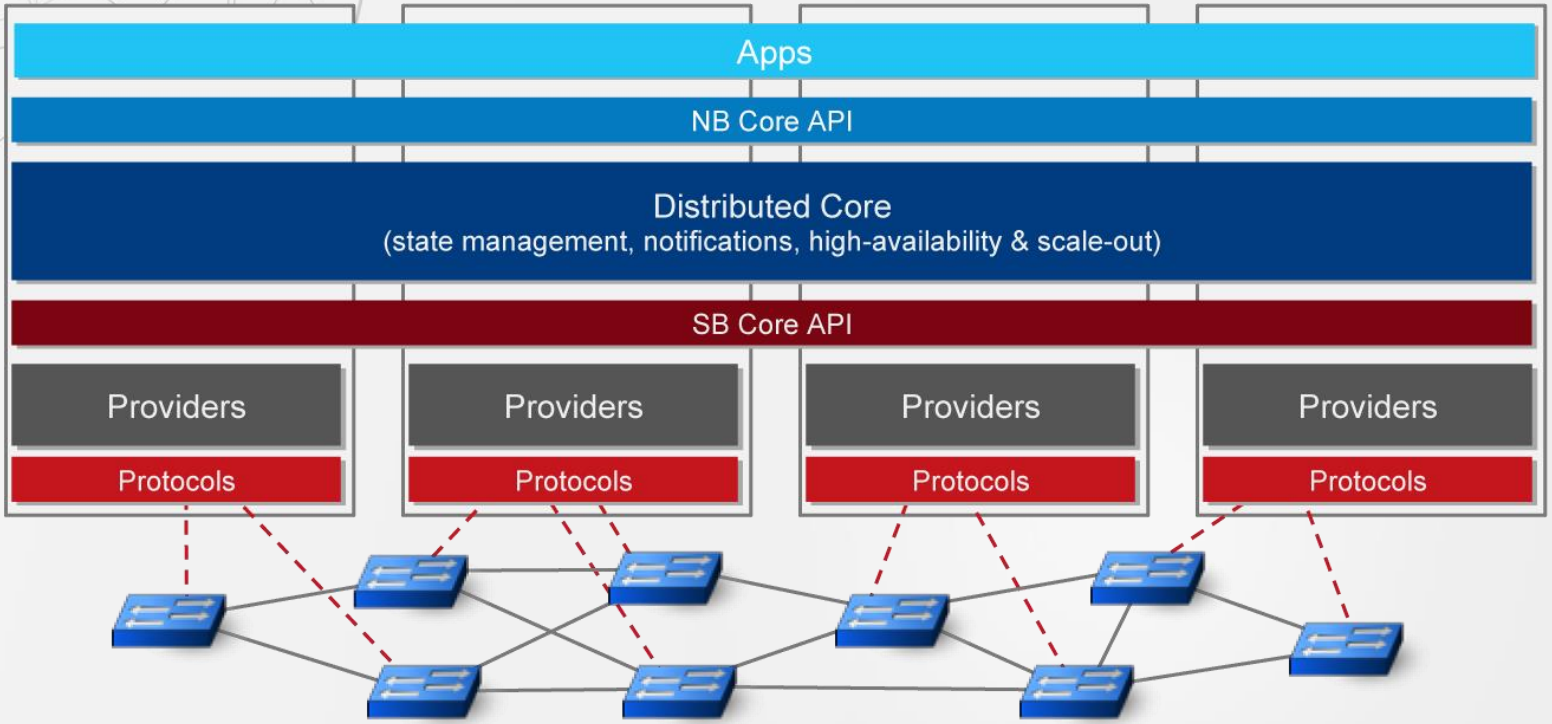
OpenVirtual Switch (OVS)



Mininet : Network emulator



Open Network Operating System (ONOS)



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THANKS

Does anyone have any questions?

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