1. Future Internet
   1. Software Defined Network

The Internet has experienced a dramatic growth in nowadays. It tries to make almost everything connected and accessible from anywhere, which means the structure of the network will inevitably become more and more heavy and complicated.

* + 1. Architecture of SDN

1. Short history and current state.
2. General scheme, the decouple of Control and Data Plane, the concept of centralization.
3. Briefly introduce communication scheme between different planes and the protocols (OpenFlow, Northbound and Southbound, etc.)
   * 1. Future application of SDN
4. Advantages compared to the traditional network structure
5. Problem faced before widely deployed
   1. Efficient packet forwarding
      1. Packet Flow Path
6. Introduce Packet Flow forwarding scheme
7. The reason to set up Packet Flow Path (real-time, Optical communication without buffer)
   * 1. Network Function Virtualization

Introduce the NFV concept and MPLS, which is used to establish the virtual channel for flow.

* + 1. Latency in Packet Communication Protocol

1. Briefly talk about the waiting latency happened in “Send-and-Wait” Protocol with “Timeout Recovery”
2. The packet flow path can reduce the need of “send-and-wait” situation which is likely to happen between different plane communication. And the distribution function of total delay can be used to optimize the timeout value.
   1. Cloud support

Mainly about the DB support for controller. Abstract the database of storing network information from controller to cloud end, to implement data restoration for distributed system.

1. SDN: A comprehensive survey

The current Internet had led to the trend of making everything connected to each other with various new services deployment and less conmunication delay. However, the shortcoming of traditional network structure is obstructing the innovation of Internet. Despite the widespread adoption, traditonal IP network are complex and hard to manage(1)[1],

Everything is connected to each other and can be accessible from anywhere, IoT which will require rub. Since many functions have been embeded into individual network device, which will make it complex and error-prone to maintain, and even more time-consuming to deploy new service.