

# Towards Multi-domain Virtual SDN Testbeds

Hiroaki Yamanaka, Eiji Kawai, Shuji Ishii,  
and Shinji Shimojo

National Institute of information and Communications  
Technology (NICT)

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# Self-introduction

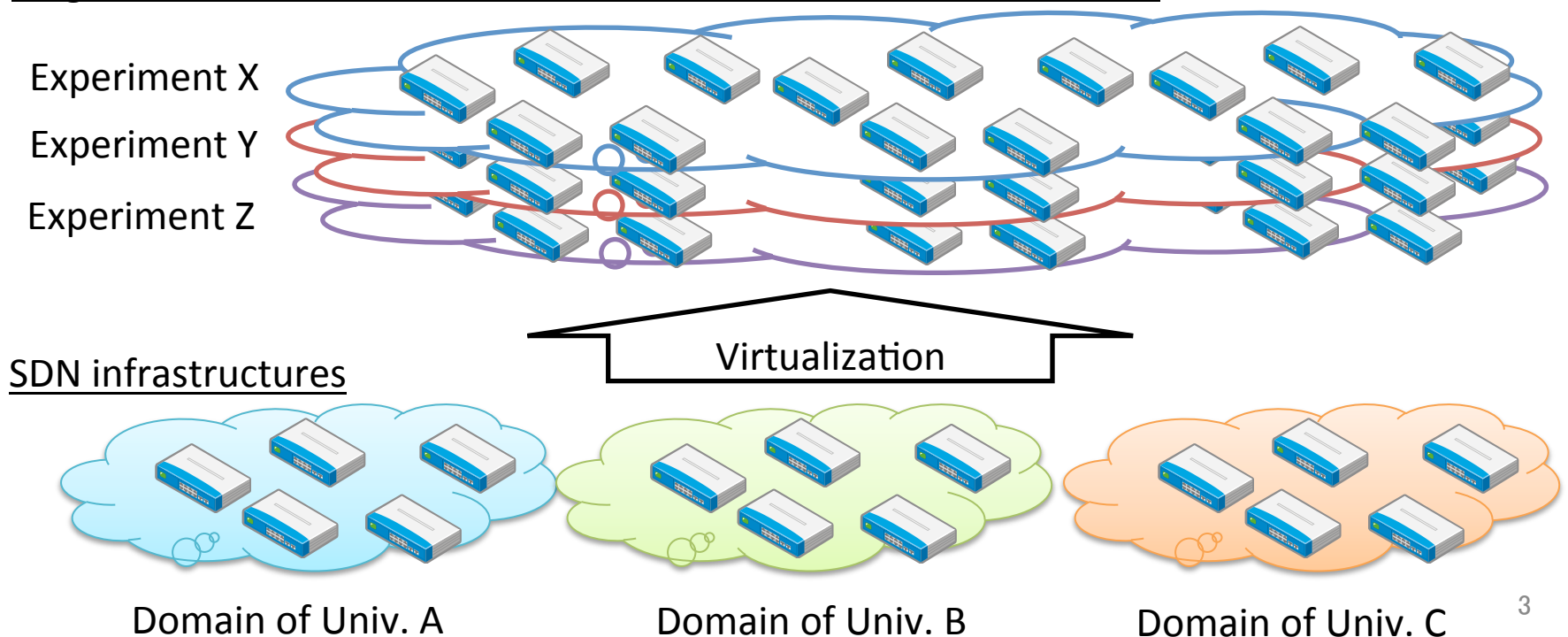
- A researcher in National Institute of Information Communications Technology (NICT)
  - Research interest: SDN, network virtualization
- NICT provides a wide-area SDN testbed in Japan
  - Research Infrastructure for Large-Scale Experiments (RISE)



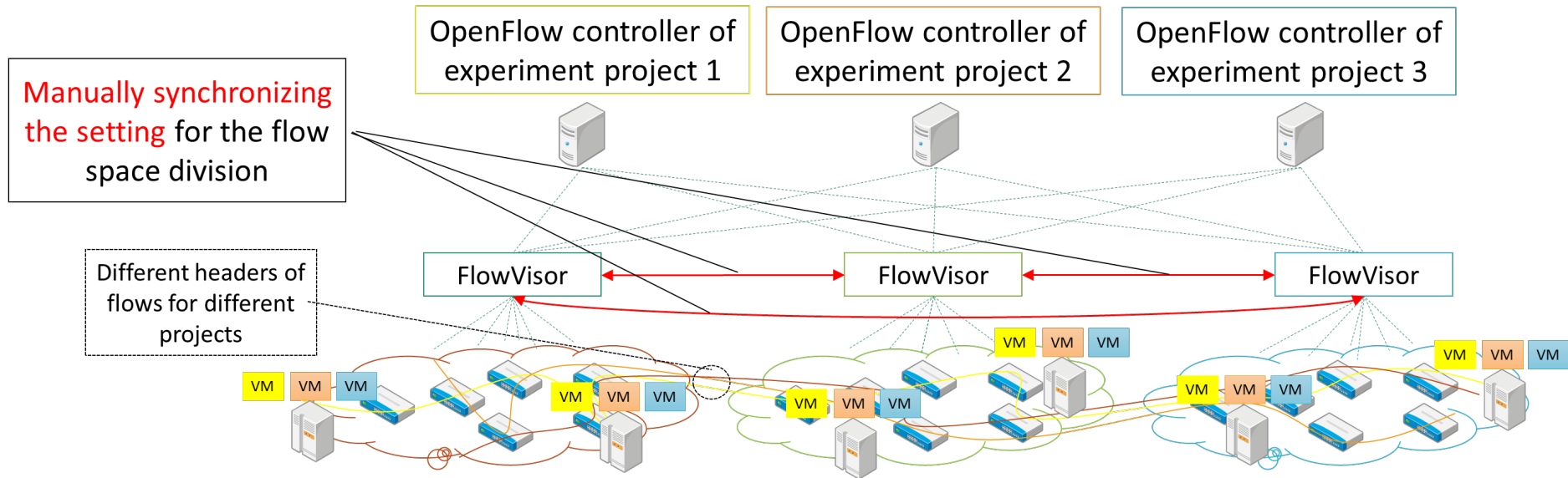
# PragmaENT and Virtualization

- PragmaENT is a multi-domain SDN infrastructure
- Virtualization is necessary to support multiple experiments on shared infrastructures

Large-scale virtual SDN testbeds over multi-domain infrastructures



# An issue to deploy Virtualization

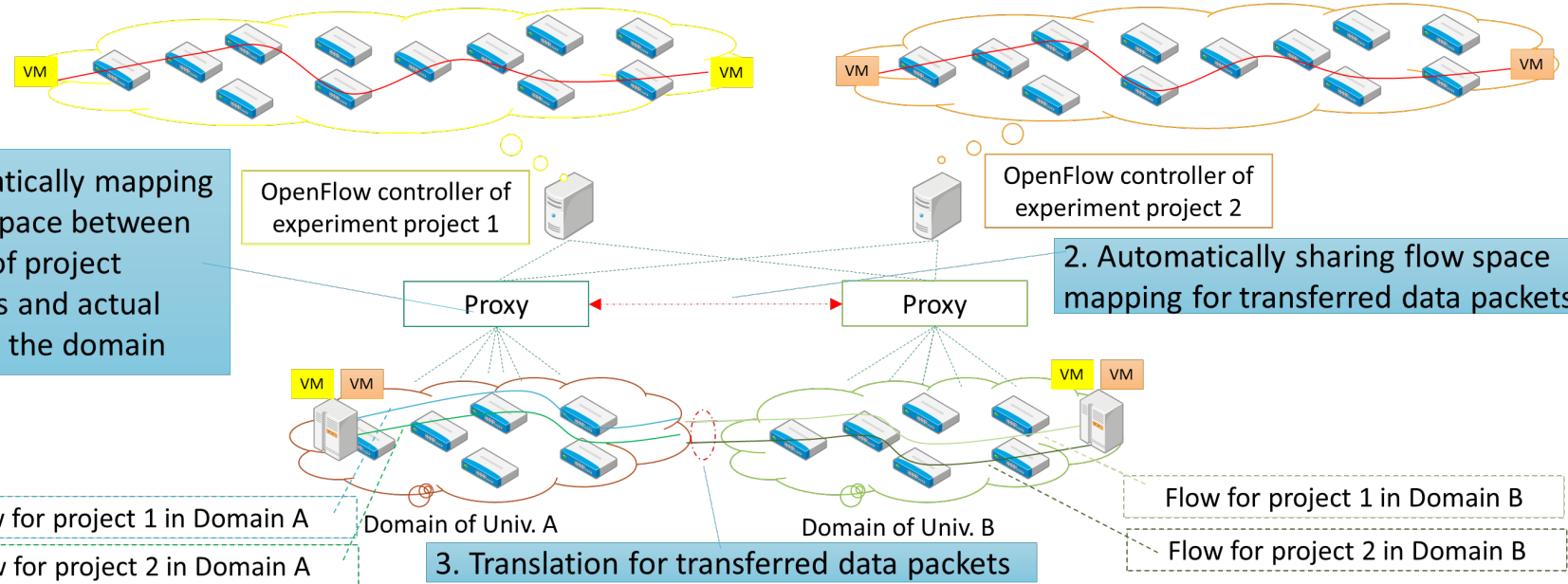


- FlowVisor
  - Setting the **division header value (i.e., MAC, IP, TCP/UDP addresses) space** for each experiment project is required
  - **Manual synchronization** of the setting for division in all domains is required



**High operational costs**

# A proposal to reduce operational costs



- Virtualizing the flow space => **no need to consider the header value division**
- Automatically synchronize the setting => **no need to manual synchronization of setting**



**Lowering the operational costs**

# Status and Future Plan

- Just finished development of the prototype
  - Now I am setting the prototype on RISE for my experiments
- I believe the proposed technique recues the operational costs in PragmaENT.
- Detailed discussion is appreciated.
  - I have a poster in front of the room 4.