NARLabs
National Applied Research Laboratories
National Center for
High-performance Computing

SDN-IP Peering for IoT Data Transmission / Backup between TW and JP

Commitment • Passion • Innovation

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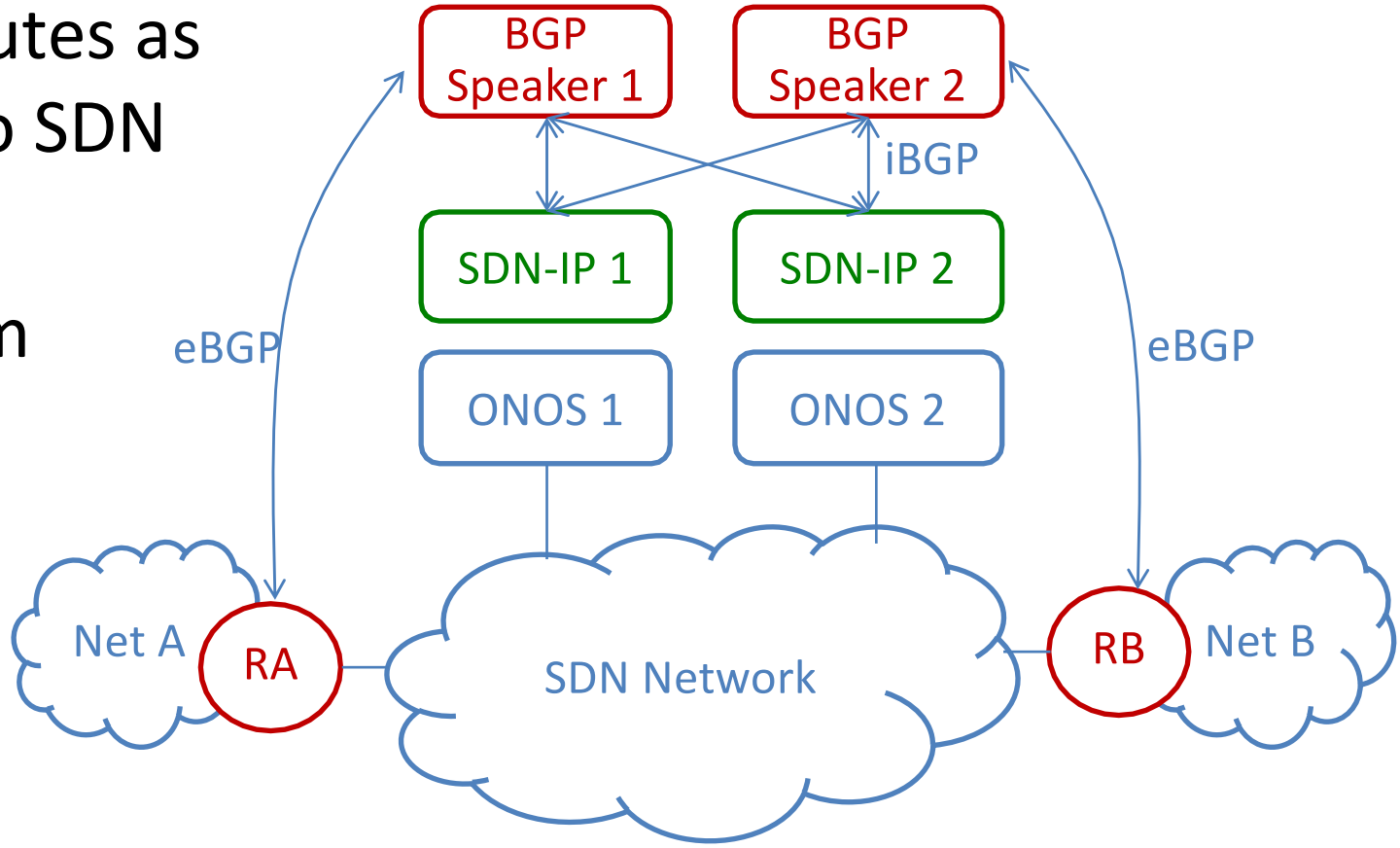
SDN-IP Architecture

- Served as a transit network among different networks
- Install BGP routes as flow entries to SDN switches
- HA mechanism



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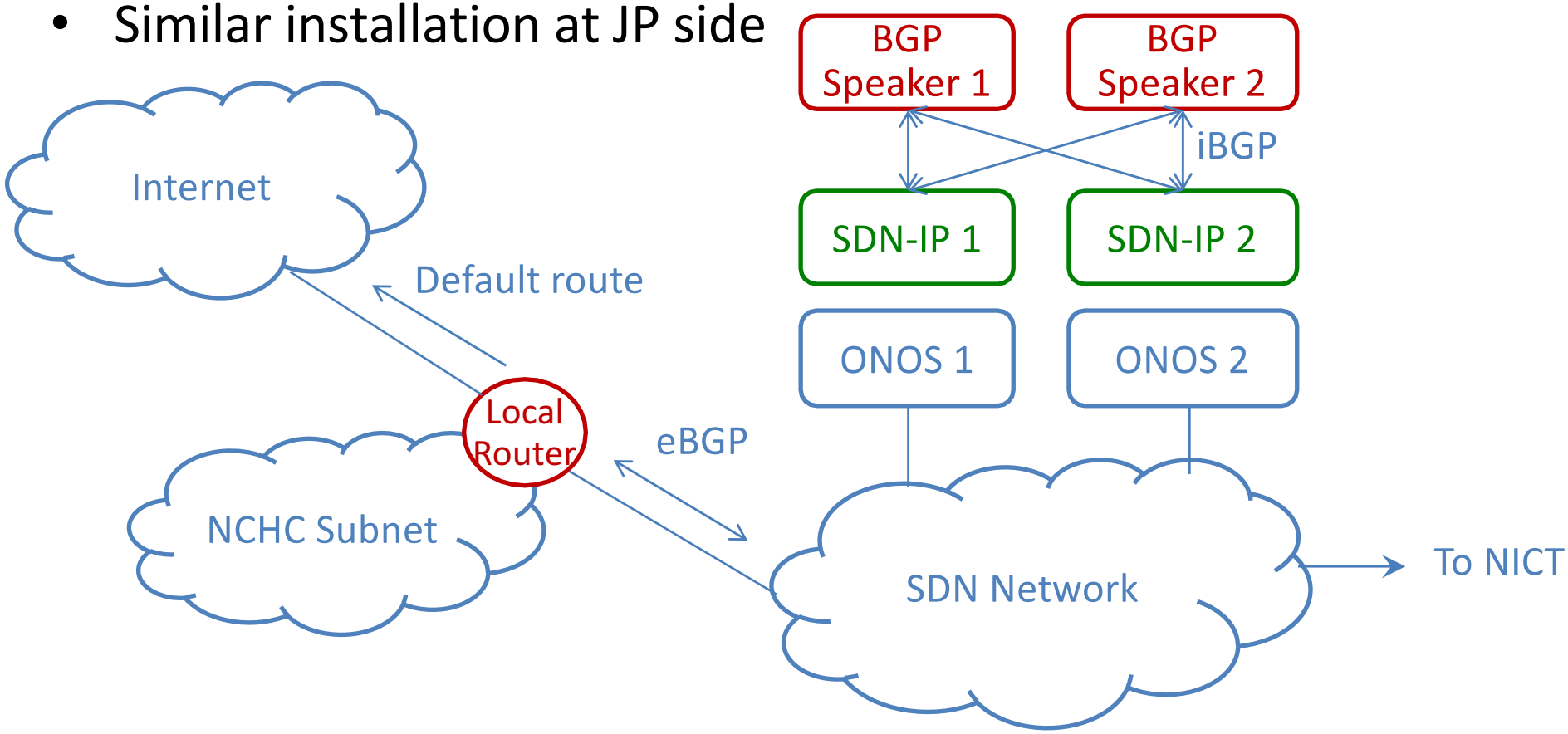
TW Side Implementation

- NCHC reserves a subnet for DB servers/VMs
- A local Router (with Private AS) learns routes from NICT through SDN-IP, with legacy Internet as default route
- Similar installation at JP side



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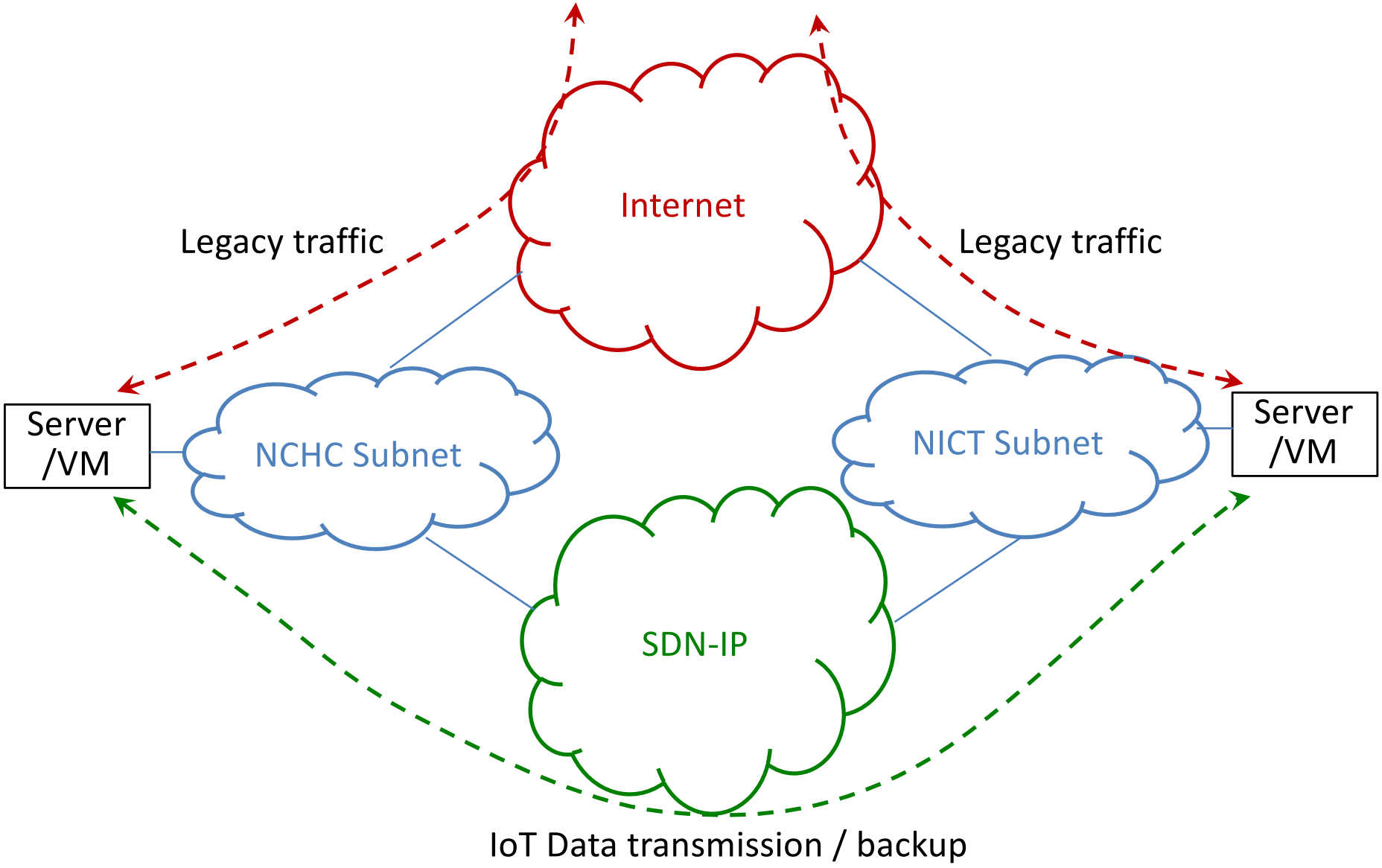
Traffic Flows



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Resilient transnational network with SDN-IP

- Objectives
  - federate IP networks with SDN-IP for resilient and effective infrastructure for disaster mitigation and smart city
- Problem to be solved
  - Interconnection through legacy internet by IP tunneling
  - Migration to native SDN connection (work with
  - POC for SDN/IP (performance, feasibility)
  - After POC, application will come
  - How to integrate with access network (such as Free space optics)
  - Automatic configuration of test environment on pragram-ent??
  - Put intelligent to network (SDN-IP)??
- Team Members
  - NCHC, HUST, NICT, ASTI, NECTEC, (SINGAREN)
- Work Items
  - Connect JAPAN(NICT)-Taiwan(NCHC) with SDN-IP
  - Introduce JOSE and IOT testbed to SDN-IP
  - Connect Vietnam(HUST) and Philippine (ASTI) with IP tunneling and migrate
    - Building software based environment for SDN (Te-Lung)
    - IP tunneling base openflow environment
    - After this, try to connect via HK.
  - Introduction of Application
- Schedule/Deliverables
  - Phase I Japan-NICT
  - Phase 1.5 connect Vietnam and Philippine with IP tunneling
  - Phase II IoT testbed inclusion
  - Phase III inclusion of application

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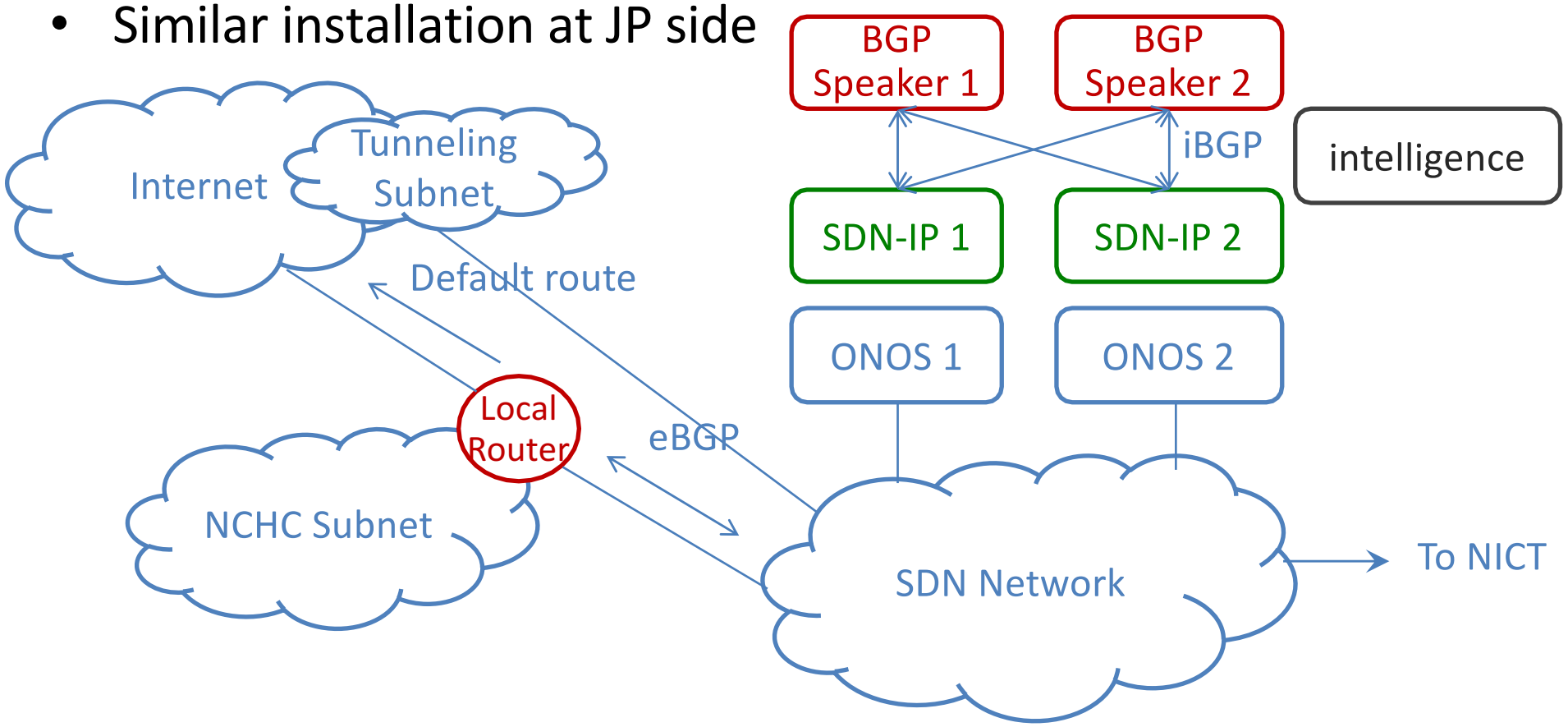

Thank You !