SETTING UP A LOCALLY SHARED INFRASTRUCTURE FOR MORE RESILIENT NETWORK, COMPUTE AND STORAGE RESOURCES FOR RESEARCH

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LOCALLY SHARED INFRASTRUCTURE FOR MORE RESILIENT NETWORK, COMPUTE & STORAGE RESOURCES FOR RESEARCH

Background :

Currently there are initiatives within the ASEAN, and Asia Pacific regions for setting up a shared network and shared infrastructure. Some of those where the Philippines, through DOST-ASTI, is involved in are: (1) the ASEAN-IVO Project on Software Defined System on Disaster Mitigation and Smart Cities, where an SDN-IP peering for IT data transmission testbed; (2) ASEAN HPC Taskforce with the WG on ASEAN Federated Identity and Login Management (FILM) Pilot Test; and (3) PRAGMA-IRRI Rice Galaxy Workflow setup at the University of Indiana (USA) and DOST-ASTI.

The DOST-ASTI has already established connectivity of its NREN to Global RENs such as APAN and Asi@Connect. The challenge now is to setup a federated (national) shared infrastructure for HPC and Cloud that can be connected to regional federated HPC and Cloud facility.
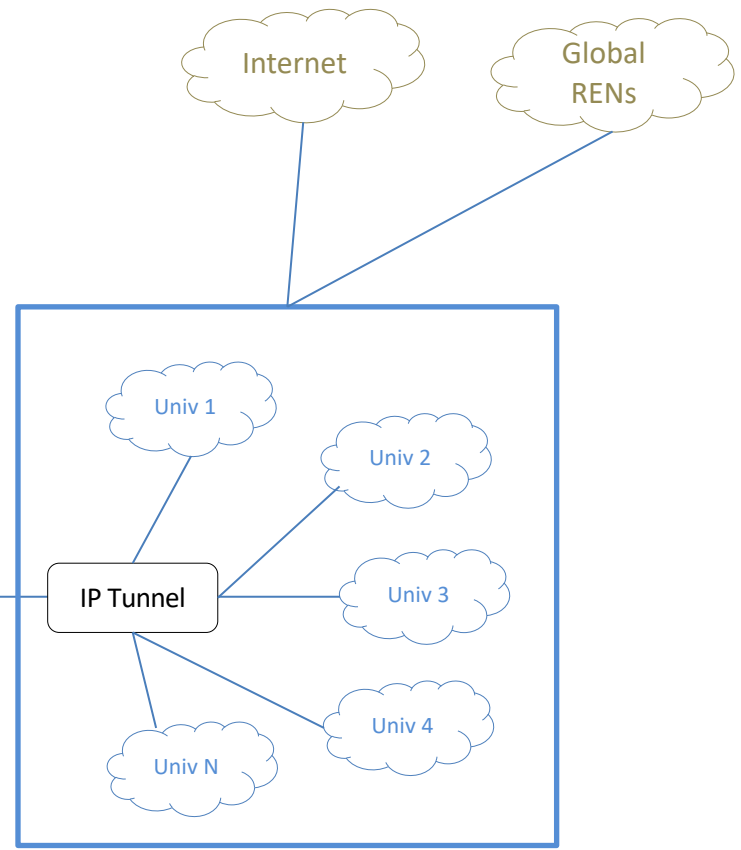
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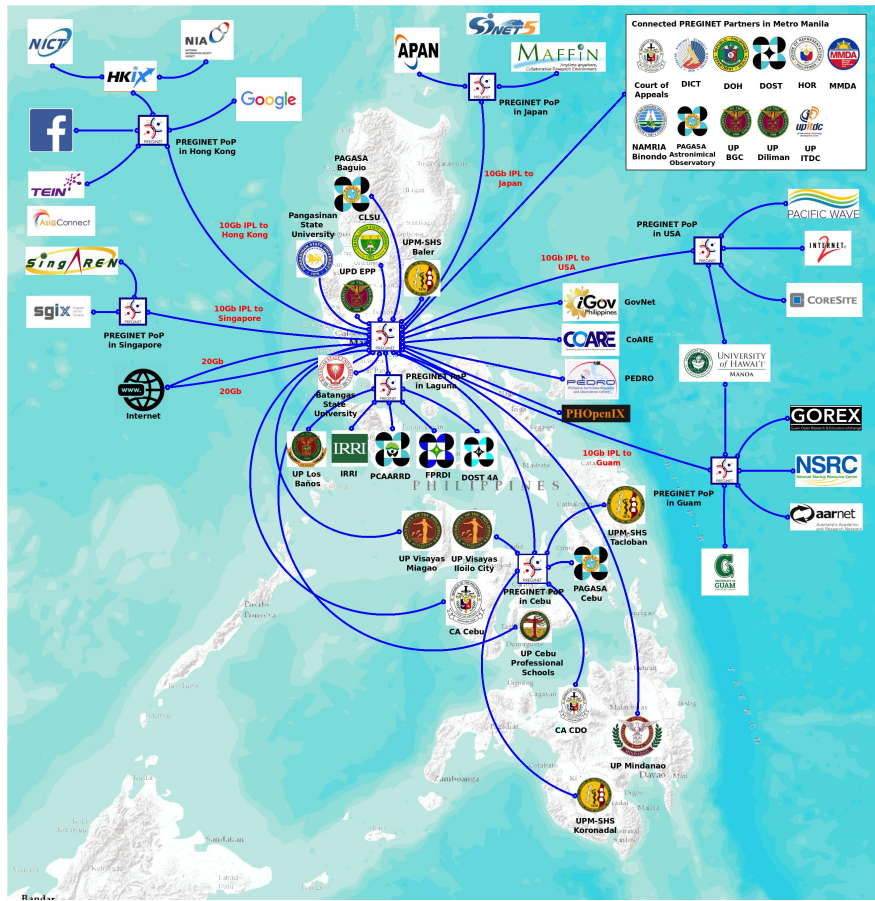
Targets:
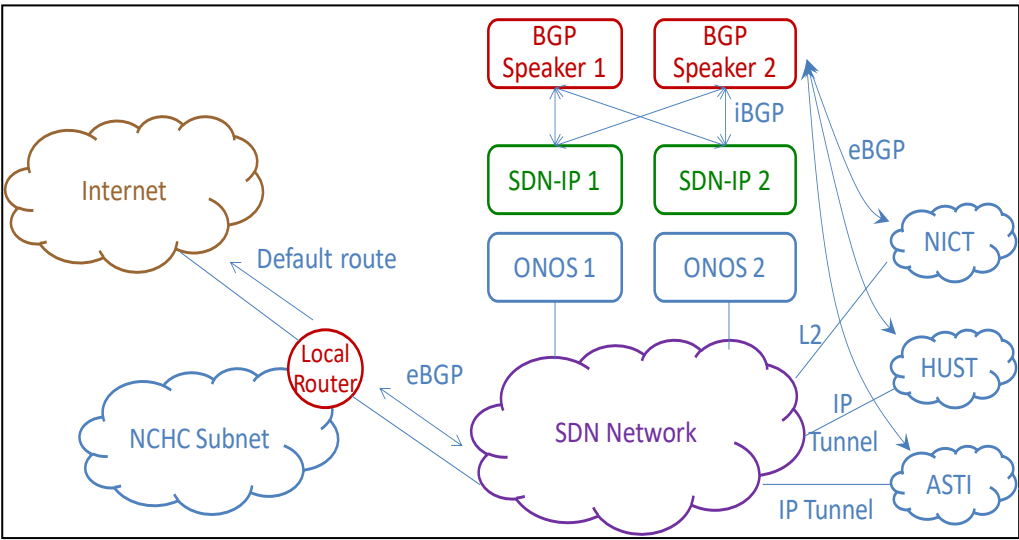
Box 1: Existing SDN-IP Infra

- *A testbed based on SDN-IP developed by ONF for interconnecting different sites*
- *With a local router installed, clients could connect to the testbed using the origin IP with any configuration modification*

Box 2: Target

- **ASTI as one of the SDN-IP interconnected sites, will serve as the domestic hub to connect different sites in the Philippines**

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Targets:
- *ASEAN FILM will utilize existing inter-federation infrastructure (i.e., eduGAIN) and other initiatives (eg. APAN IAM-WG)*
- *ASTI as part of the ASEAN HPC Taskforce will be one of the nodes for the federated HPC infrastructure in the region*
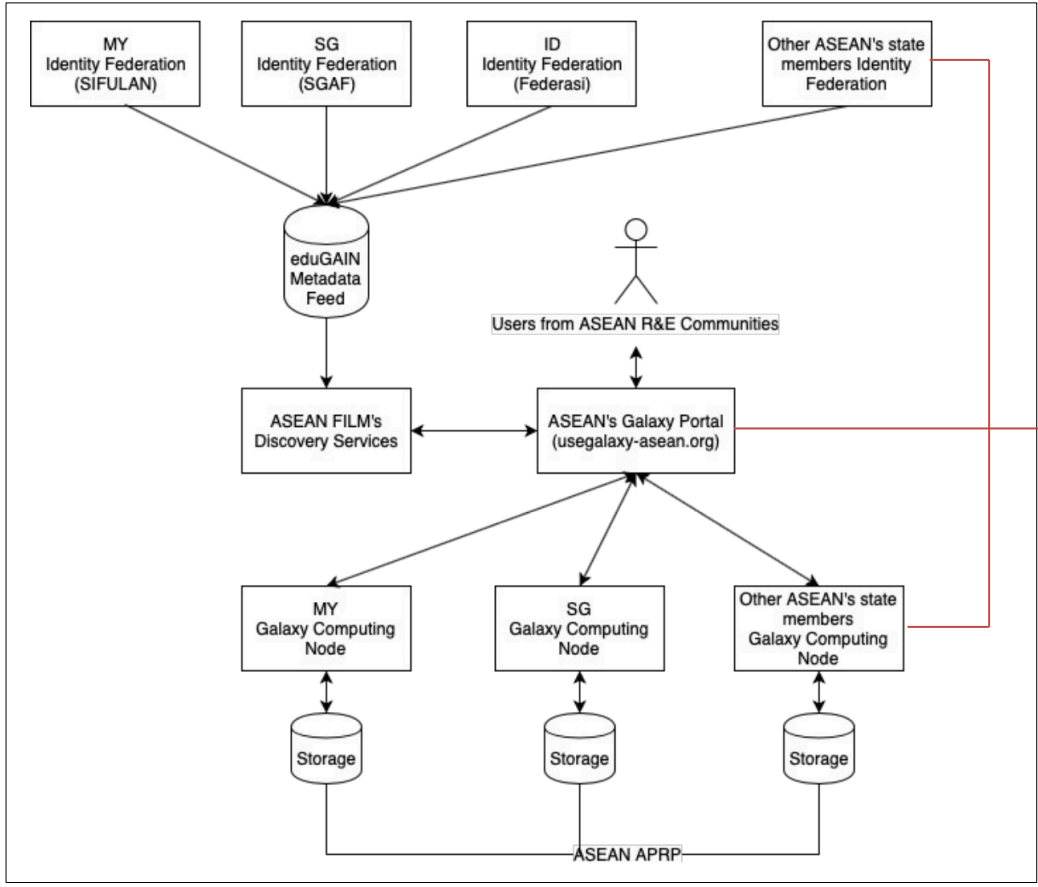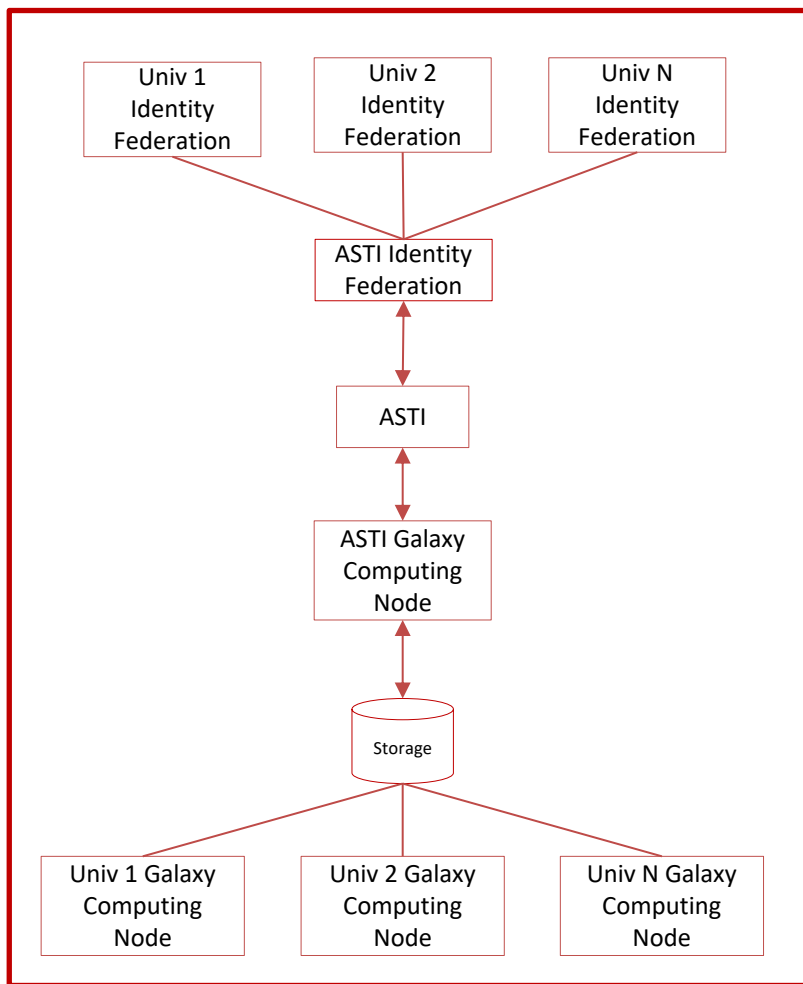
Box 1: Design of the ASEAN Federated Identity Login and Access Management (ASEAN FILM)
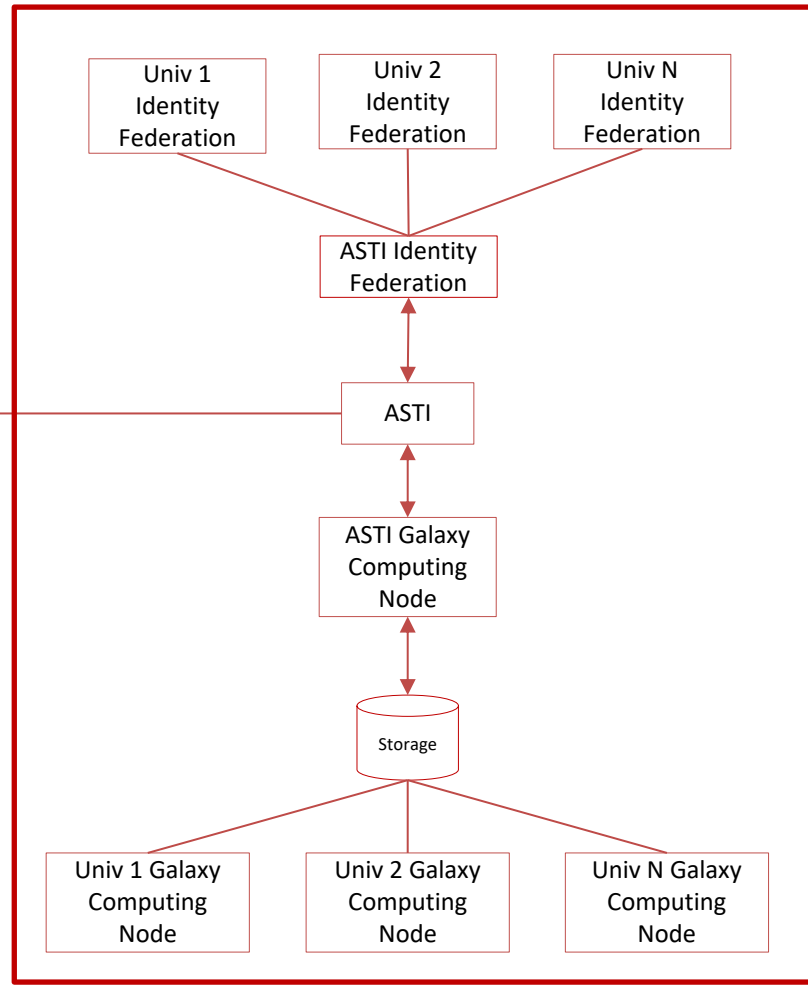
Box 2: Design of the Local Identity Federation and Galaxy Computing Node

Proposed Method, Impact, Output/ Outcome:

Proposed Method:

- ASTI as part of the ASEAN HPC Taskforce will replicate locally the setup that will be done on the ASEAN side
- Locally, ASTI will set up an Identity Federation and a Galaxy Computing Node where the other research computing facilities/ centers can connect
- A Technical Working Group (TWG) will be created locally, to be headed by ASTI

Impact:

- Consolidate efforts on having a shared infrastructure/ resource for research and education
- Contribute to the overall national R&D targets
- Local researchers/ universities can participate in high-impact research globally, i.e. CERN experiments

Output/Outcome:

- A shared infrastructure/ resource for research and education
- Single platform for archiving research-related data sets produced locally
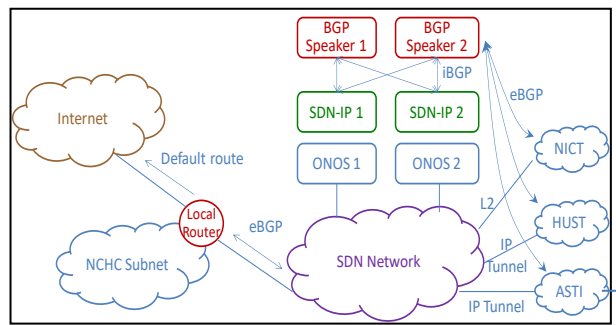- Create and strengthen local HPC community

Conclusion:
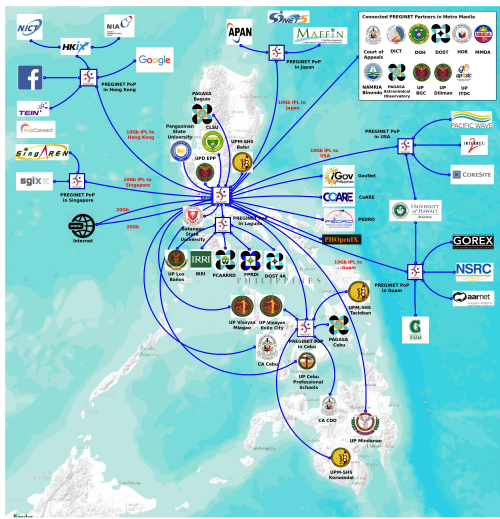
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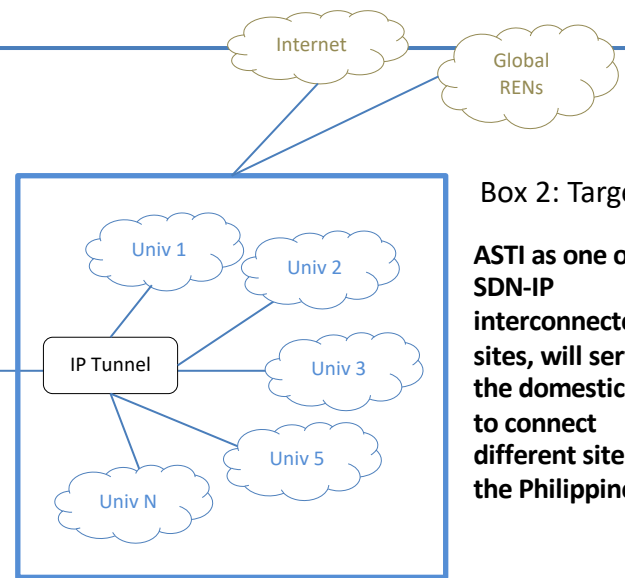
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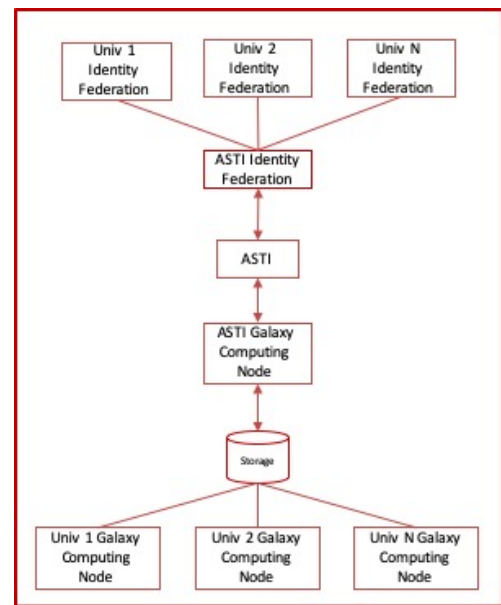
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