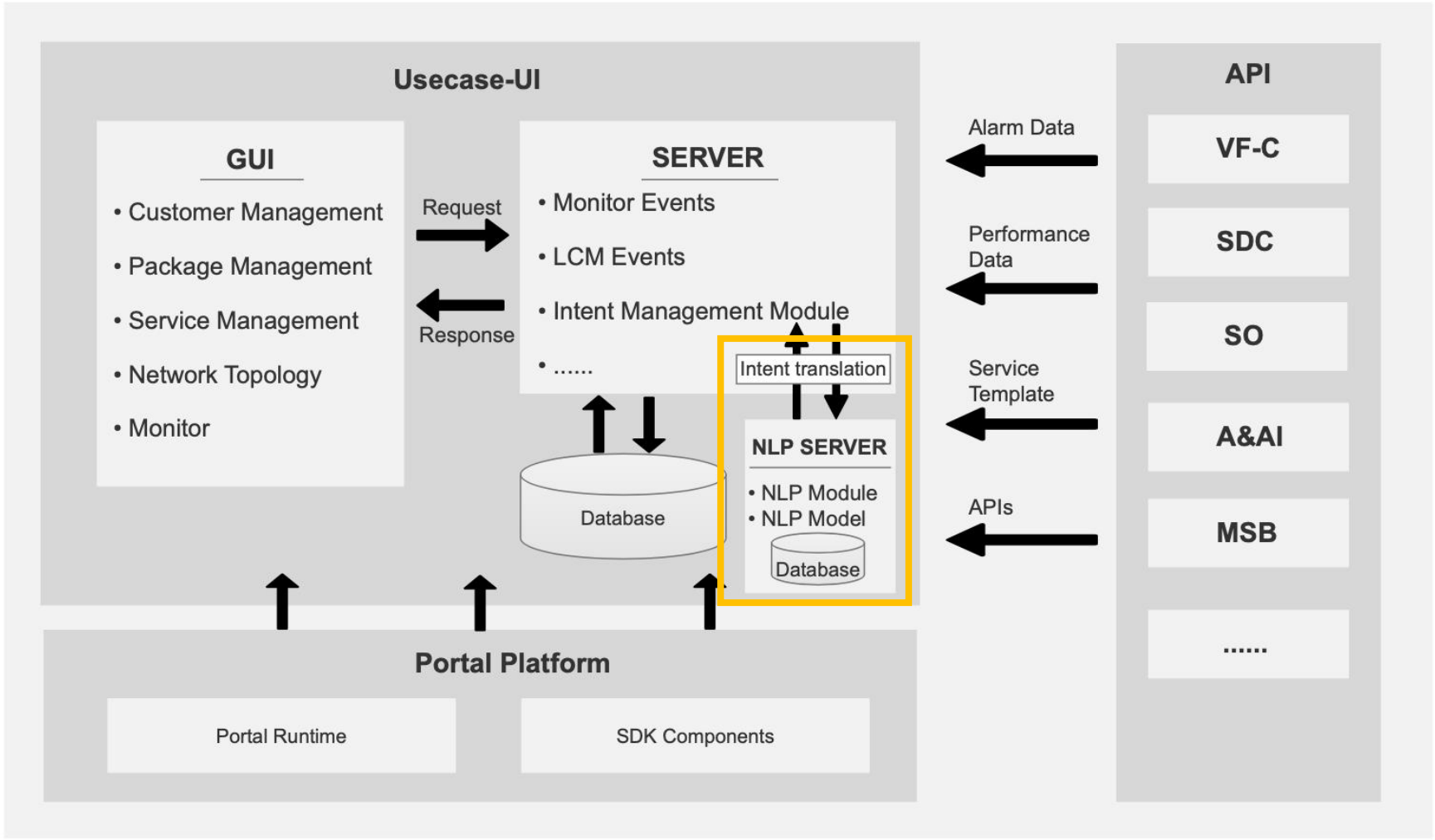
ONAP
OPEN NETWORK AUTOMATION PLATFORM

Usecase UI Jakarta Architecture Review

Architecture Subcommittee Review
18th Jan, 2022

1. UUI Architecture with IBN module since Honolulu Release



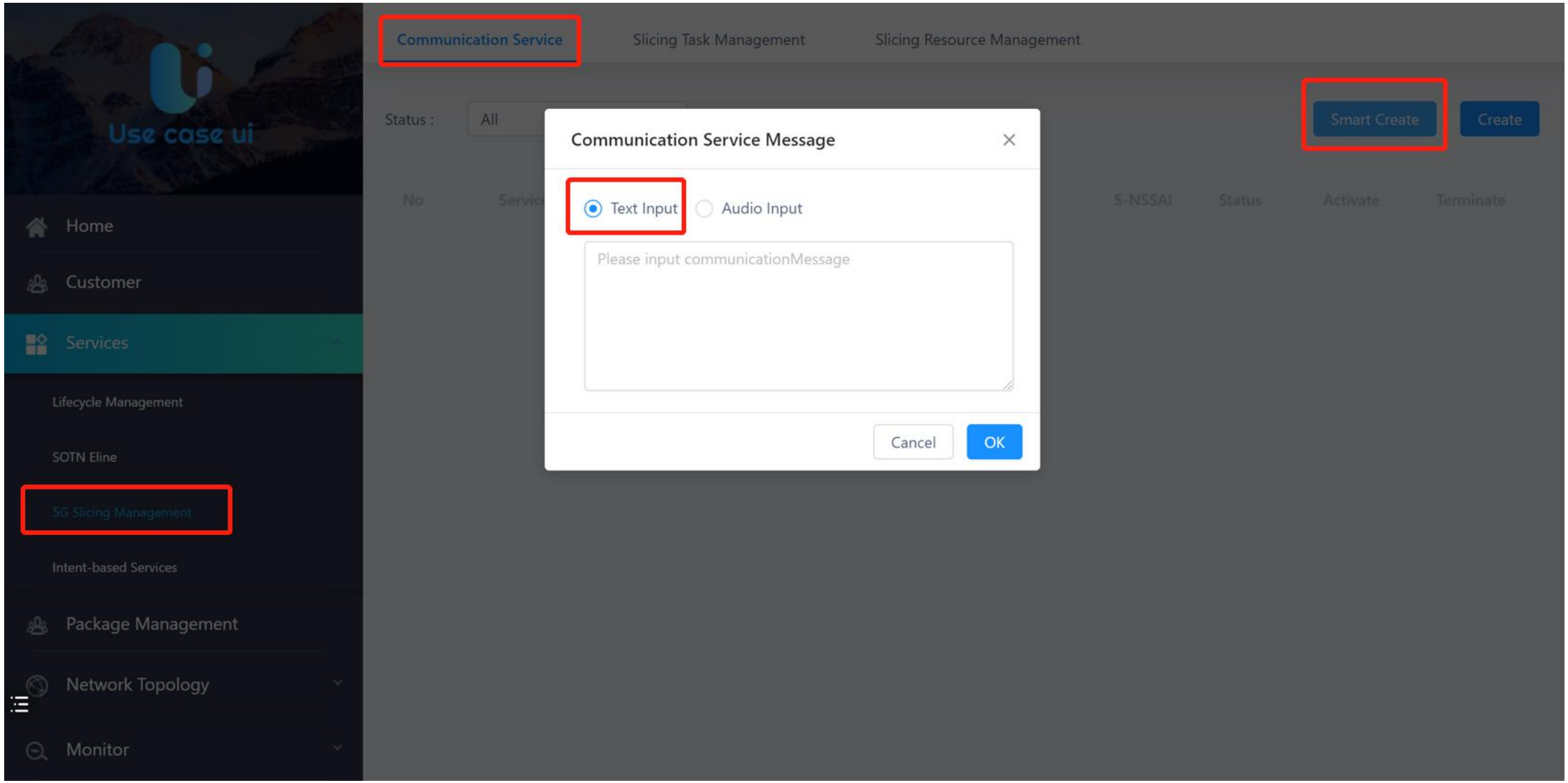
GUI
- Services
  - 5G Slicing Management
- Package Management
  - NLP Model resource

Server
- Intent Management Module

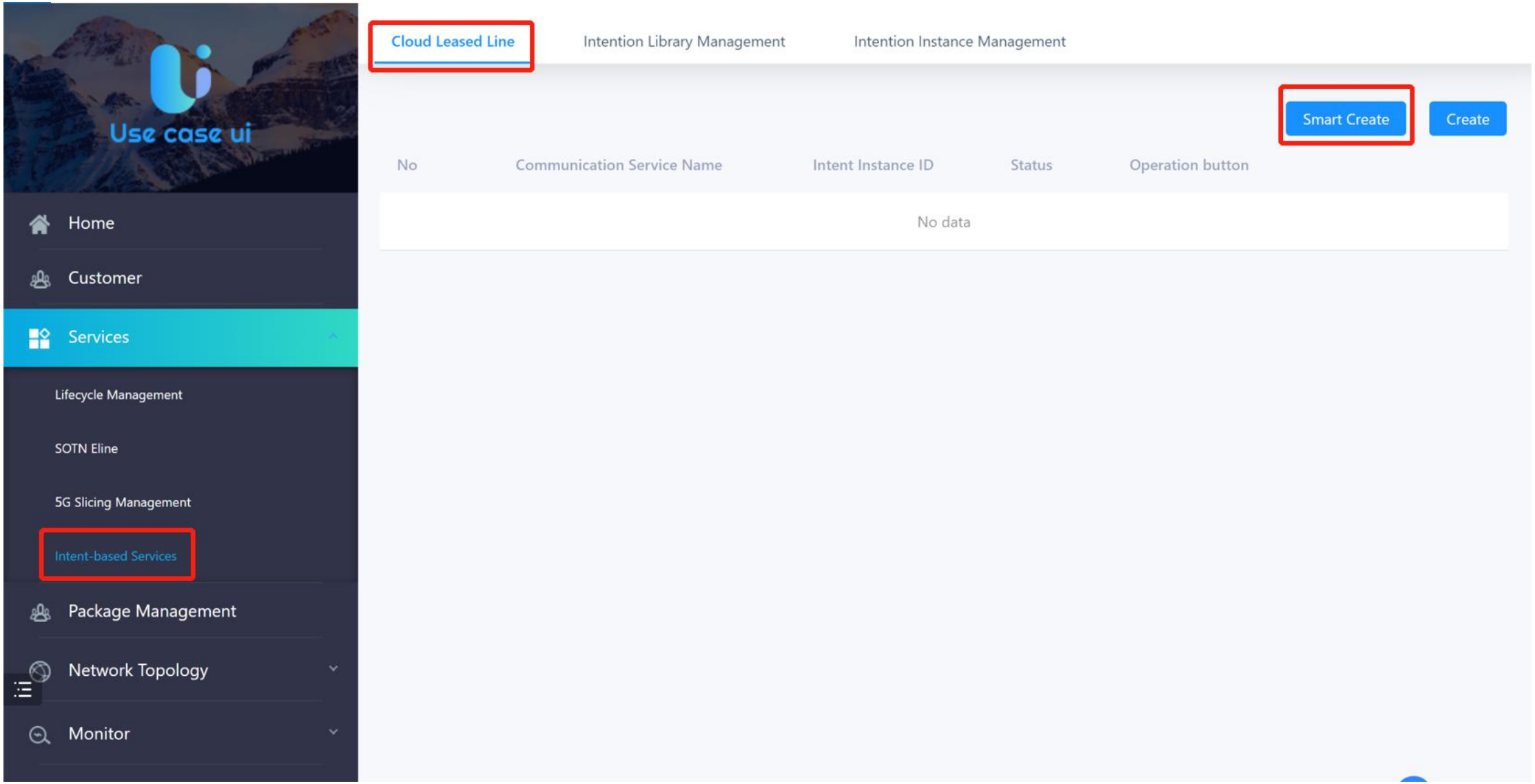
NLP Server
(new Micro-service)
- NLP Module
- NLP Model

Ref: https://wiki.onap.org/pages/viewpage.action?pageId=84667146

2.1 E2E Slicing smart create page based on IBN (R8)



2.2 CCVPN smart create page based on IBN (R9)



3. REQ-1075 Network Services without Perception for Users based on IBN

The new network applications, like E2E Slicing and CCVPN, provide different SLA services to customers. In this REQ, a scenario of intent guarantee is proposed to support the SLA requirements of users in run-time, as well as updating users' intents. In R10, Network Services without perception for users based on IBN will be developed to support the E2E Slicing and CCVPN.

Key Contacts - Dong Wang (China Telecom), Henry Yu (Huawei), Keguang He (CMCC)

Executive Summary - Intent-based network (IBN) is a self-driving network that uses decoupling network control logic and closed-loop orchestration techniques to automate application intents. An IBN is an intelligent network, which can automatically convert, verify, deploy, configure, and optimize itself to achieve target network state according to the intent of the operators, and can automatically solve abnormal events to ensure the network reliability. In R10, a Specification of network service without perception for users is proposed in UUI to support the use cases of both CCVPN and E2E Slicing.

Business Impact - It is a challenging problem to acquire the users' intents and provide the satisfied network service in run-time. The REQ of intent-based network provides a scenario of users' intent guarantee and interacting.

Business Markets - This REQ provides a novel solution to support the SLA service.

1. A users' intent instance is proposed to monitor and analysis the network in run-time to satisfy the users' SLA service.
2. The users' intents are updated in run-time based on the network situation and the interaction with users.
3. Multiple network services, like CCVPN and E2E Slicing, can provide satisfied services for users based on their intents. Users will not need to select the network services by hand.

Funding/Financial Impacts - This function will provide more SLA services to increase the income of operators based on the current networks with few investments.

Organization Mgmt, Sales Strategies -*There is no additional organizational management or sales strategies for this requirement outside of a service providers "normal" ONAP deployment and its attendant organizational resources from a service provider.*

3.1 REQ-1075 Network unaware service for users

UUI

Target: translate from the human inputs to the slice parameters based on NLP in UUI, and then run the slices based on the current ONAP.

Input

Text

Voice

Nature Language Processing

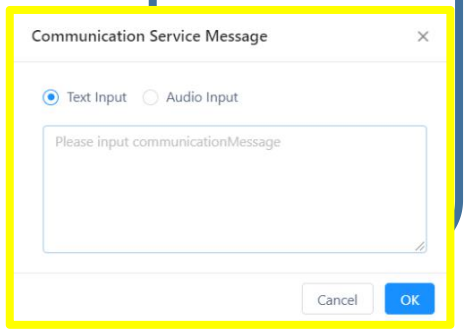
Parameter1: network service (5G / Fixed network)

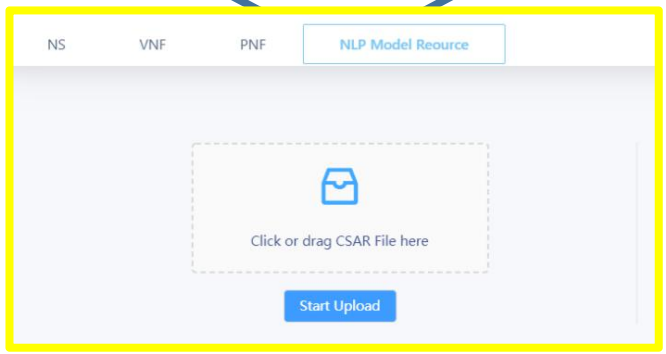
Parameter2: scenario

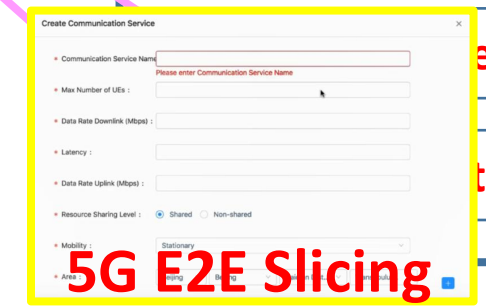
Parameter3: throughput

Parameter4: latency

...



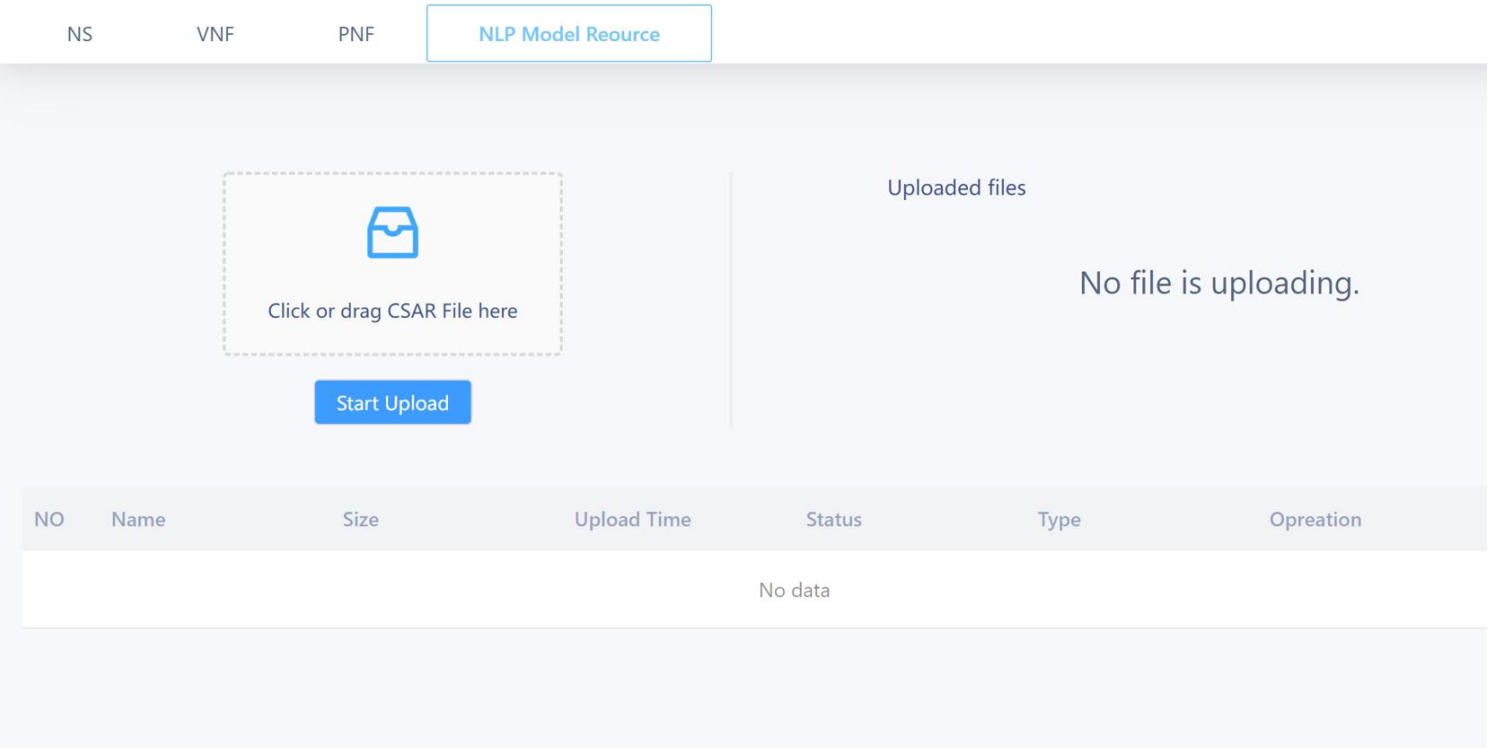




5G E2E Slicing

CCVPN

3.2 Key Features of Network Services without Perception for Users based on IBN



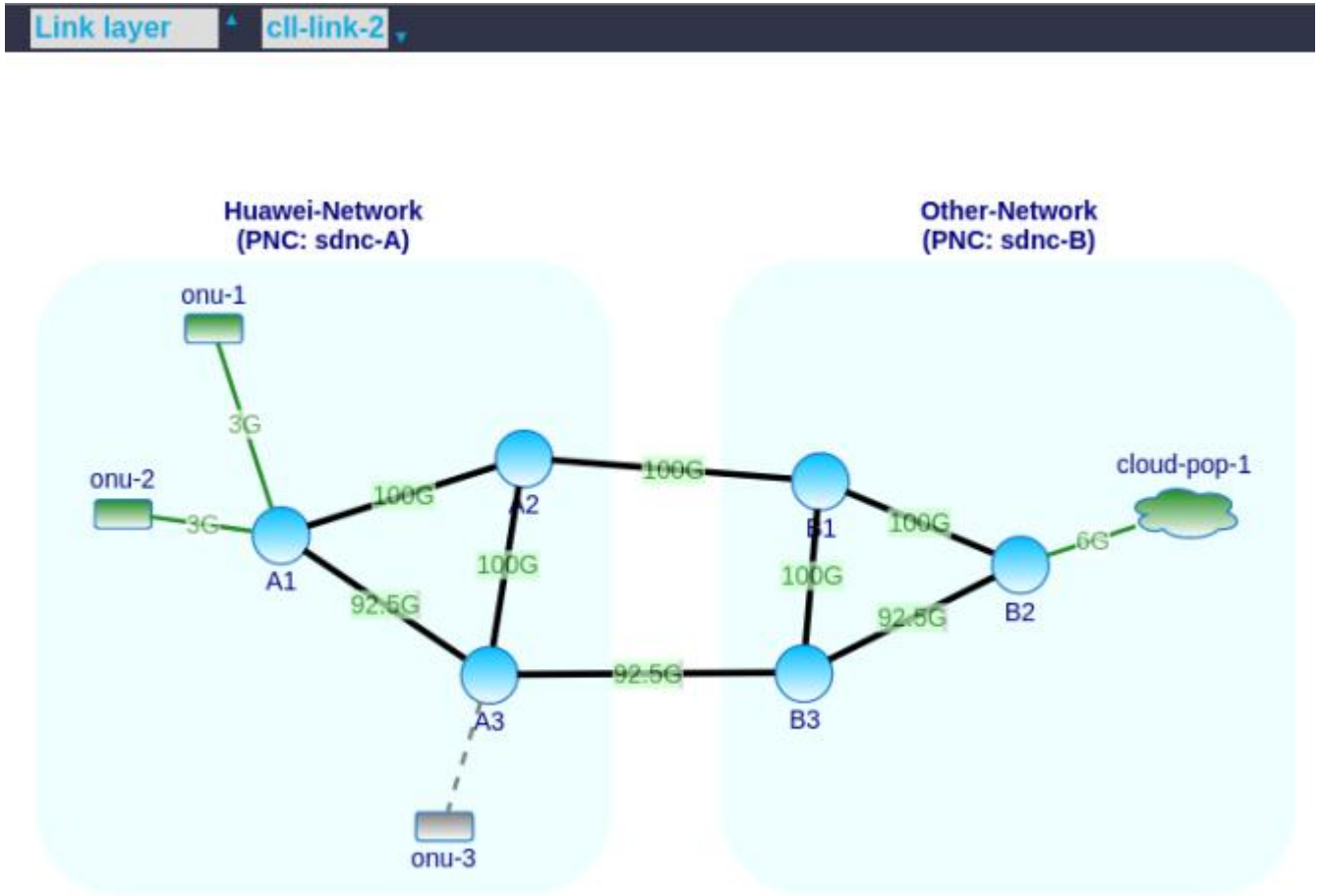
Key Features (Impact on UUI):

1. A common user interface for CCVPN, E2E Slicing and other usecases by intent-based service;

2. A common data set for NLP training;

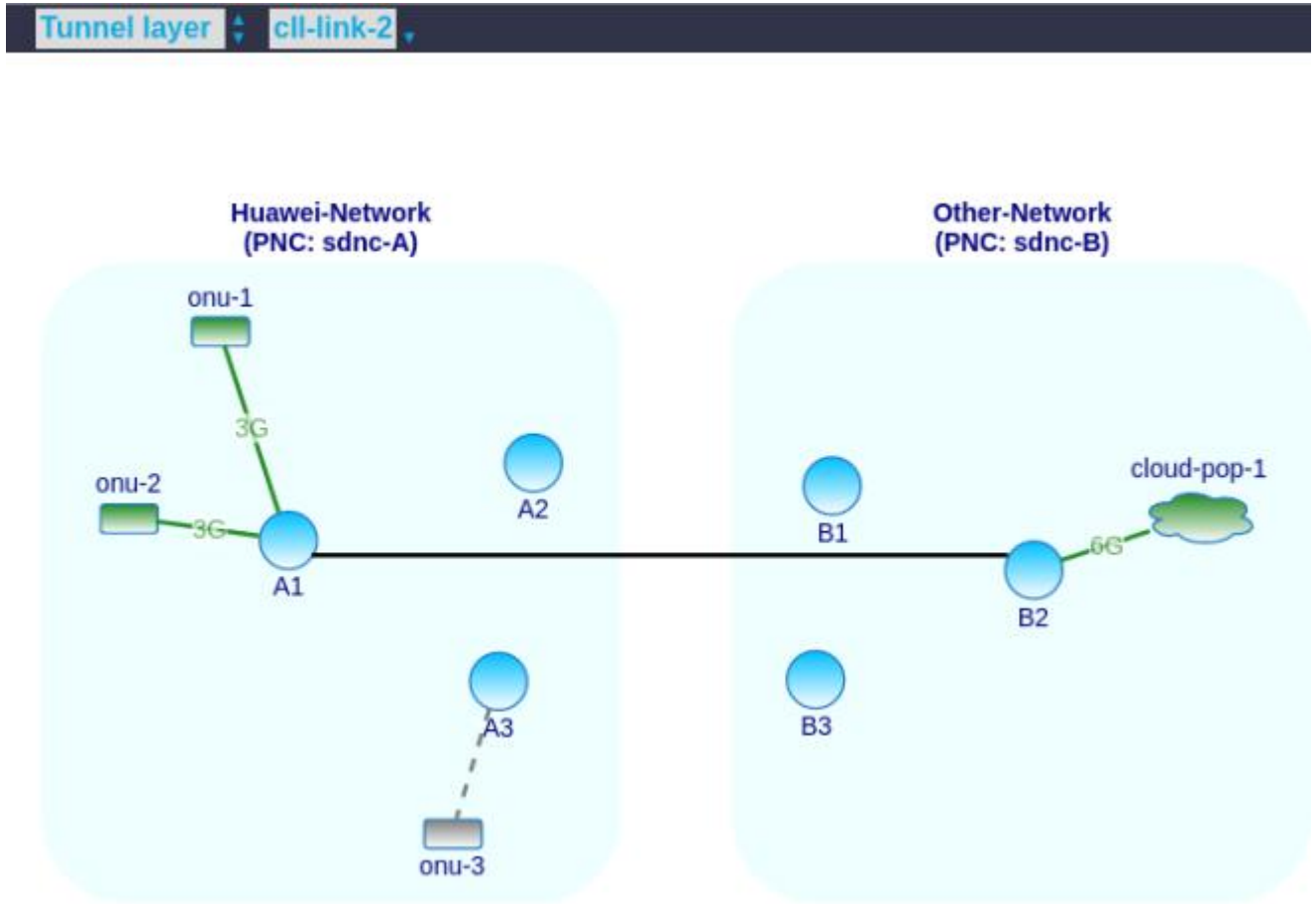
3. Enhancing the NLP algorithm and model for more accurate intent translation.

4.1 Design overview on impacted modules in Usecase UI



- Link layer view: displays underlay L1 network topology and resource utilization status.

4.2 Design overview on impacted modules in Usecase UI



- Tunnel layer view: displays installation and configuration for each OTN tunnel.

5. Key Features (Impact on UUI)

1. A common user interface for CCVPN, E2E Slicing and other usecases by intent-based service;
2. A common data set for NLP training;
3. Enhancing the NLP algorithm and model for more accurate intent translation;
4. Monitoring page (Huawei):

- Ability to display underlay L1 network topology and resource utilization status.
- Ability to display installation and configuration for each OTN tunnel.

Thanks!