The background of the slide features a close-up of a hand typing on a silver laptop keyboard. In the foreground, four miniature figures of people are walking across the white surface of the laptop. The figures are dressed in various casual and sporty outfits, including a blue and white outfit, a white shirt and khaki pants, a blue and white outfit, and a pink shirt and white pants. The overall scene is brightly lit and has a clean, modern aesthetic.

Mapping between ENI architecture and operational systems

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Motivation

- ENI System is defined as a set of Functional Blocks and could be used as a strong tool for operation and maintenance of network
- ENI is logically defined and some guidance is needed for real deployment, for example
 - How to make use of the computational resources that are needed for multiple AI tasks, such as CPU, GPU, and storage
 - How to do flexible and elastic deployment of the Functional Blocks of ENI System
 - The interaction and collaboration between OS, ENI and AS
- Some intelligent entities (such as NWDAF, MDAF and RIC) are already defined and NWDAF/MDAF/RIC and ENI are mutually complementary in nature

Scope

This document will specify:

- (1) the mapping of functional blocks in the ENI architecture and functionalities of the operational systems (e.g., NWDAF, 5GC and NFV MANO);
- (2) how different intelligent entities of ENI and the operational system cooperate and work in parallel on assigned tasks;
- (3) different metrics, such as performance, accuracy, and reliability, per capability, to ensure that recommendations and/or commands provided, can be done along with other pertinent tasks (e.g., data analysis) with respect to these metrics;
- (4) how to automatically optimize the use of multiple AI models to provide a joint decision.

History of standardization

General information:

Creation Date:	2019-12-12	Type:	Group Specification
Work Item Reference:	DGS/ENI-0021	Latest version:	0.0.5
Rapporteur:	Yannan Bai	Technical Officer:	Christine Mera

Thanks to the contributors so far:

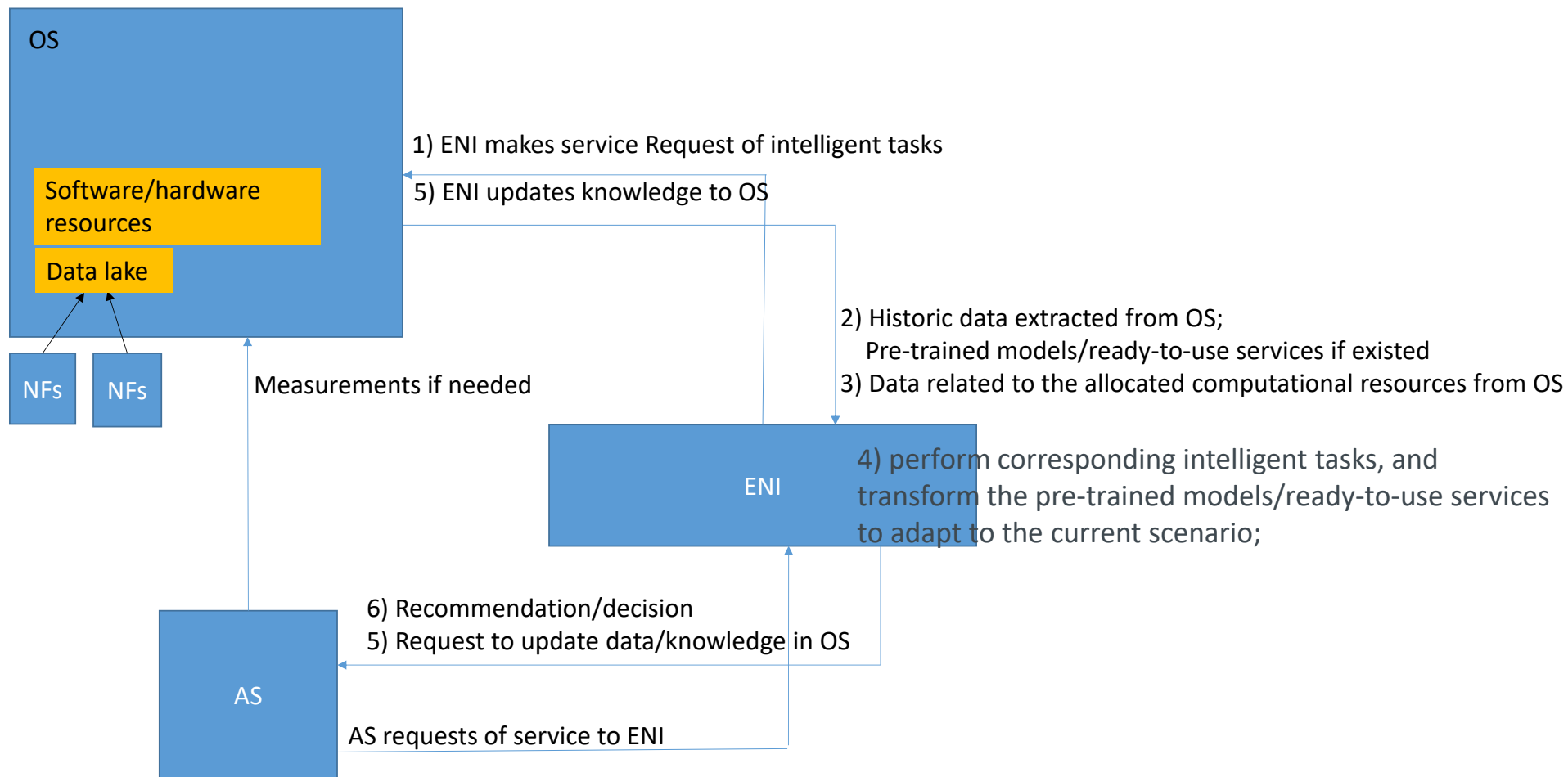
Lilei Wang (AsiaInfo), Yue Wang (Samsung), Liexiang Yue (China Mobile), Haining Wang (Intel),

Thanks Ray, Antonio and John for the discussion and suggestions!

Progress of GS ENI 011

- Overview
 - ✓ Introduction
 - ✓ Deployment of ENI System
- Mapping between ENI architecture and the Operational System
 - ✓ High-level Relationship between ENI System and Assisted System
 - ✓ General process of deployment
- Mapping between ENI architecture and other intelligent entities
 - ✓ Mapping between ENI architecture and NWDAF based data analysis system in 5GC
 - ✓ Mapping between ENI architecture and ONAP

Key conclusion #1: Interaction between ENI, AS and OS



Key conclusion #2: Deployment of ENI, AS and OS

Figure 1: three independent systems

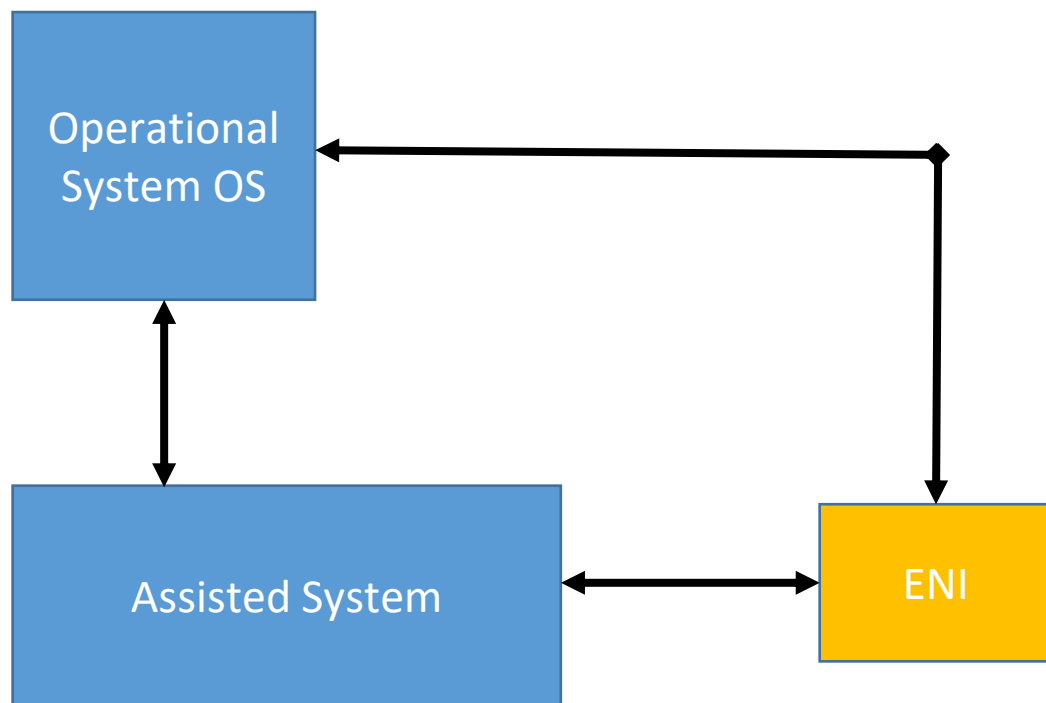
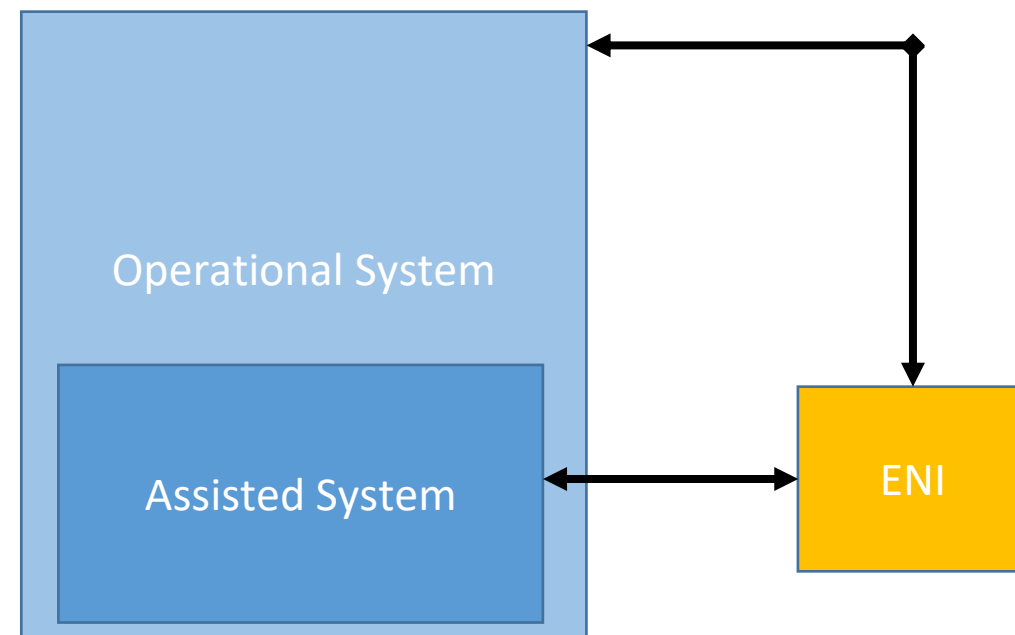
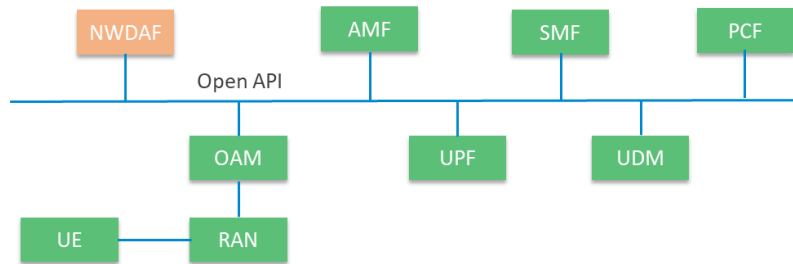


Figure 2: AS embedded in the OS two system cooperation

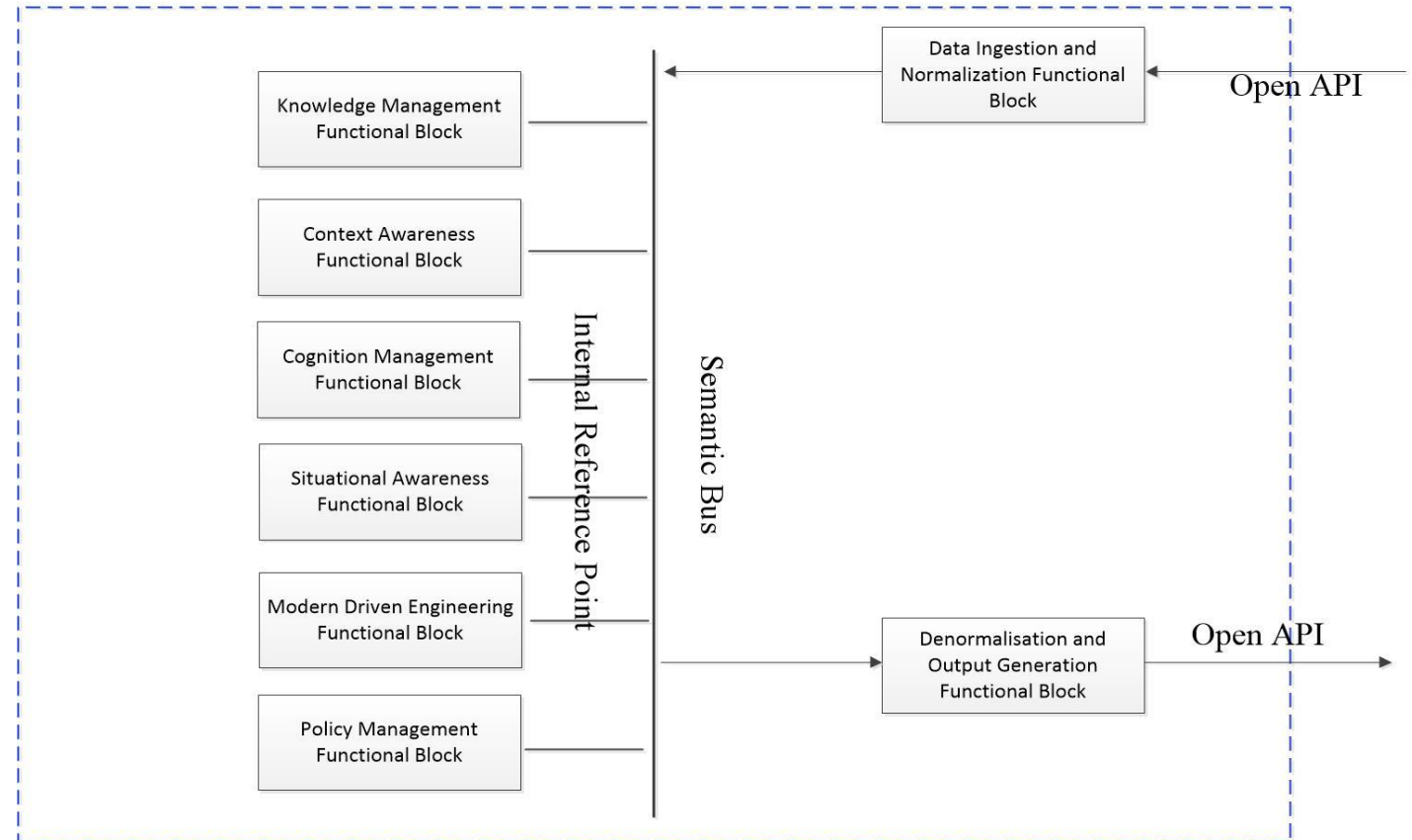


The scenario that ENI embedded in the Assisted System is still under study.

Key conclusion #3: Mapping between ENI architecture and NWDAF based data analysis system in 5GC

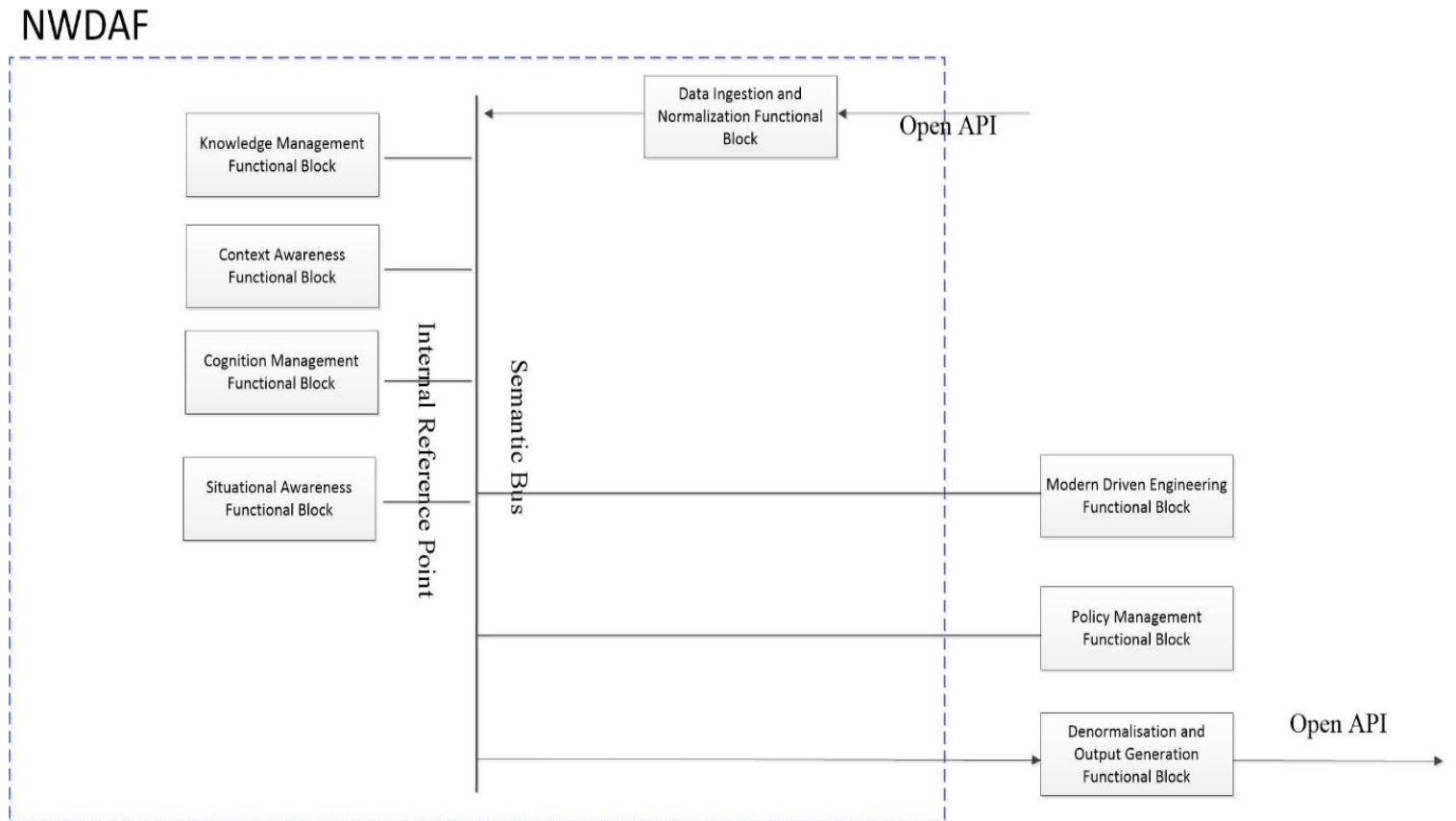
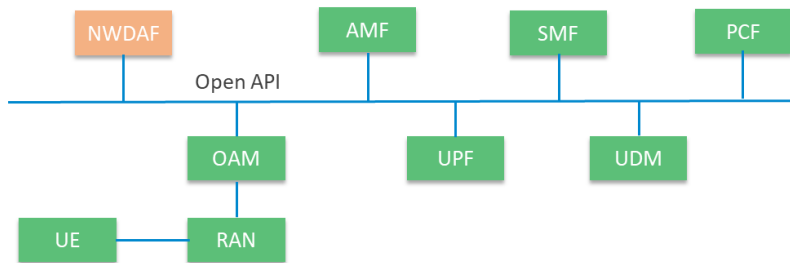


NWDAF



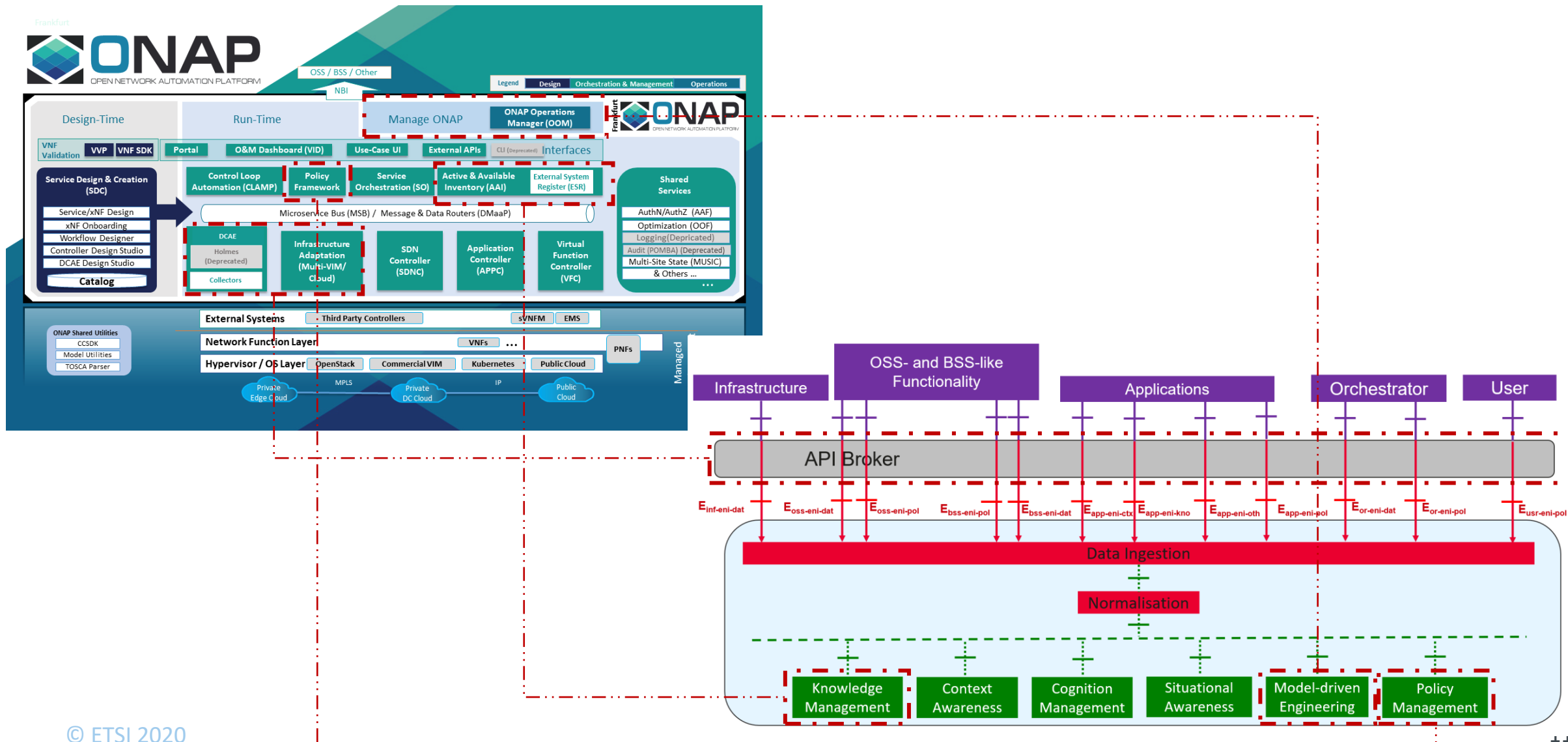
NWDAF fully adopts ENI architecture (option 1)

Key conclusion #3: Mapping between ENI architecture and NWDAF based data analysis system in 5GC



NWDAF adopts parts of ENI architecture (option 2)

Key conclusion #4: Mapping between ENI architecture and ONAP



Next Plan

- The interactions and workflow between ENI, AS and OS
- How to orchestrate the computational resources, such as CPU, GPU, and storage, in the Operational System
- How to handle multiple AI tasks submitted by ENI System and optimize the allocation of resources in the Operational System
- How to reuse and customize the pre-trained models or ready-to-use services for different AI tasks
- Mapping from other defined intelligent entity to ENI System

Thank you!