

Developing ONAP Into an End-to-End Open Testing Automation Framework

Ning So

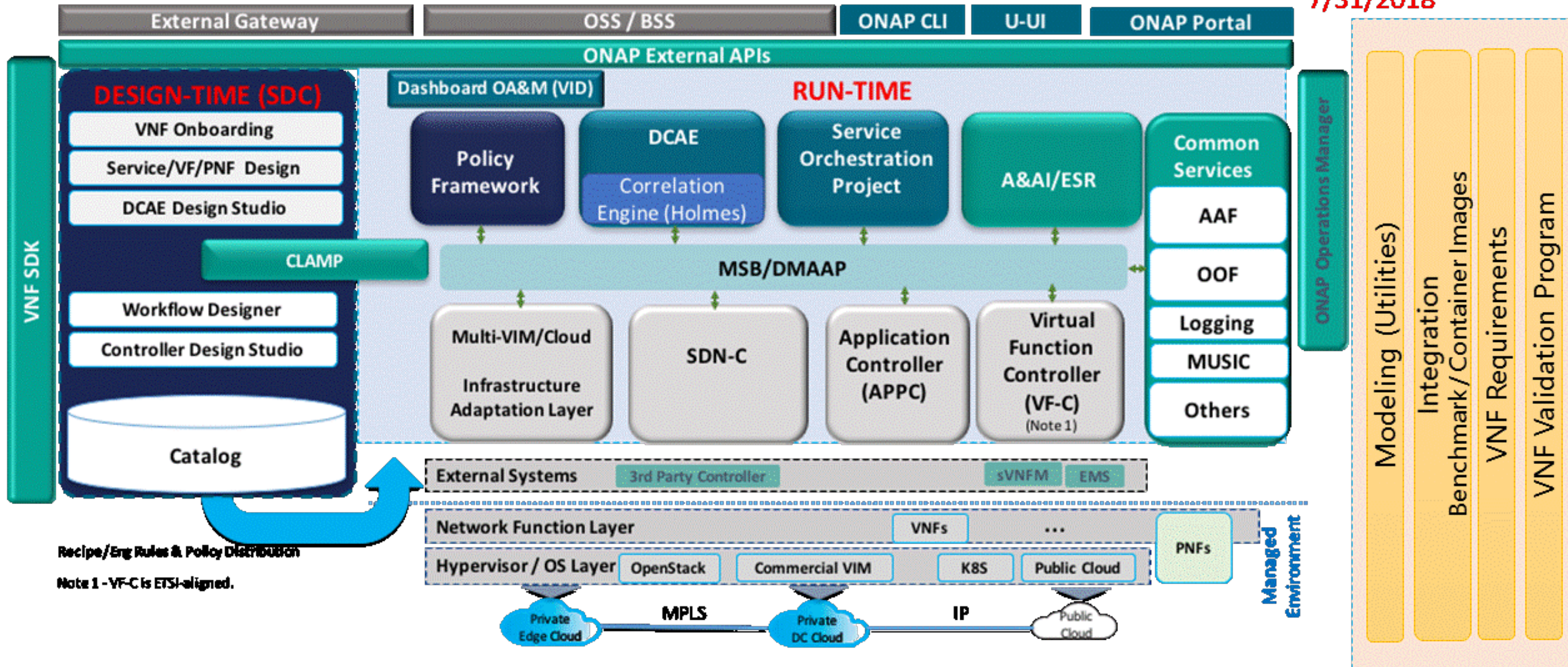
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- Challenges of Tier 1 carrier consuming ONAP
 - The size of ONAP
 - The complexity of existing infrastructure and operating environment at tier 1 carrier
 - The project segmentation of ONAP code development
 - The lack of documentation
- Opportunity of improvement on ONAP
 - Function-based horizontal segmentation of ONAP
 - Microservice-based code and document organization
 - Clearly defined system integration points and associated API library

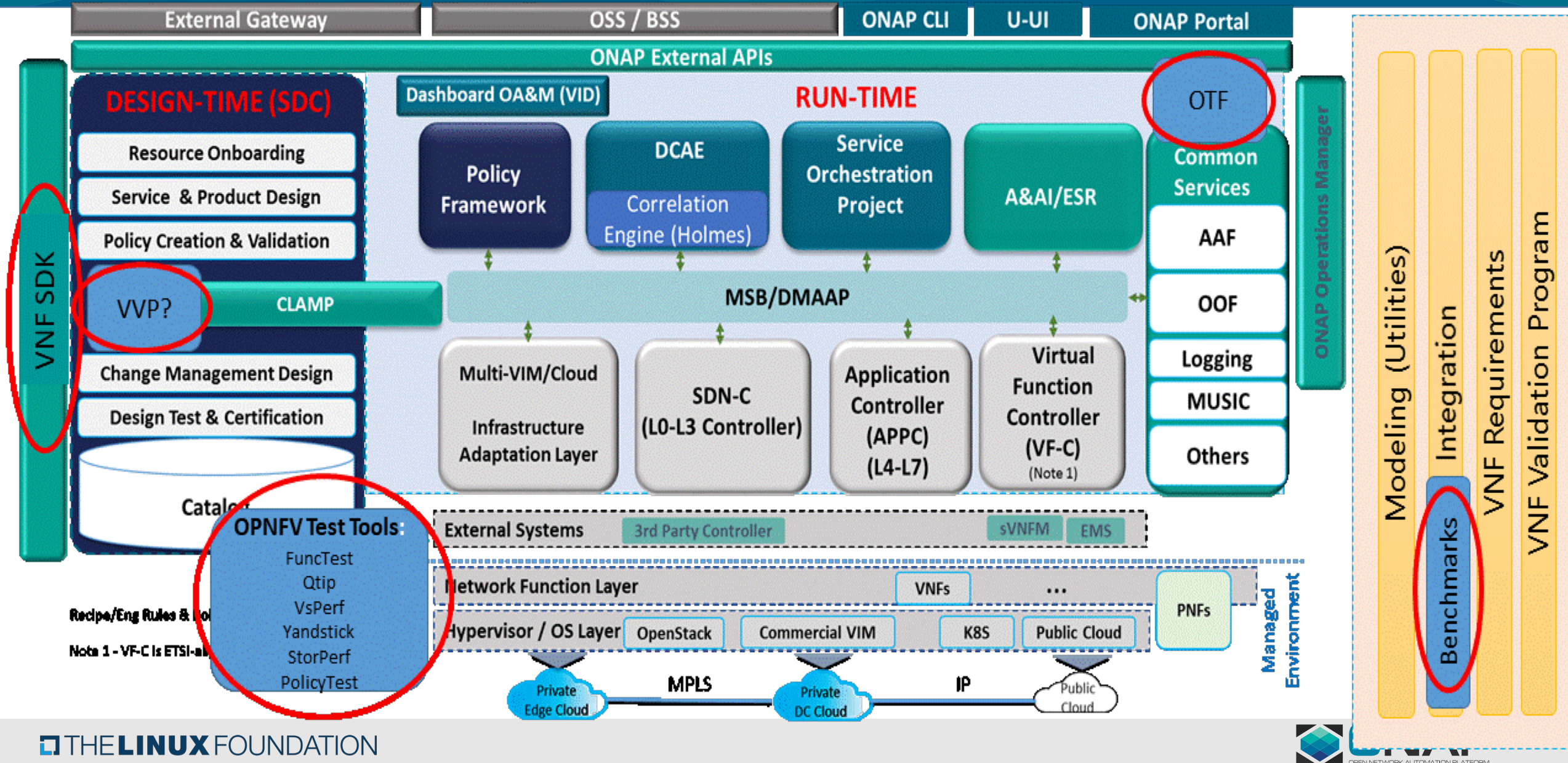
ONAP Casablanca Architecture



Version 3.0.3
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A New ONAP Project: OTF



1. NFVi/VIM Testing

- measuring and benchmarking NFVI functions and performance
- auditing all configurations and ensure that golden configuration is maintained for each of the services of NFVI

2. Generic NFV/NFVM Testing

- a.k.a NFV Life Cycle Management (LCM) testing
- include VNF qualification testing, VNF Design Phase testing, VNF deployment planning testing, Load/Stress testing and etc.

3. MANO Testing

- the System Under Test (SUT) is MANO itself instead of VNFM and the VNFs it manages

4. VNF/PNF Use Case and Network Service (NS) Testing

- testing of features unique to specific VNF/NS vendors
- testing of features unique to specific network functions
- testing of service chained network services that consist of multiple VNF/PNFs
- allow easy integration (e.g. plug-and-play) of Testing Strategies, Test Cases, Test Scripts, Testing Tools, and etc.

1. There is no common testing framework across ONAP

- testing code are spread across multiple projects, making it difficult for operator to consume/adopt
- E.g. NFVi/VIM testing code reside in OPNFV, Onboarding testing in VNFSDK, MANO testing in OOM, and etc.

2. There is no clear modulization/boundary for testing code

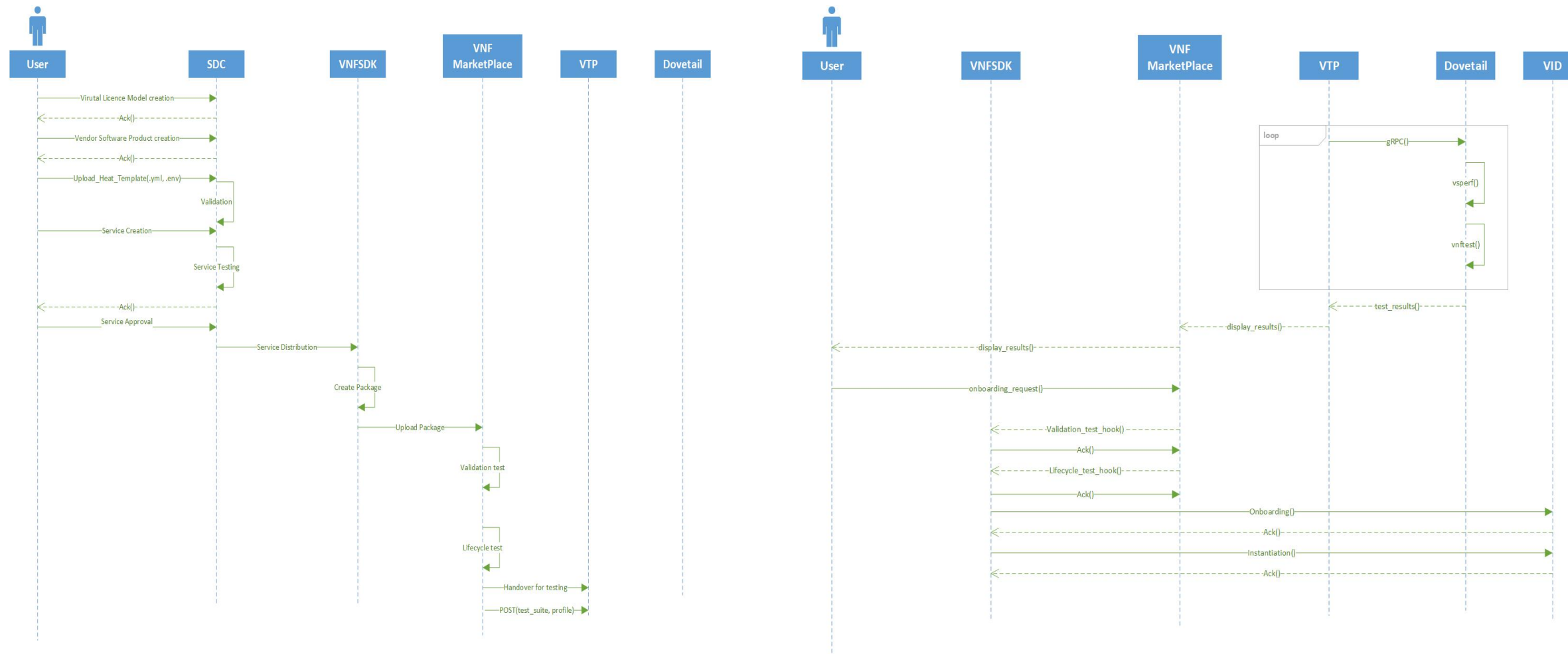
- Requires significant code discovery and integration effort, further decrease operator deplorability
- Code are highly fragmented, making gap analysis, code development, and code testing effort harder

3. There is major gap in testing automation in ONAP

- VNF/PNF Use Case and Network Service (NS) Testing are largely missing
- There is no runtime testing
- No common testing result recording and analysis platform
- No testing policy function
- No closed loop action based on testing results

4. Documentation is lacking

High Level Service Design and Onboarding Testing Workflow



Examples Workflow for Onboarding Testing

