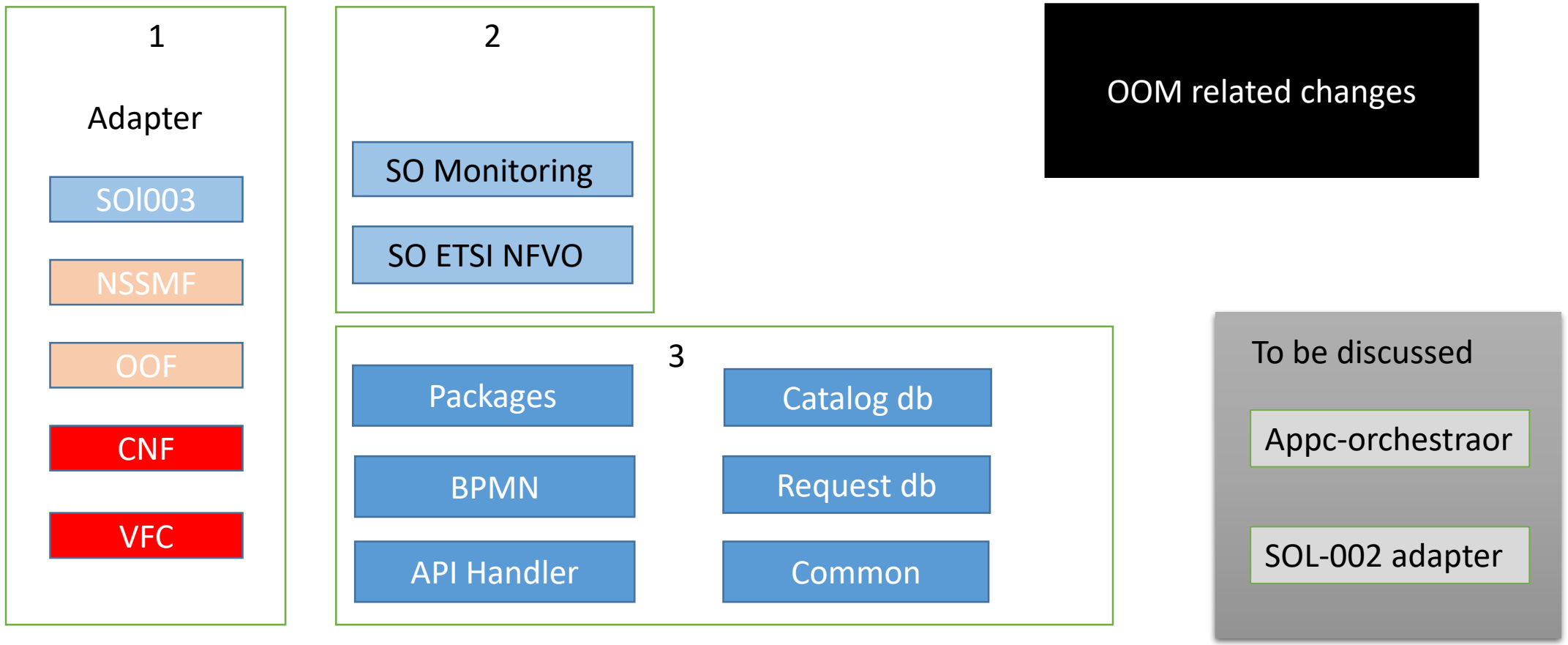
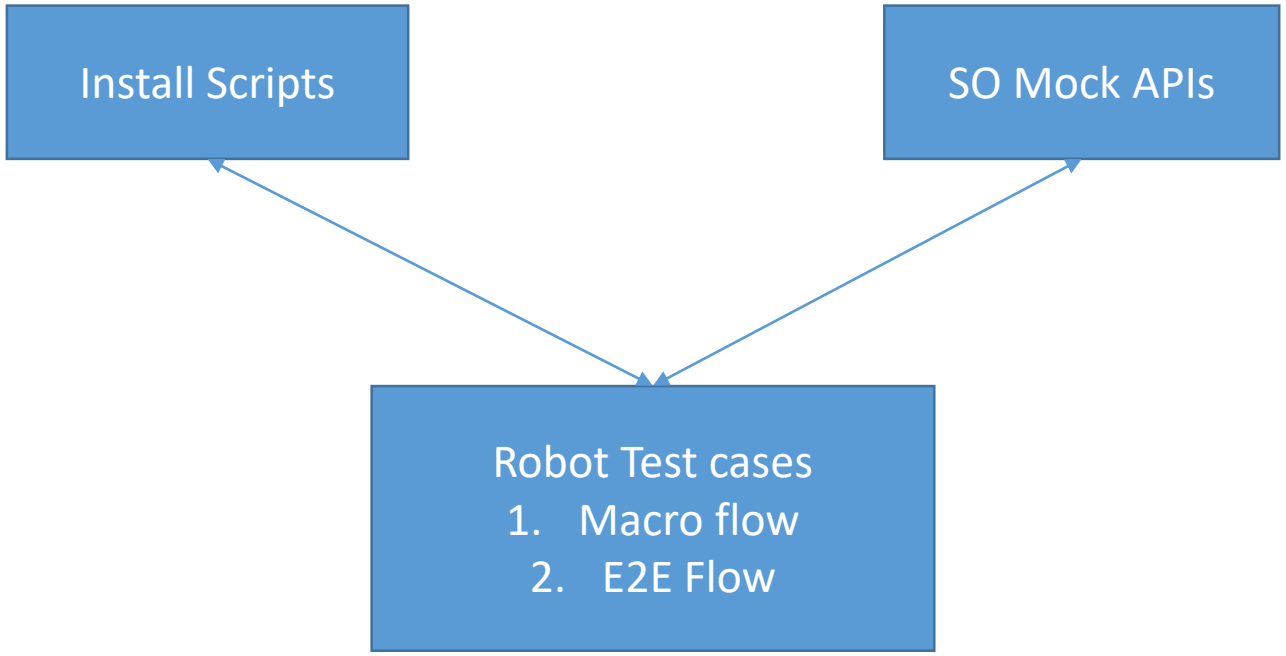
ONAP SO Honolulu Plan – High Priority Items

January 7th, 2021

Refactoring – Make SO smaller to deploy

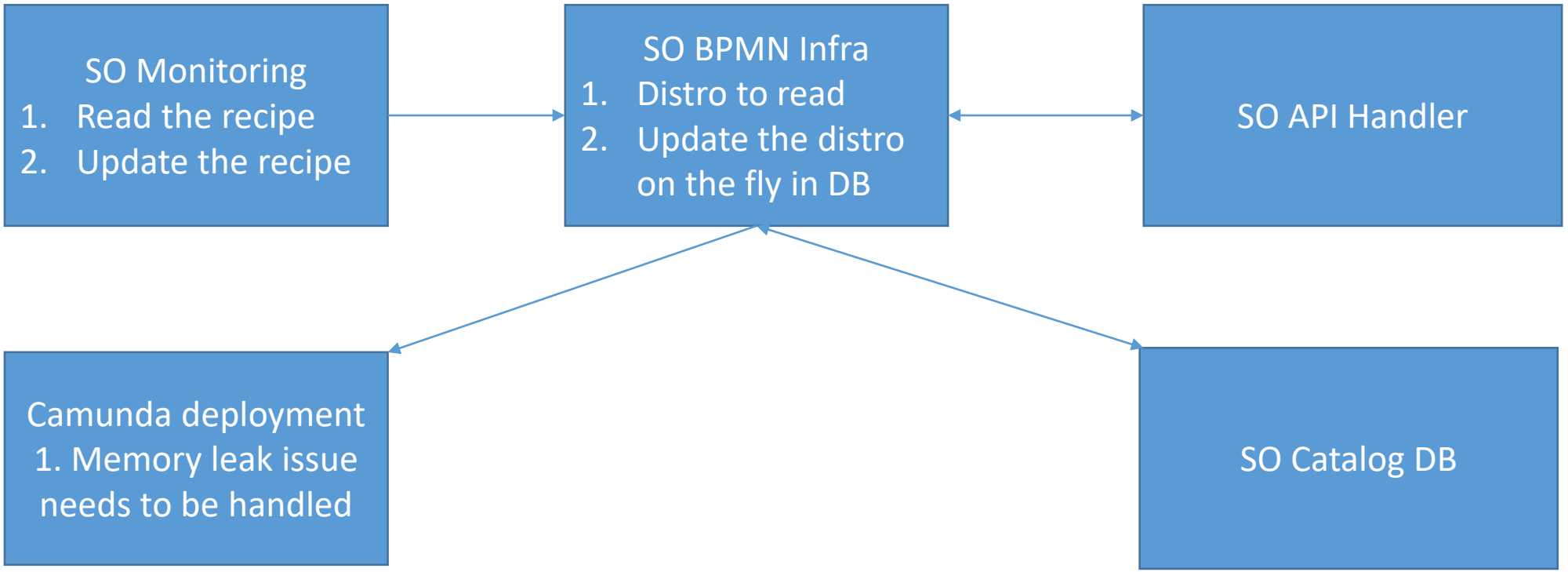


E2E Integration Test

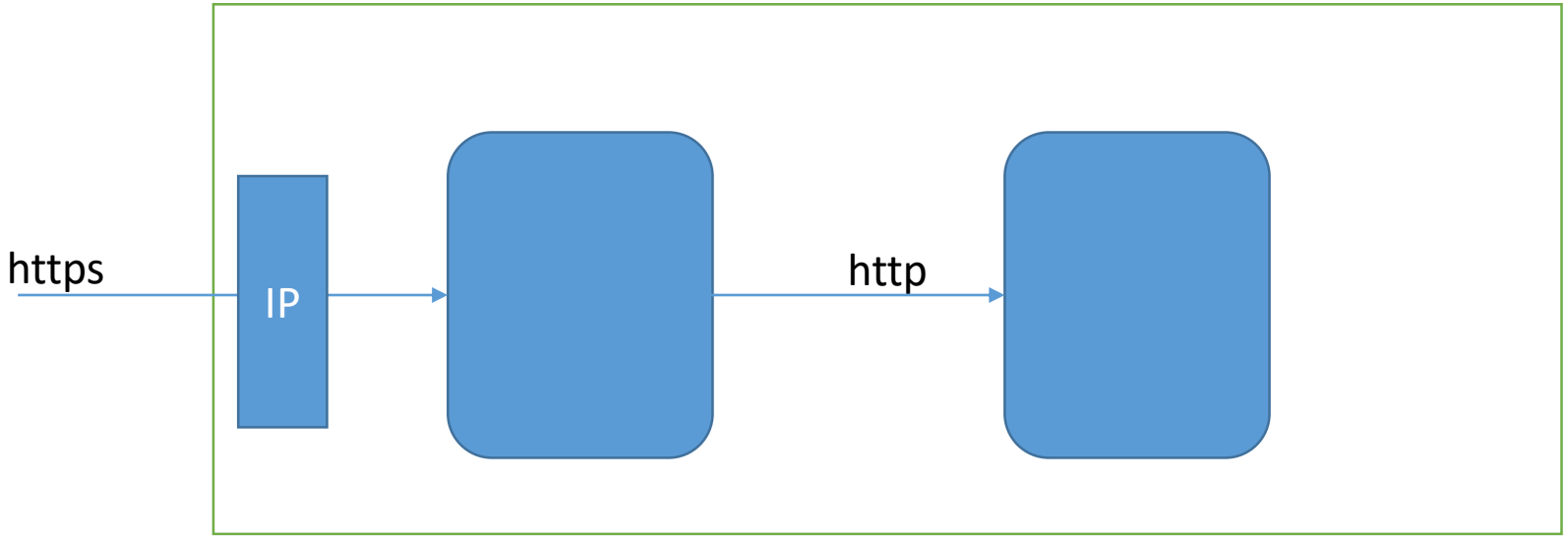


CSIT improvement
Gating in the verification builds

Dynamic Orchestration



Communication Medium– No change



Ingress proxy service for all the https communication to current http ports

Guilin - Maintenance

Will be defects on top of Guilin Maintenance release.

- Dec – 1.7.11
  - 24th Dec
- Feb – 1.7.12
- March - 1.7.13

ONAP SO Honolulu Plan – High Priority item #1

SO Modules Refactoring

- Make SO sub-modules independent modules from the building, packaging and deployment perspective; separate their projects, repos, Jenkins, releases, yet under the SO group umbrella
- **Priority 1: Adapter Module Group**
  - SOL003 Adapter
  - NSSMF
  - OOF
  - CNF
  - VFC
- **Priority 2: SO UI & ETSI Group**
  - SO Monitoring
  - SO ETSI NFVO
- **Priority 3: Base Group**
  - Packages
  - BPMN
  - SO-Optimization-Clients
  - Common
- **OOM related changes**

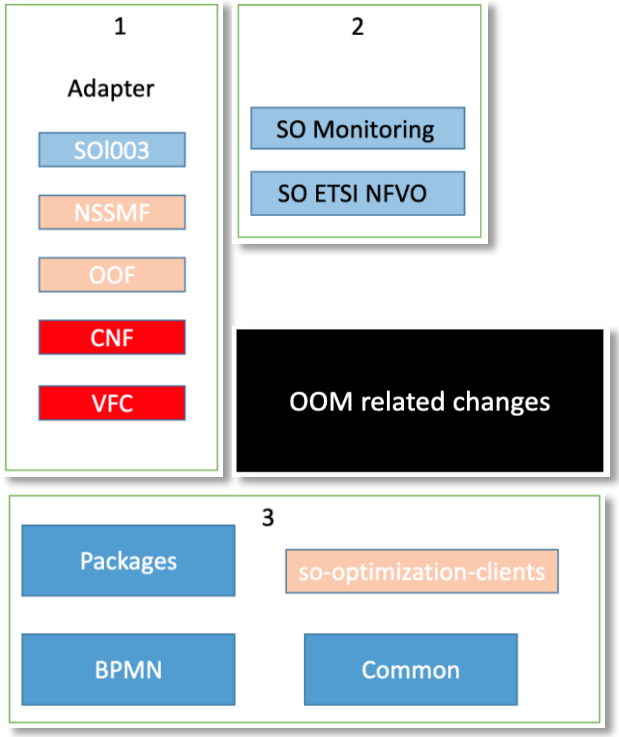
Note: remove obsolete sub-components:

- Appc-orchestrator
- SOL 002 Adapter

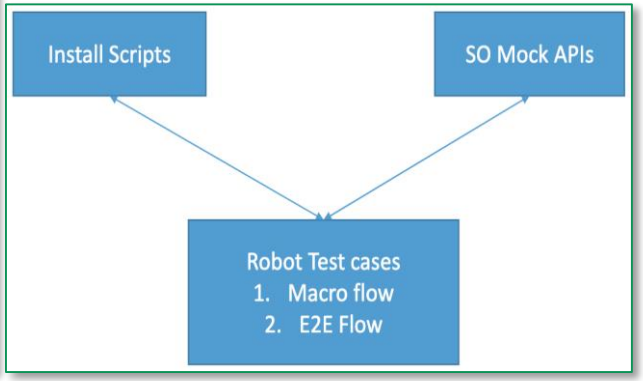
- **Problem Statements**:
  - SO itself and sub-components together tend to be monolithic and too large, without leveraging Microservice Architecture fully – its build takes a long time
  - One sub-module build failure could cause the entire SO build to fail
    - This caused SO build crisis during Guilin
  - SO needs be a platform, which supports additional sub-component Microservice plug-ins and flexible sub-function aggregation

- **Pros**:
  - Each SO sub-component has its own project, repo, build script, deployment and release lifecycle
  - A module build does not impact other SO sub-components, and build time is quicker
  - Isolating a module failure from other sub-components, and scaling independently
  - True Microservice architecture approaches

- **Challenges**:
  - Inherit Microservice complications (interfaces, service discovery)
  - Need to design module inter-connections and dependencies well
  - Common/shared function Microservices need to be carefully organized to make each sub-component have all necessary items
  - OOM Impact needs to be analyzed carefully
  - Sub-component CSIT for E2E integration testing is a must
  - ONAP SO feature enhancements (e.g., ETSI-Alignment) could be deprioritized for resource issues



E2E Integration Test



ONAP SO Dynamic Orchestration – high Priority #2

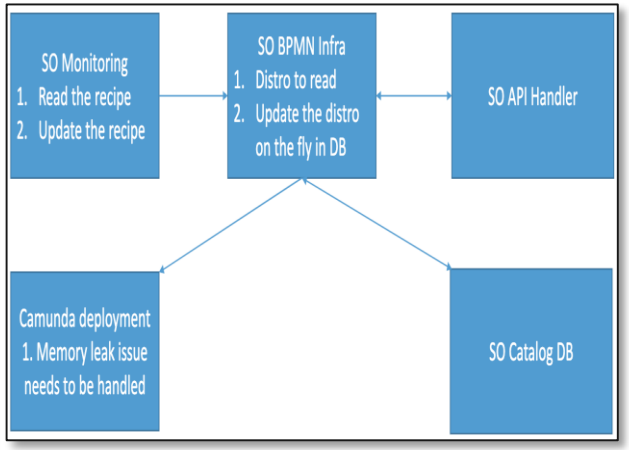
ONAP SO Dynamic Orchestration Capability without bouncing ONAP SO Supports

- Hot deployment of BPMN Workflows and business logic (both base and custom)
- Decoupling ONAP SO code from custom Workflows and business logic.
  - Camunda engine is not coupled with ONAP SO code
- Allowing vendors to build their custom BPMN Workflows and business logic as WAR file(s)
- Allowing operators to deploy custom Workflow package(s) to ONAP SO (stand-alone/clustered Camunda) at anytime
- ONAP SO will be able to manage custom orchestration without interruption
  - It is a must for production-quality orchestration
- Current SO Monitoring UI scope will be extended to manage Workflow package onboarding
  - "SO Monitoring" name will be changed to include the onboarding

- **Problem Statements**:
  - To incorporate custom BPMN workflows and business logic into ONAP SO, the custom code needs to be part of ONAP SO code
    - It is a maintenance nightmare
    - Customized ONAP SO ends up becoming non-generic
  - It requires rebuilding ONAP SO itself, stopping ONAP SO, redeploying a new ONAP SO and running ONAP SO
    - This does not meet production-quality SLA requirements

- **Pros**:
  - Will enable vendors to build their custom BPMN workflow packages independently
  - Will allow operators to deploy vendor BPMN workflow packages anytime without bouncing ONAP SO
  - ONAP SO code will be generic, and custom BPMN workflow packages will be plugged in on top of the ONAP SO base

- **Challenges**:
  - Decouple BPMN workflows and business logic from ONAP SO code
    - The current BPMN Infra will be packaged separately and deployed as the default workflow package
  - Extend SO Monitoring UI and ONAP SO to manage custom package onboarding and SO Catalog DB sync-up
  - SO needs to support standalone / clustered Camunda engine, instead of using embedded Camunda engine
    - Load-balancing plan needs to be addressed.
    - Get the latest Camunda engine without memory leak



ONAP SO Component Security – High Priority #3

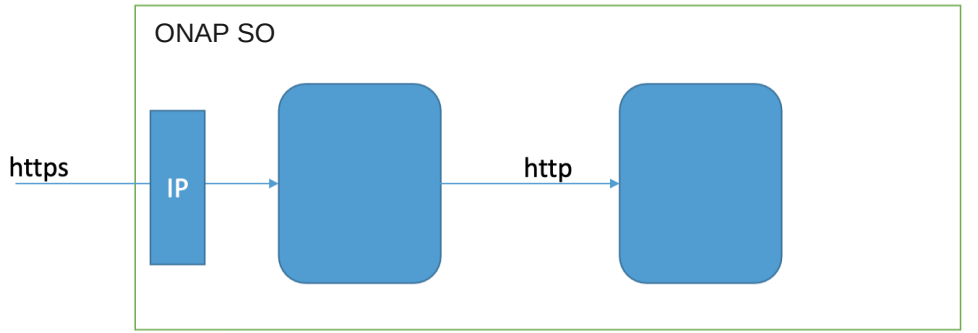
ONAP SO and its sub-components will be protected by Ingress Proxy service

- ONAP SO Ingress Proxy service protects ONAP SO by supporting secure communication via HTTPS and transforming its southbound communication protocol from HTTPS to HTTP for ONAP SO sub-components
- No direct incoming communication exposure from ONAP SO sub-components
- Communications among ONAP SO sub-components will be treated as internal ones thru HTTP

- **Problem Statements**:
  - Each ONAP SO sub-component needs to handle its own secure communications; in many cases, without a uniform way
  - It has been a significant burden to sub-component builders to conform to the security standards / best practices

- **Pros**:
  - ONAP SO Ingress Proxy service protects the entire ONAP SO including its sub-components
  - The sub-component builders will be able to focus on their business logic
  - Uniform way of security standards / best practices will be applied centrally

- **Challenges**:
  - Define and Configure Ingress Proxy services for ONAP SO
  - Sub-component outgoing communication security needs to be addressed



ONAP SO Honolulu Plan – High Priority item #4

E2E Integration Test need to cover the entire ONAP SO operations

- Support E2E Integration Test enhancements for ONAP SO
- Validate ONAP SO sub-components

- **Problem Statements**:
  - Currently, ONAP SO E2E Integration Test is not comprehensive.
  - Some of E2E test flows are broken and need to be enhanced
  - There is not comprehensive component validation when additional sub-components / functions are added to ONAP SO

- **Pros**:
  - ONAP SO will become more modular, and we need to validate SO changes beforehand
  - SO itself and its sub-component CSIT will help

- **Challenges**:
  - Revise / enhance Robot Test and add each sub-component CSIT
  - Set testing best practices for adding / enhancing sub-components

E2E Integration Test