

# REQ-458 – CNFO – Honolulu Extensions

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15.12.2020

# CNFO - Summary for the requirement subcommittee

**Executive Summary** - Provide CNF orchestration support through integration of K8s adapter in ONAP SO

- Support for provisioning CNFs using an external K8s Manager
- Support the Helm based orchestration
- leverage the existing functionality of Multi cloud in SO
- Bring in the advantages of the K8s orchestrator
- Set stage for the Cloud Native scenarios

REQ-341  
Guilin

REQ-458  
Honolulu+

**Owners:** Lukasz Rajewski (Orange), Seshu Kumar M (Huawei), Srinu Addepalli (Intel)

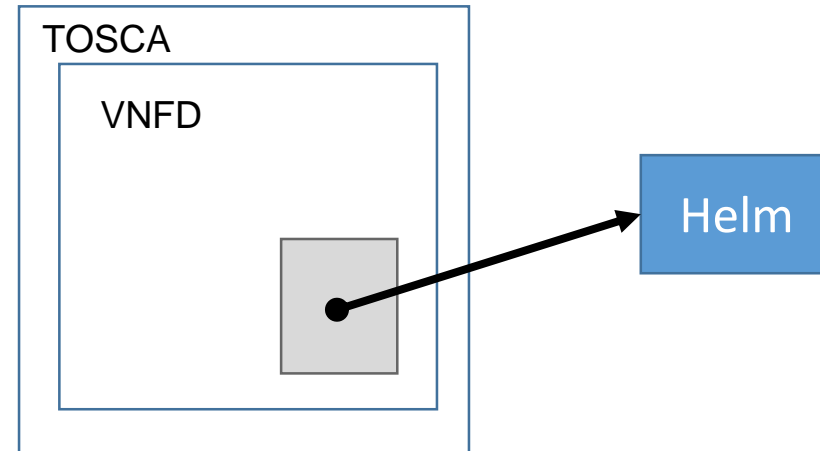
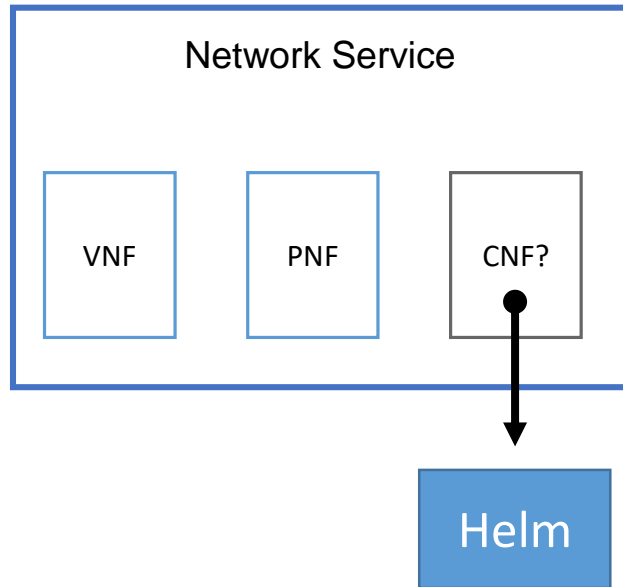
**Business Impact** - Enables operators and service providers to orchestrate CNFs based services along with the VNFs and PNFs

**Business Markets** - All operators and service providers that are intended to use the CNFs along with PNFs /VNFs

**Funding/Financial Impacts** - Reduction in the footprint of the ONAP for CNF support.

**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.*

# ONAP - ETSI CNF model Alignment



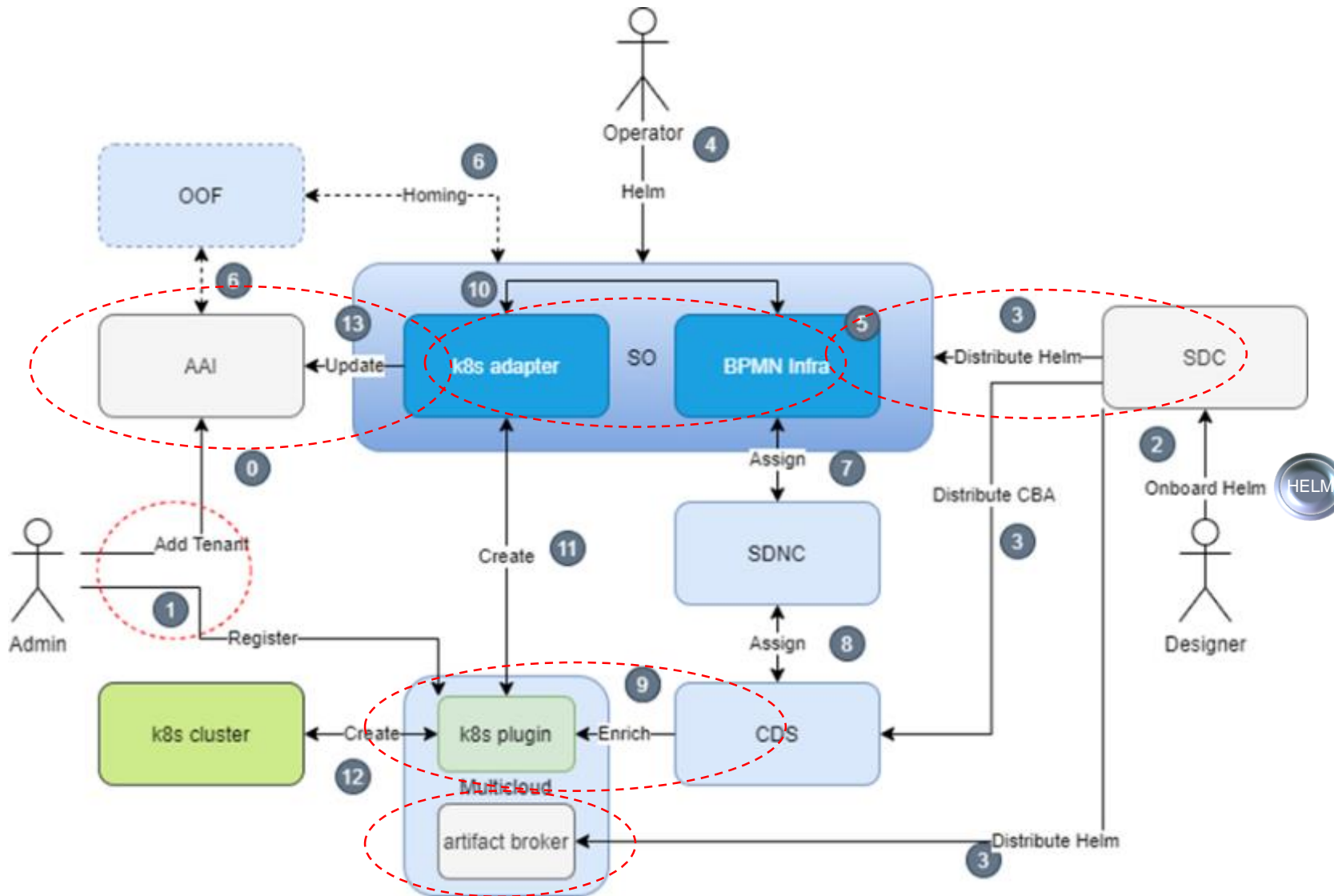
Integration of Native (CNF Adapter) with ETSi (SOL003 Adapter) paths in SO



Design/AAI CNF Model

How the ETSI CNF AAI model will look?

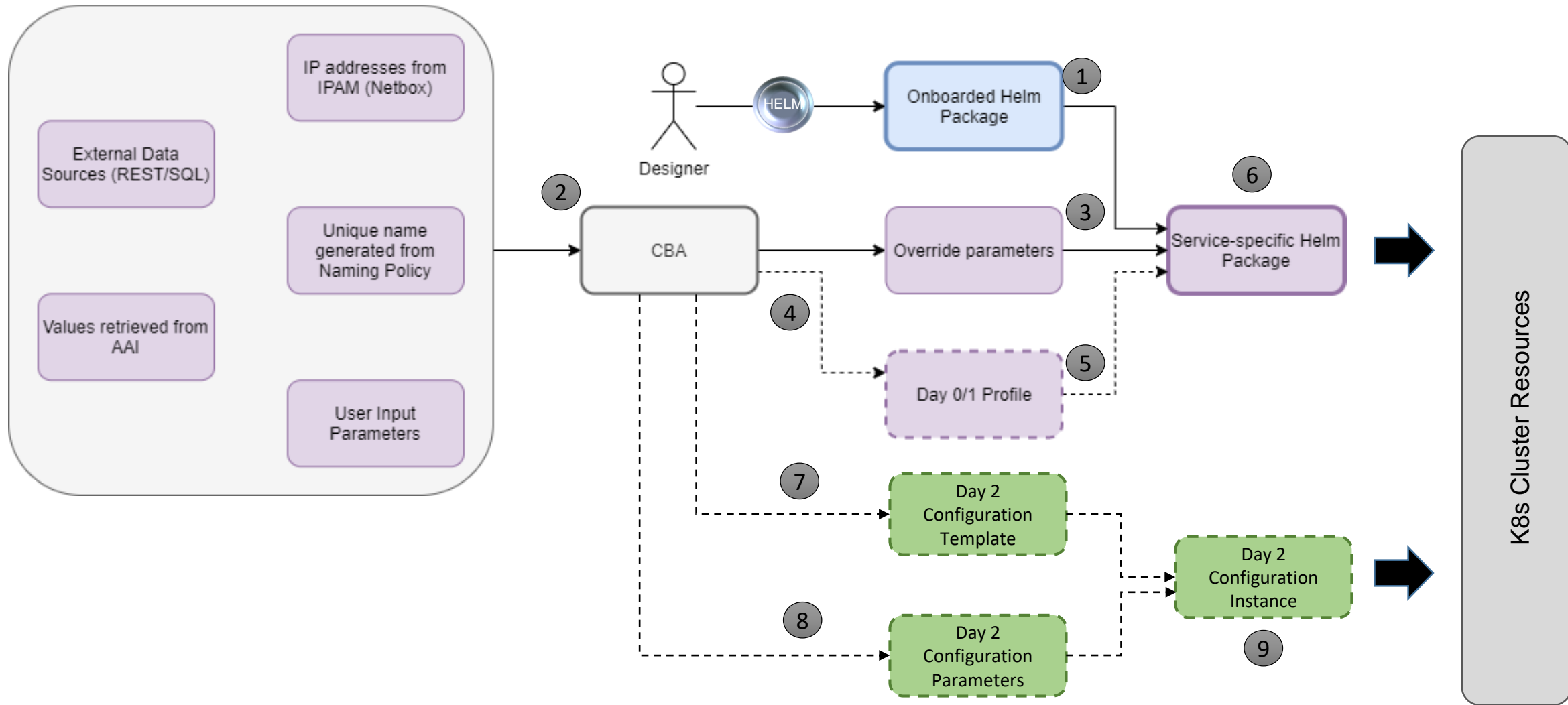
# Guilin - K8s Adapter (Helm) Flow Day 0/1



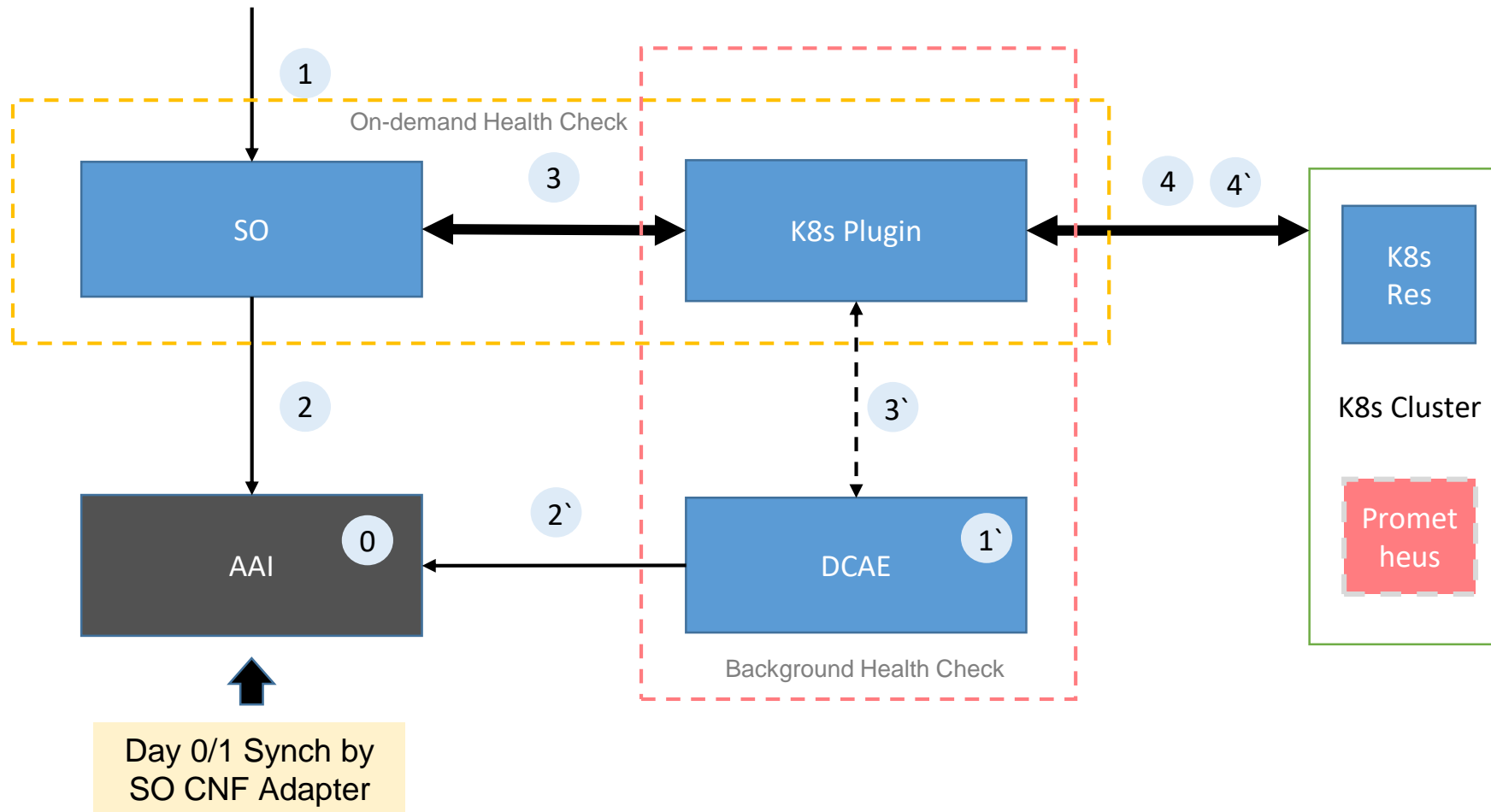
## Focus on Native Day2 Operations

- AAI model changes
- SO AAI Data Update
- SO CNF Status
- SDC Distribution
- Helm Validation
- K8s Plugin – v2 APIs
- Native Day2 for CNF in CDS

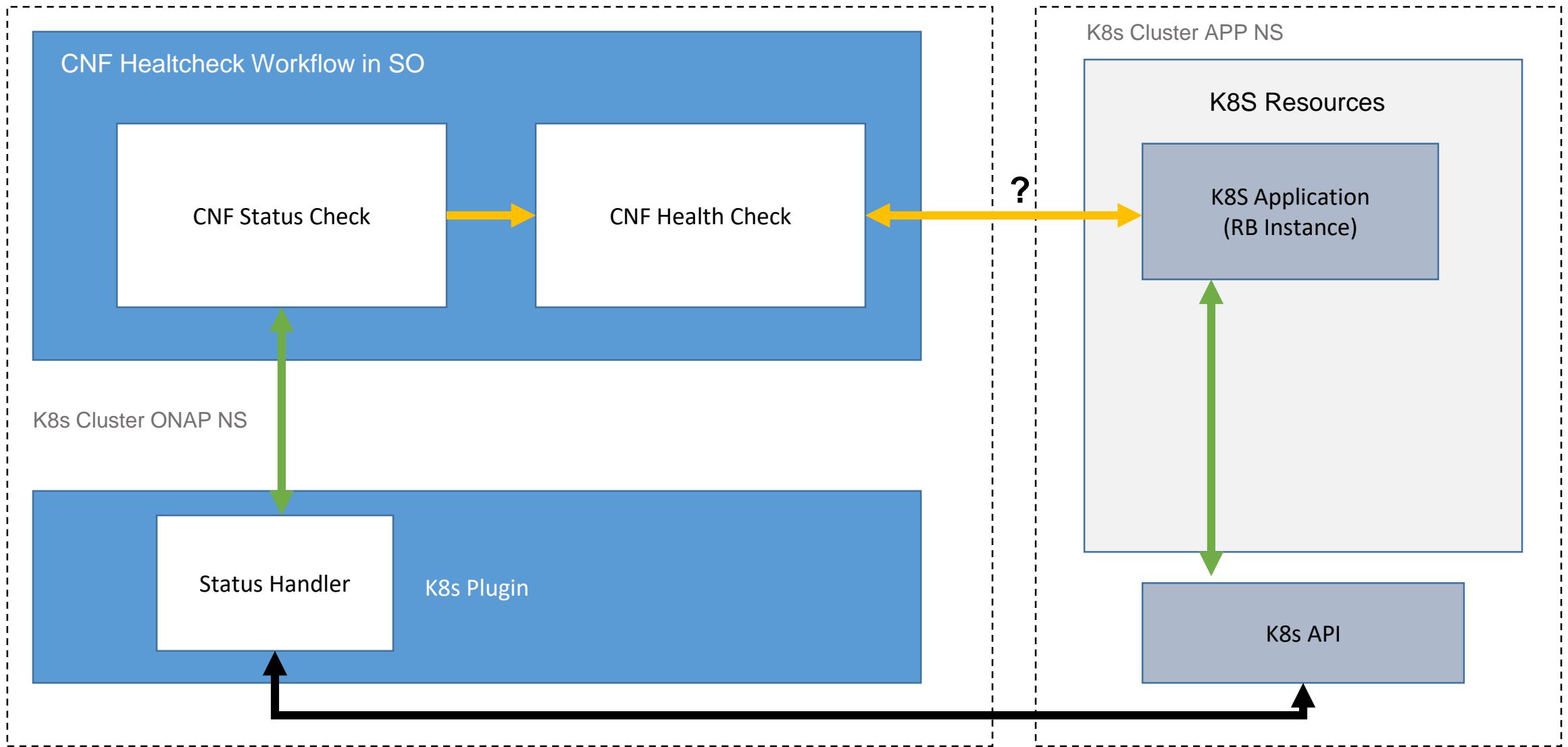
# Helm Package Day 0/1 + Day2



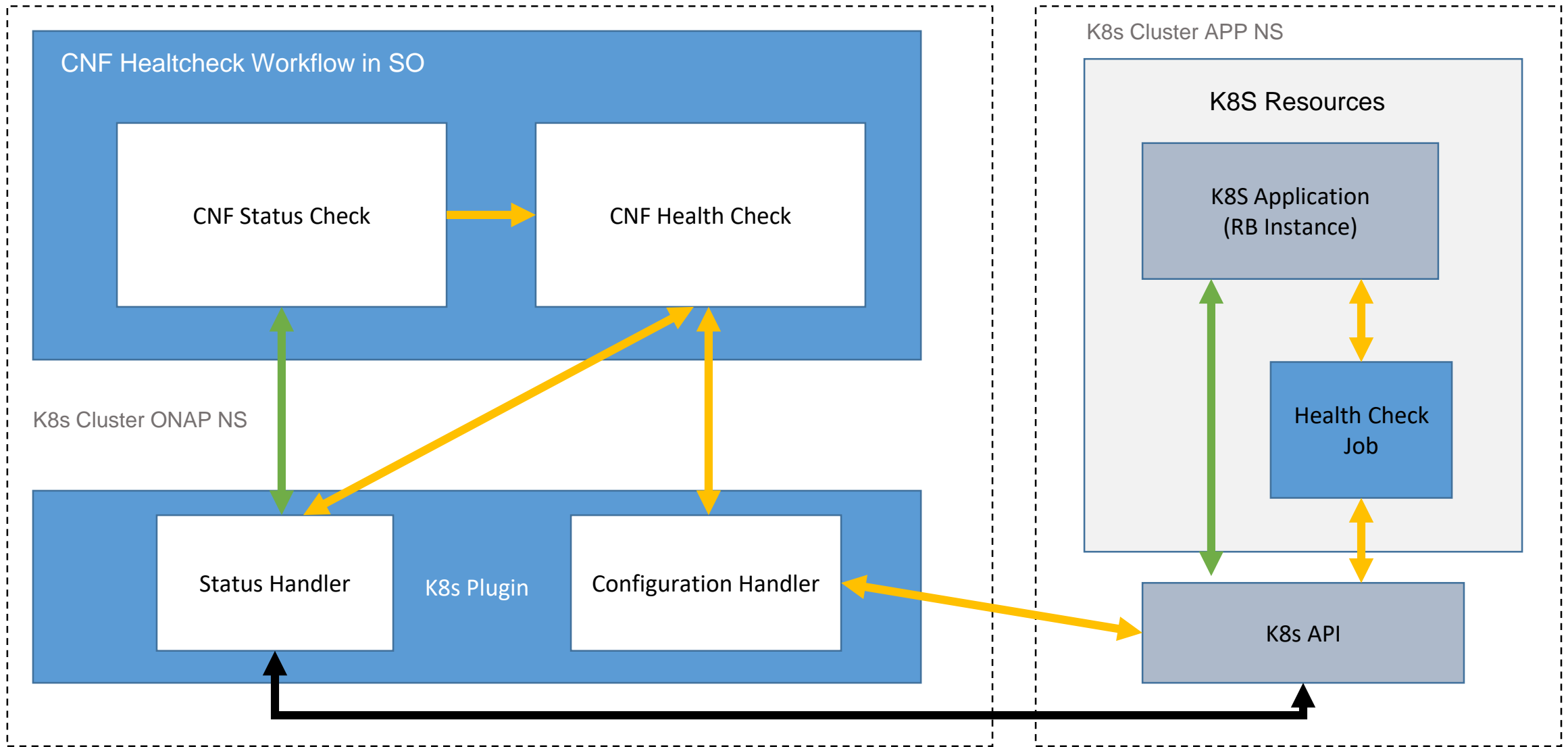
# Day-2 CNF Health Flow - ONAP



# On-Demand CNF Health Check – Challenge



# On-Demand CNF Health Check – Proposal





# Scope for REQ-458 – Honolulu

- SDC Enhancements
  - Helm validation[stretch, for Helm 2 and Helm 3]
  - Artifact type recognition by manifest type, [stretch for all types]
  - Continue CNFO Enhancements and defect fixes found as part of the current testing
- CCSDK/CDS
  - Native Configuration API Handler for v1
  - Native Status API Handler for v1
- K8s Plugin Day-2 Changes
  - Query API Handler
  - Configuration API Handler modifications
  - Test API for v1 Handler
- OOM extension for the components
  - Preparation for further Integration into E2E flows
  - K8s Plugin v2 deployment support (stretch)
  - SDC Helm Validation – under discussion

REQ-458



# Proposed scope – Istanbul+ (1)

- SDC changes
  - Parsing of Helm properties/overrides
  - Alignment with ETSi CNF onboarding package
- AAI model changes
  - K8s resource type created from helm package -> similar role to vserver object
  - Snapshot of Status API result in AAI
  - AAI changes synchronized with ETSi approach
  - AAI API - Exposure of Status API result with conversion to JSON
- SO Changes
  - SO E2E API Improvements
  - SO CNF Adapter
    - Status API in CNF Adapter
    - Test API in CNF Adapter
    - AAI synchronization after each change -> Notification based
  - SO Integration ETSI Flow (co-existence of ETSI and native CNF path)

# Proposed scope – Istanbul+ (2)

- Integration of K8s API v2
  - Integration with Status API of the k8s plugin to fetch i.e. CRDs of Prometheus
  - CRD / CC and k8s resource information as part post initialization
- Integration of K8s API v2
  - Configuration API for v2
  - Test API for v2
  - SO CNF adapter must be changed in SO to use v2
  - ArtifactBroker must be modified for v2 or replaced by distribution from CNF adapter
  - Native API Handlers in CDS must be switched into v2
  - v2 in ONAP python-sdk
- Dynamic CNF Health Check Workflow in SO
  - Status Check -> Status API result verification
  - CNF Health Check with Dedicated Health Check Job Execution with Test API
- **We want to switch to another pure CNF use case**
  - CNF use case CBA + Integration scripts
  - Reference Health Check Job Implementation for selected CNF use case
  - **Prometheus for collection of metrics**



**ONAP**

OPEN NETWORK AUTOMATION PLATFORM

Thank You!