ARC OOF Component Description - El Alto-R5

STATUS:

OOF (ONAP Optimization Framework):

1. High Level Component Definition and Architectural Relationships



2. API definitions

OOF provides the following interfaces:

| Interface Name | Interface Definition | Interface Capabilities |
|-------------------|--|---|
| OOFE-1 | Homing Traffic Distribution Networ k Slicing | It enables placement based on a wide variety of policy constraints including capacity, location, platform capabilities, and other service specific constraints. |
| OOFE-2 | PCI/ANR Optimization | Enables PCI/ANR optimization API for SON. |

| OOFE-3 | Schedule Optimization | a policy driven workflow schedule optimizer for change management planning. This interface schedule workflows in time to maximize parallel change management activities, while respecting dependency between the workflows. |
|--------|----------------------------|---|
| OOFE-4 | Route Optimization | Provides an interface for Router Optimization. |
| OOFE-5 | OOF Model Administrator | This is for the OOF Model Administrator API. This API is a way to dynamically change the optimization models that will be used to find solutions for various optimization problems. This API will be used to Create, Update or Delete Models. |
| OOFE-6 | Network Slicing | This interface enables slice selection recommendations. |

Note: xxxl interface is a Component internal interface. xxxxE interface is a component external interface

The current API documents can be found at:

- The OOF user guide can be found at: OOF latest user guide
- OOF internal APIs can be found: OOF API specification

OOF consumes the following Interfaces:

| Interface Name | Purpose Reason For Use |
|-------------------|--|
| SDCE-1 | For PCI/ANR optimization, OOF Retrieves the Cellsite inventory details from the configdb API, which is hosted as part of the SDNC /R component |
| AAIE-1 | OOF interfaces with AAI to retrieve the inventory |
| MCE-5 | OOF queries Multicloud for real-time available capacity information |
| MUSICI-1 | OOF interfaces with MUSIC to persist service state. |

3. Component Description:

ONAP Optimization Framework (OOF) is an Umbrella project, with the primary goal of addressing the optimization needs of ONAP. OOF is a framewo rk that supports creating and running a suite of Optimizing applications including: -Change Management Scheduling optimizer -Homing/Placement optimizer -PCI optimizer

-Route optimizer

OOF is targeted to be an optimization platform with the following goals: -Declarative, policy-driven approach to solving optimization problems -Reusable components: data and policy adapters/libraries, execution environment -Support General-Purpose as well as Custom optimizers -Extensible to multiple optimization problems

Internally, OOF has the following components:

- OSDF: Optimization Service Design Framework, which is a collection of APIs and libraries, along with a generic runtime optimizer

 Status: Part of ONAP since Beijing Release.
- HAS: Homing and Allocation Service, which provides a policy based constraint driven selection optimizer

 Status: Part of ONAP since Beijing Release.
- CMSO: Change Management Schedule Optimizer, providing schedule optimization
 Status: Seed code up-streamed in R3
- FGPS: Fine Grained Placement Service
 - Status: Seed code up-streamed, POC in Frankfurt

4. Known system limitations

Please find the known system limitations in the following links

- has release notes
- osdf release notes
- cmso release notes

5. Used Models

OOF doesn't directly create models, but indirectly consumes them via AAI, Policy and Multi Cloud.

- · Service and Resource Info, from: AAI
- Network Topology for CM: AAI
- HPA Flavors/Capabilities/CapacityInfo, from : AAI
 Policy Models (homing, PCI) from: Policy
- Infrastructure Metrics Info (capacity), from: MultiCloud
- Cloud agnostic Intent Info, from: MultiCloud
- AZ level capacity Info, from: MultiCloud (for F-GPS)
- PCI configuration data(not yet a part of SDC model) · Slice/Subnet Profile and Slice/Subnet Instance models, from AAI

6. System Deployment Architecture



7. New Capabilities in this Release

- Component Upgrades to new Policy Lifecycle API
- Support for E2E Network Slicing
- Support to perform CRUD operations on certain optimization models during runtime.

8. References