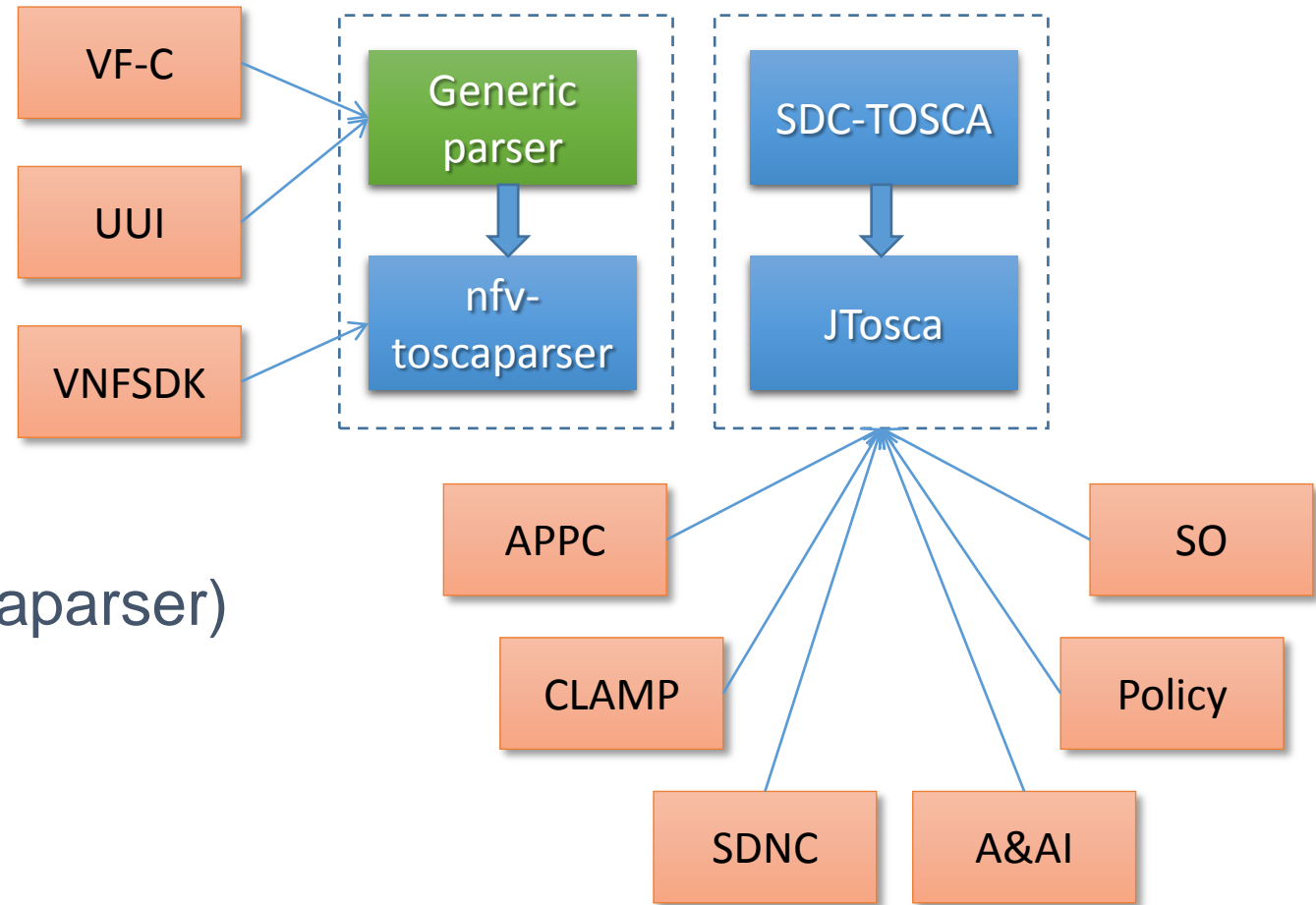# TOSCA Parser & Catalog

CMCC

2019/6/14

Parser List

- ## Base Parser
  - nfv-toscaparser
  - JTosca

- ## Wrapper Parser
  - SDC-TOSCA (base on JTosca)
  - Genericparser(base on nfv-toscaparser)

nfv-toscaparser

- The TOSCA Parser is an OpenStack project and licensed under Apache 2. It is developed to parse TOSCA Simple Profile in YAML. It reads the TOSCA templates and creates an in-memory graph of TOSCA nodes and their relationship.

- Support: TOSCA 1.1

- Language: Python

- Repo: https://gerrit.opnfv.org/gerrit/#/admin/projects/parser

- How to use: As Lib

JTosca

- ONAP JTOSCA is delivered as helper JAR that can be used by clients that work with TOSCA CSAR files. It parses the CSAR and returns the model object which represents the CSAR contents. Prior to that, it performs validations on the CSAR to check its TOSCA compliance.

- Support: TOSCA 1.1

- Language: Java

- Repo: https://gerrit.onap.org/r/#/admin/projects/sdc/jtosca
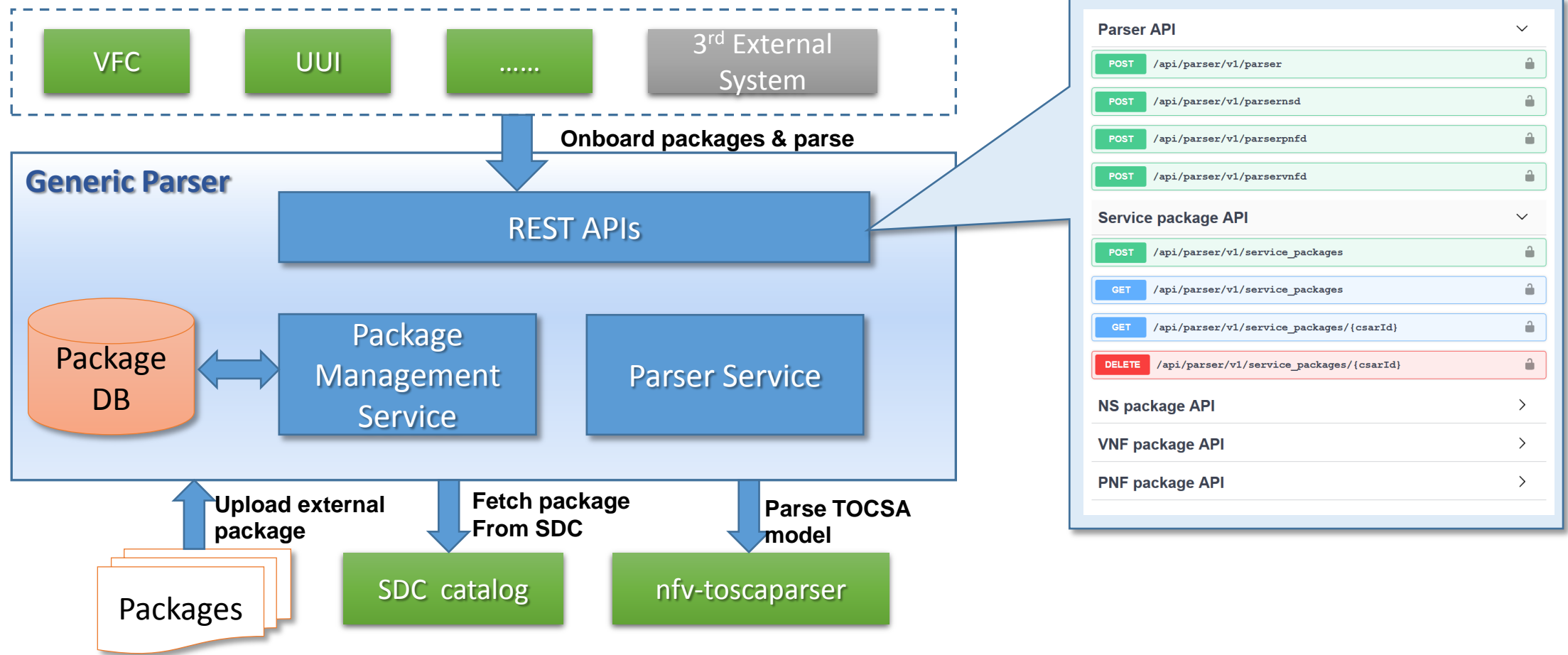
- How to use: As Lib

SDC-TOSCA

- ONAP SDC-Tosca is delivered as helper JAR that can be used by clients that work with SDC TOSCA CSAR files. It parses the CSAR and returns the model object which represents the CSAR contents, through designated function calls with SDC flavour.

- It uses the underlying generic JTOSCA parser.

- Language: Java

- Repo: https://gerrit.onap.org/r/#/admin/projects/sdc/sdc-tosca

- How to use: As Lib

Genericparser

- It provides parser service as well as basic package management service by Micro Service. It uses the underlying **nfv-toscaparser**.

- Language: Python

- Repo: https://gerrit.onap.org/r/#/admin/projects/modeling/genericparser

- How to use: as Micro Service

- Use case support: CCVPN in Dublin

Genericparser Architecture

VFC

UUI

......

3rd External System

Onboard packages & parse

Generic Parser

REST APIs

Package DB

Package Management Service

Parser Service

Upload external package

Packages

Fetch package From SDC

SDC catalog

Parse TOCSA model

nfv-toscaparser

Parser API

POST `/api/parser/v1/parser`

POST `/api/parser/v1/parsernsd`

POST `/api/parser/v1/parserpnfd`

POST `/api/parser/v1/parservnfd`

Service package API

POST `/api/parser/v1/service_packages`

GET `/api/parser/v1/service_packages`

GET `/api/parser/v1/service_packages/{csarId}`

DELETE `/api/parser/v1/service_packages/{csarId}`

NS package API

VNF package API

PNF package API

Parser Service

- ## Onboarding package from SDC

```
curl -X POST \
  http://172.60.3.65:30280/api/parser/v1/service_packages \
  -H 'Content-Type: application/json' \
  -d '{
    "csarId": "0734e398-a427-49f2-9abe-de8eb02542ad"
}'
```

- ## Parse package

```
curl -X POST \
  http://172.60.3.65:30280/api/parser/v1/parser \
  -H 'Content-Type: application/json' \
  -d '{
    "csarId": "0734e398-a427-49f2-9abe-de8eb02542ad",
    "inputs": "",
    "packageType": "Service"
}'
```
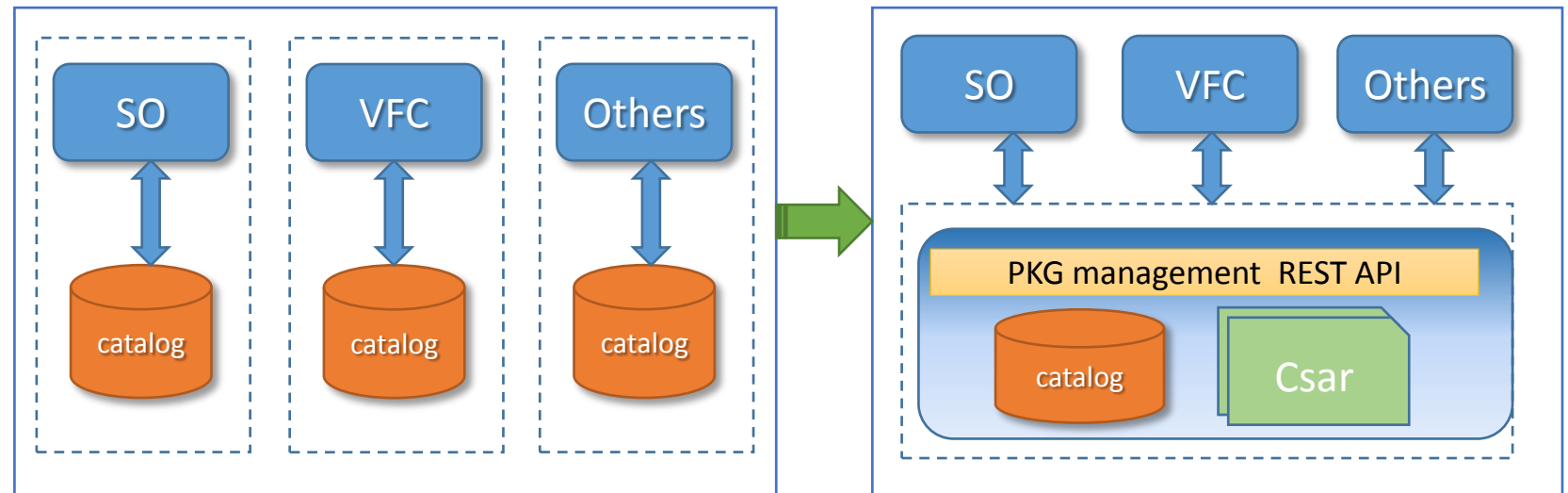
Parser result in JSON format


```
▼ object {9}
    ▼ inputs {2}
        ▶ vpnresourcev2 [3]
        ▶ siteresourcev2 [12]
           +
    ▶ pnfs [0]
      description:
    ▼ service {5}
          type: org.openecomp.service.Ccvpnservicev2
        ▶ requirements {10}
        ▶ properties {5}
        ▶ capabilities {11}
        ▶ metadata {13}
           +
    ▶ graph {2}
      basepath: c:\\users\\cmcc\\appdata\\local\\temp
                \\tmpcatdnq\\Definitions
    ▶ vnfs [2]
    ▶ vls [0]
    ▶ metadata {13}
       +
```
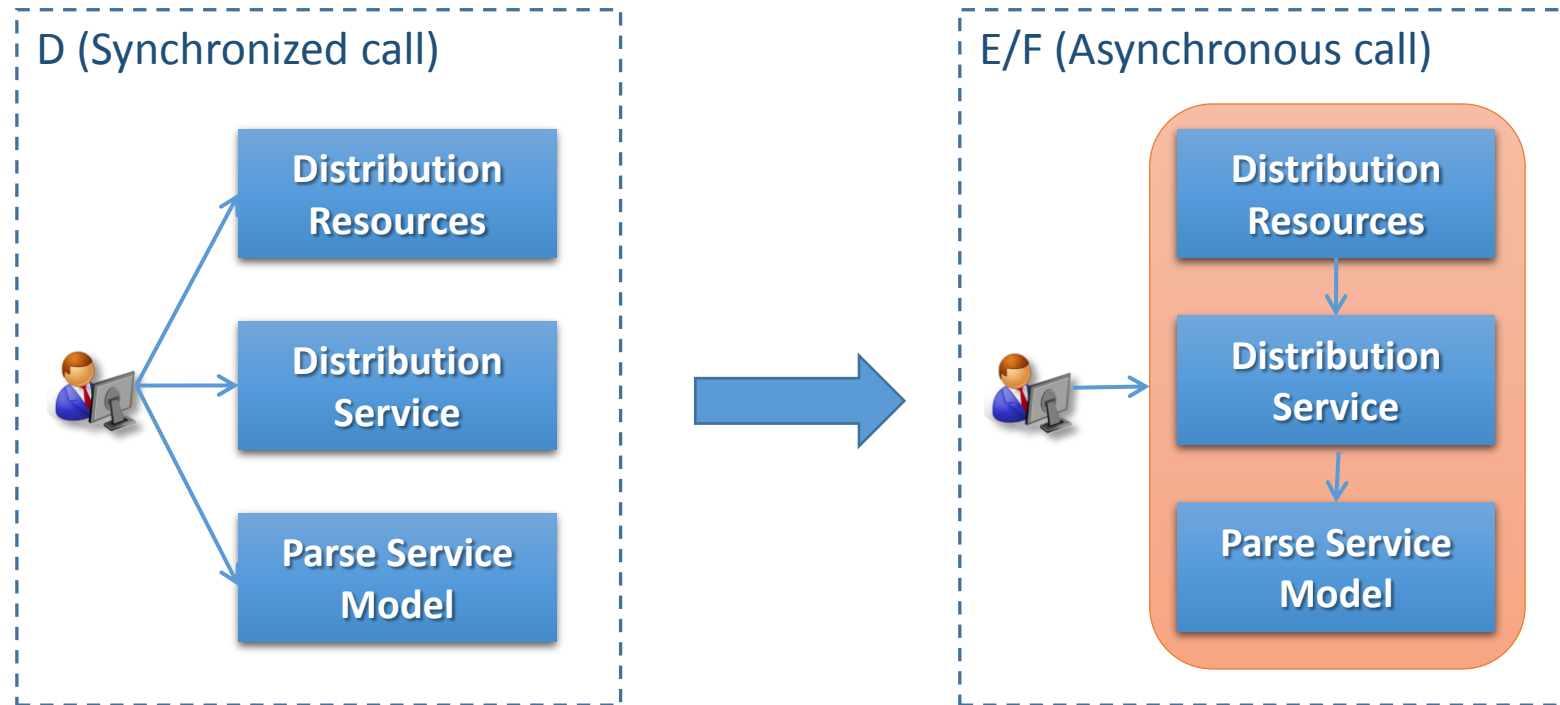
Package Management Service

- Provide basic pkg management function in Dublin.
    - Fetch package from SDC Catalog
    - Package storage

- Advantage
    - Unified Storage
    - Unified Management
    - Reduce duplication development

Parser in E/F Version

- Parser process optimization

D (Synchronized call)

Distribution Resources

Distribution Service

Parse Service Model

E/F (Asynchronous call)

Distribution Resources

Distribution Service

Parse Service Model

- Provide support for VNFSDK
  - VNFSDK has plan to migrate the current python lib usage to parser service
  - Requirement is in discussion
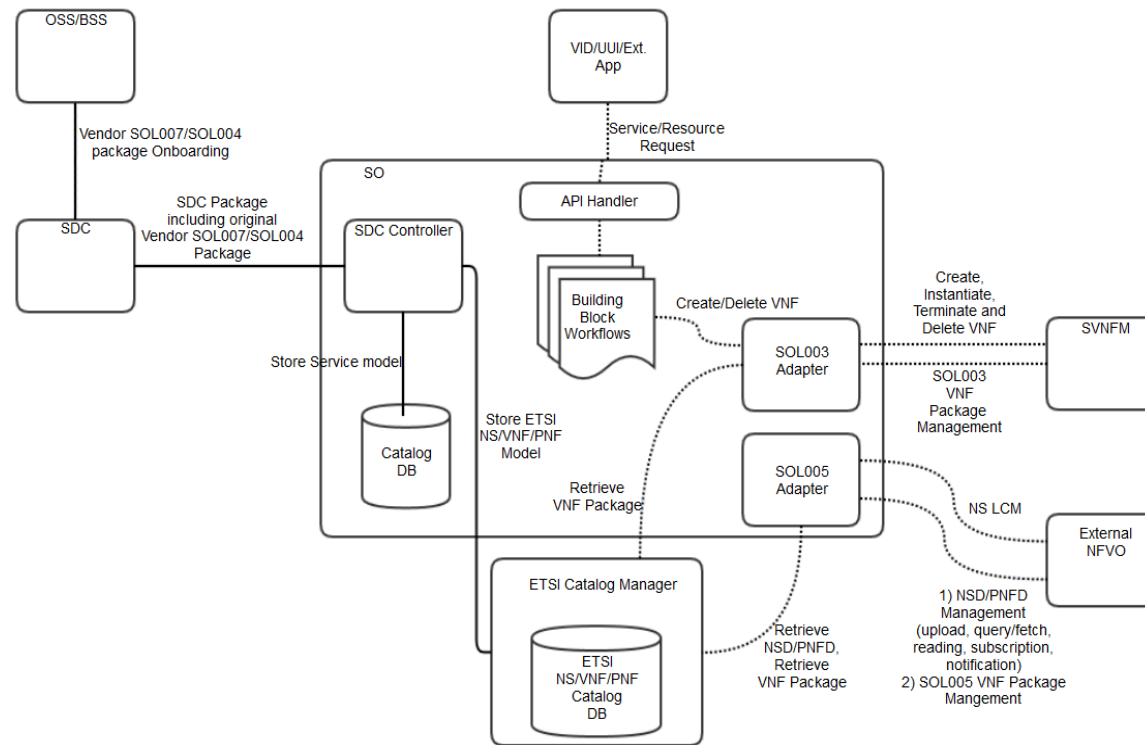- Call for requirements from other projects

Catalog in E/F Version

- VF-C plans to open its Catalog capabilities , including ETSI Catalog DB and ETSI NS/VNF/PNF pkg management functions and APIs

- Combine the current basic service pkg management function with VF-C Catalog function into one unified Catalog

Catalog in E/F Version

- SO ETSI Catalog requirements

  The unified catalog can support the ETSI catalog requirements, **suggest SO can use the unified catalog.**

- Catalog requirements from other projects