



VNT Test Platform

OVP, TMF, ONAP perspectives

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VNF Test Platform (VTP)

*** VTP REST API is standardized with TMF TestAPI (in progress) ***

PERSONAS

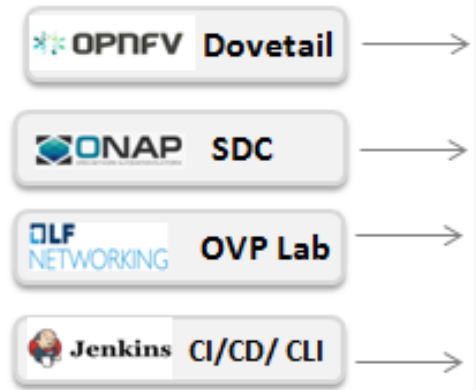


Operator



Vendor

PARTNERS / LABs



OLF NETWORKING OVP Portal

Publish Results

3rd-party test registry/provider



TEST SCENARIOS

- SDO spec. Test case ✓ (ETSI, VNFREQS)
- Operator Test case ✓
- Vendor Test case ✓
- Functional Test case
- Lifecycle Test case ✓
- Compliance Test case ✓
- Performance Test case
- Java/Python/Script / Docker Container/ Robot based Test case ✓

ENVIRONMENT

Standards, MANO, VIM, VNF



Artifacts, Test case, profiles, results

A **Test orchestration agile platform** to manage and orchestrate different VNF testing scenario across different SUT environment like ONAP MANO, OpenStack Cloud, Vendor VNF, SDN Controller, Kubernetes docker, etc under one umbrella across different Test providers and partner labs.

Programming Interface	User Interface
<ul style="list-style-type: none"> ✓ Provides REST API over HTTP(s) ✓ Role-based Access control 	<ul style="list-style-type: none"> ✓ Web Portal ✓ Command Line Interface (CLI)

AGILE Test case **Modeling & Standardization**
 Test case management
 Test **orchestration**
 System Under Test (SUT) management

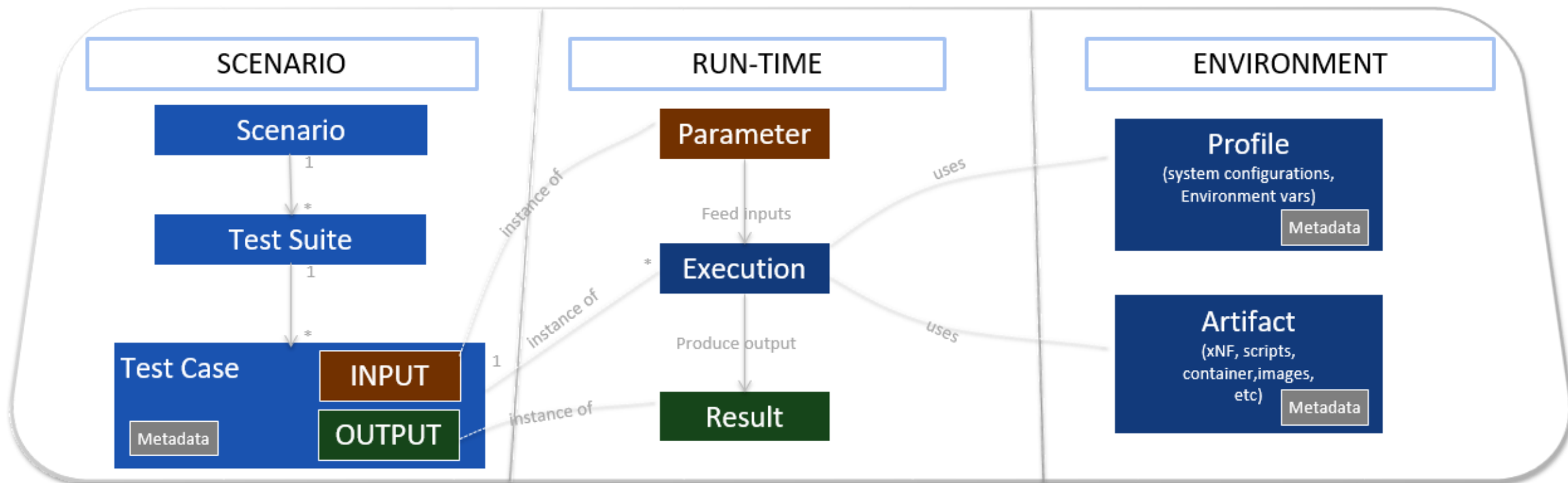
THE **LINUX** FOUNDATION



V N F	Compliance	T E S T
	Verification	
	Validation	
	Performance	
	Benchmark	

- Easy Extensible for testing CNF and PNF-

VTP: Domain model



- ✓ **Scenario** is a logical entity to model any given situations for which test cases are made, ex: LFN OVP, vendor specific, functionality specific.
- ✓ **Test suites** is a logical entity that helps to group the tests into hierarchy with the notation x.y.z.
- ✓ **Test case** models the given real test case with required inputs and outputs.

- ✓ **Execution** models every execution of a given test case with a unique identifier.
- ✓ **Parameter** is an instance of test case inputs, given by the user while executing the test case.
- ✓ **Result** is an instance of test case output, produced by VTP as part of execution.
- ✓ While execution, the user could use Profile and Artifacts.

- ✓ **Profile** models the system configurations and pre-defined test case parameters. Ex: GSMA profile, OpenStack environment details, etc.
- ✓ **Artifact** models the given binaries of any nature like VNF, scripts, configuration files, certificates, etc.
- ✓ **Metadata** models tagging to support searching of test execution.

✓ Test case results are **searchable** based on artifact, profile, scenario, test-case, metadata as VTP captures every test case execution with parameters and results.

VNF Test Platform (VTP) – VNF testing @ different phases

Certification (Badging) Time

- ✦ **Vendor** wants to get certification for VNFs (TOSCA & HEAT) by compliance, verification, validation and performance
- ✦ As part of **OVP**, LFN wants single project from ONAP to perform VNF certification testing

Design Time

- ✦ **Operator** wants to check the Operator's specific **VSP compliance check** when VNF is on-boarded in **SDC**
- ✦ **Operator** wants to design the service testing, similar to service design to enable service verification at run-time

Run Time

- ✦ On every service instantiation, **operators** want to verify the network service before activating for the consumer. (passive testing) thru **SO/VFC**
- ✦ **Operators** want to check the SLA of service on need basis (active testing)

VNF Test Platform (VTP)

VNFSDK – TOSCA compliance test cases

VVP – HOT compliance test cases

CLI/Integration – TOSCA/HOT verification test cases

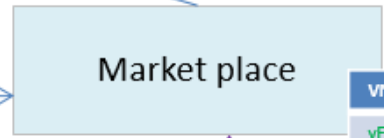
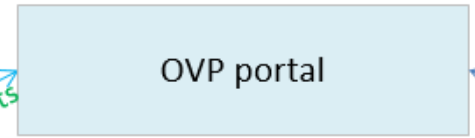
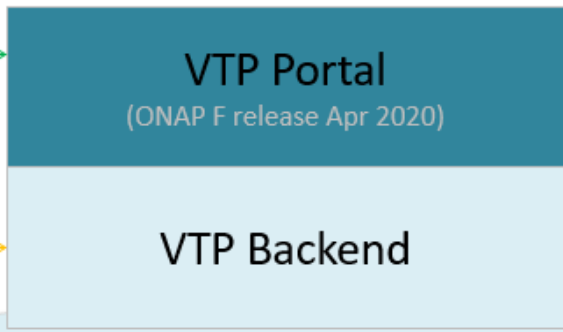
VTP scenarios -

Badging : OVP VNF Compliance & Validation (ONS EU 2019)
Design-time: Operator specific VSP compliance check (ONS NA 2019)
Runtime : Network Service Test (ONAP G release ??)

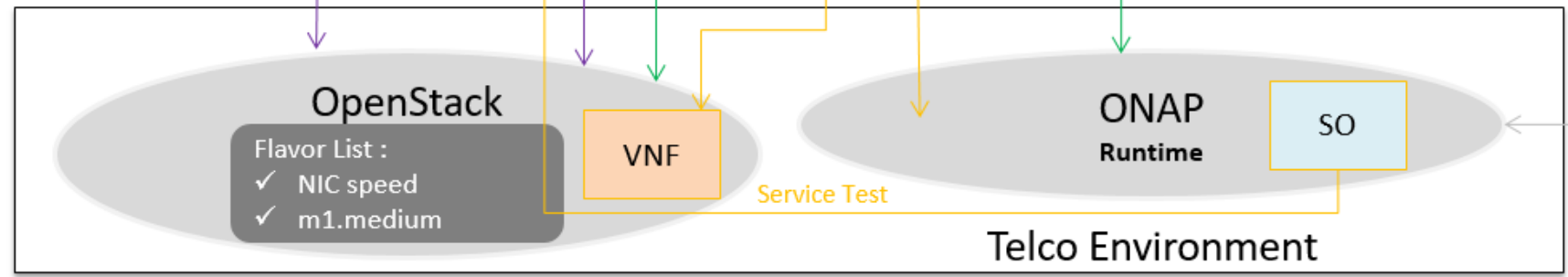
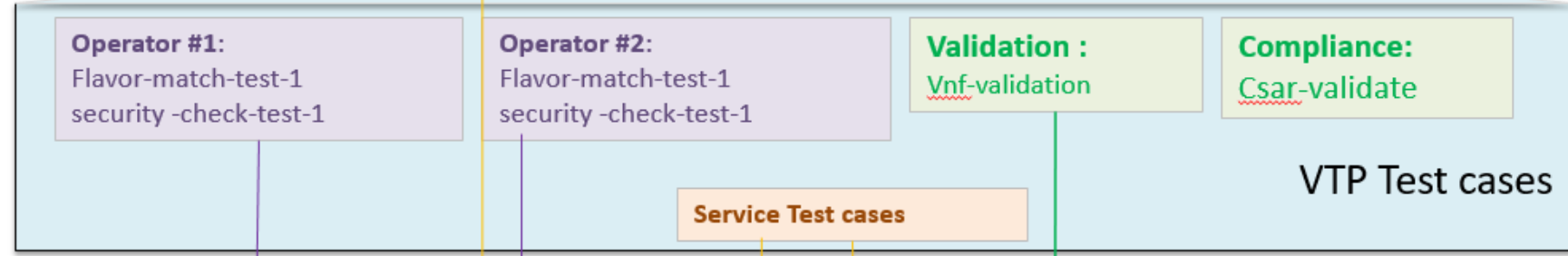


VNF:
 Compute Flavor 4GB 2vCPU
 Nw Flavor NIC speed

Certify VNF C&V



VNF	Badge
vFW	2019.12
vLBS	NA



Upload VNF Test results

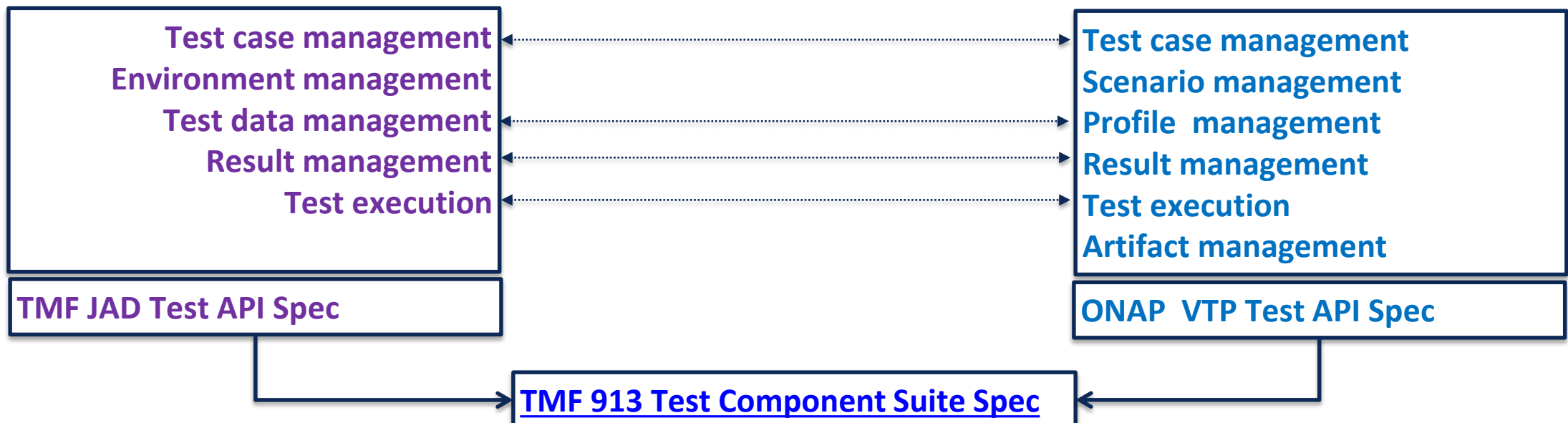
Upload VNF

Check if VNF is badged ?

Test Operator VSP Compliance check

Pull list of OVP certified VNFs

TMF Test component Suite API : Collaboration of TMF Test API & ONAP VTP API



- TMF704 - Test Case Management API
- TMF705 - Test Environment Management API
- TMF706 - Test Data Management API
- TMF707 - Test Result Management API
- TMF708 - Test Execution API
- TMF709 - Test Scenario Management API
- TMF710 - General Test Artifact Management API



Results of Combined Effort :

- ✓ Test case, Result & executions are derived from both JAD and VTP
- ✓ Environment and Test data are derived from JAD. (VTP has corresponding feature as profile management for Test data management)
- ✓ Scenario and Artifact are derived from VTP

Adoption of TMF API in VTP Frankfurt

VTP Portal

VTP TMF adoption ^{4.0.0}
[Base URL: serverfoot/vtp/v4/]
VTP TMF adoption

Schemes
HTTPS

testScenario

- GET /testScenario List or find TestScenario objects
- GET /testScenario/{id} Retrieves a TestScenario by ID

testSuite

- GET /testSuite List or find TestSuite objects
- GET /testSuite/{id} Retrieves a TestSuite by ID

testCase

- GET /testCase List or find TestCase objects
- GET /testCase/{id} Retrieves a TestCase by ID

testCaseExecution

- GET /testCaseExecution List or find TestCaseExecution objects
- POST /testCaseExecution Creates a TestCaseExecution
- GET /testCaseExecution/{id} Retrieves a TestCaseExecution by ID

testCaseResult

- GET /testCaseResult List or find TestCaseResult objects
- GET /testCaseResult/{id} Retrieves a TestCaseResult by ID

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VNF Test Agile Orchestrator

- Test case management (TMF704)
- Environment management (TMF705)
- Test data management (TMF706)
- Result management (TMF707)
- Test execution (TMF708)
- Scenario management (TMF709)
- Artifact management (TMF710)



Thank you