OVP 2.0/Cloud Native Update

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Agenda

- OVP 2.0/Cloud Native Overview
- Work Streams Overview
- Requirements Work Stream Initial Assessment

OVP 2.0/Cloud Native Overview

Charter

The LFN OPNFV Verification Program Phase 2 (OVP 2.0) is an open source, community-led compliance and verification program to promote, enable, and evolve a thriving ecosystem of cloud-native telecoms where Cloud Native Network Functions (CNFs) from different vendors can inter-operate and run on the same immutable infrastructure. It includes CNF compliance and verification testing based on requirements and best practices put forth by both the CNCF and CNTT. These requirements feed tool-sets and testing scripts developed within OPNFV, ONAP and CNCF communities. – Source: OVP 2.0 Bootstrap

Objective

Launch a set of verification marks (i.e. badges) which can be awarded to either Cloud Native Platforms/NFVI or Cloud Native Network Functions (CNFs) that demonstrate compliance through automated testing against a set of agreed upon requirements. These requirements and tests must ensure interoperability between the CNFs and NFVI specified by CNTT.

Current Focus

- Defining the scope of a Minimum Viable Program
- Analyzing current status and relationships between relevant projects/tools
- Launching initial Work Streams to perform MVP refinement, gap analysis, and gap closure

OVP 2.0 Work Streams

NOTE: These are the initial work streams proposed by the CVC co-chair. Structure, composition, and focus are all subject to change. Each stream is an early discovery phase at this point.

Work Stream	Focus	Members
WS01: Governance and Framework	What badges should be awarded, process for attainment, and related marketing	Rabi Abdel, Lincoln Lavoie, Heather Kirksey
WS02: Requirement Activities	Identifying requirement sources, analysis of said requirements, and driving alignment between relevant projects/work streams	Bill Mulligan, Trevor Lovett, Ryan Hallahan, Olivier Smith, Fernando Oliveria
WS03: Lab and Tooling	Establishment (preferably through re-use) of an overarching test execution and reporting framework	Frederick Kautz, Kanagaraj Manickam, Trevor Cooper, Ryan Hallahan
WS04: Cloud Platform Conformance Testing*	Testing tools and approach for NFVI compliance	TBD
WS05: CNF Onboarding Testing*	Testing tools and approach for CNF Onboarding and packaging	Kanagaraj Manickam, Ryan Hallahan, Trevor Lovett
WS06: CNF Conformance Testing*	Testing tools and approach for CNF compliance with the NFVI and general cloud native principles	Taylor Carpenter, Olivier Smith, Trevor Lovett
WS07: ONAP POC and Existing Dev Work	Plan for evolving and extending ONAPs support for CNFs and it's relation/integration with CNTT	Catherine Lefevre, Amar Kapadia, Seshu

* These work streams are aligned with the initial testing categories proposed

OVP 2.0 Conformance Categories

NOTE: These are the initial categories proposed, and are subject to change.

A. Cloud Platform Conformance

- A1. Performance/Non-functional (security, resource utilization, etc.)
- A2. Functional
- A3. Cloud Native

B. CNF On-boarding

- B1. CNF Packaging: (Helm v3.0, TOSCA, HEAT)
- B2. CNF LCM: CNF Metadata for on-boarding and LCM

C. CNF Conformance

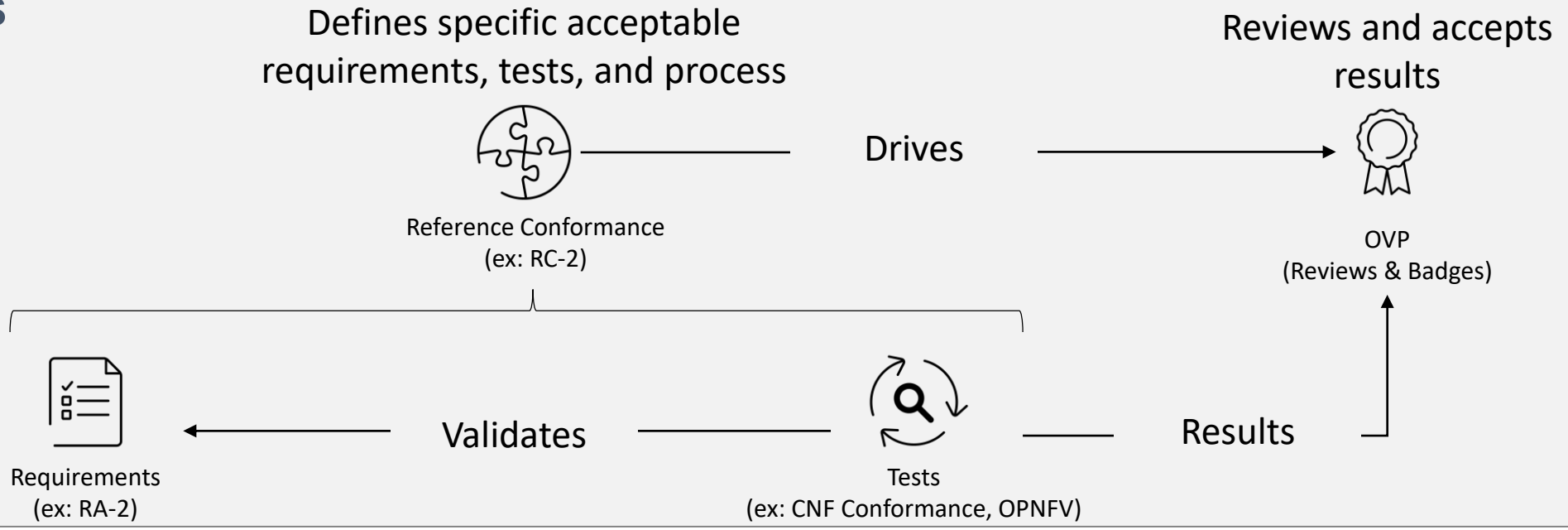
- C1. Performance
- C2. Functional
- C3. Cloud Native

Requirements Work Stream (WS02) Update

Initial Focus

- Identifying or establishing clear relationships between requirements, tests, and conformance specifications
- Establishing and promoting best practices for cross-project alignment
- Identifying potential gaps, concerns, and suggestions

Key Concepts



Initial Assessment from WS02

- **Establish "Sources of Truth" and linkages between projects** – which projects define what is required
  - No current project in the LFN umbrella is defining CNF requirements (CNF validation is dependent on this)
  - Linkage between CNF Conformance from the CNFC Telecom User Group and CNTT is still forming
  - Lack of traceability between projects (suggest adoption of best practices)

- **Streamline and clarify testing categories –** Many categories with overlap. Some may be beyond the scope of OVP
  - CNF Onboarding and CNF Conformance are still aspects of CNF Conformance and likely not distinct top-level categories
  - Functional vs. Cloud Native breakdown is unclear and not based on source requirements (i.e. CNTT does not categorize requirements this way)
  - Performance for CNFs seems beyond our scope and capabilities. Platform performance has fewer, but still substantial challenges

- **Clarify the Role of ONAP and CNFs in the OVP 2.0 MVP**
  - ONAP community is defining its role in CNF orchestration; requirements and tests to verify interoperability with ONAP will be critical
  - However, ONAP is not required to leverage an RA-2 based NFVI so it does not make ONAP the ideal vehicle to document general CNF requirements or requirements specific to the NFVI
  - We see VNF Requirements evolving as the source of requirements for ONAP-specific requirements for CNFs, but not a place to store CNF requirements driven by the CNTT RA, RI, or CNCF
  - Given the evolving support of CNFs in ONAP, this may not be an area for the OVP 2.0 MVP

Proposed Categories [DRAFT]

Category	Sub Category	Requirements	Conformance	Test Impl./Tools	Notes
Cloud Platform Conformance	Performance/Non-Functional	???	???	???	Where are non-functional requirements documented? Are requirements for performance expected? Should benchmarking against ref. CNFs be it's own track?
	Functional	RA-2	RC-2	CNCF Software Conformance (K8S compatibility only) CNF Conformance	Current tools are not currently linked to RA-2, but CNF Conformance is analyzing alignment. Are there other tools/projects that will test specific requirements? CNF Conformance primary focus so far has been on testing the CNF itself, although I see some tests specific to the NFVI. Do we see this suite testing both NFVI and CNFs?
CNF Conformance	Artifact Compliance (images, descriptors, charts, etc.)	CNF Conformance	RC-2	CNF Conformance	We would still need additional requirements specific to RA-2, and potentially more general purpose telco requirements. Where would those be documented? RA-2, RC-2, or somewhere else?
	Functional	???	RC-2	???	This testing would not cover the functional behavior of the CNF (e.g. is it a firewall), but rather can the CNF handle standard LCM operations or utilize capabilities of RA-2 based NFVI properly. There is no place in CNTT or any LFN project where such requirements are defined for CNFs

NOTE: ONAP could be addressed as either a sub-category of CNF Conformance or it's own top-level category

Next Steps

- Share initial assessment with CVC, and refine based on feedback
- Drive alignment in key projects: RA-2, RC-2, CNF Conformance, OPNFV
- Resolve CNF requirements issue, and drive collection and definition of the requirements
- Encourage participation:
  - Feel free to join CVC, OVP Work Stream, or CNTT projects
  - If you have concerns or feedback, but can't part of the sessions please pass along to me and I will attempt to route them as appropriate

References and Resources

Communities

- OVP 2.0 Wiki
- CNTT
- CNCF CNF Telecom User Group
- OPNFV

Potential Testing Tools

- CNF Conformance
- CNF Testbed
- OPNFV Yardstick , Functest, and Dovetail
- VTP
- K8S Conformance