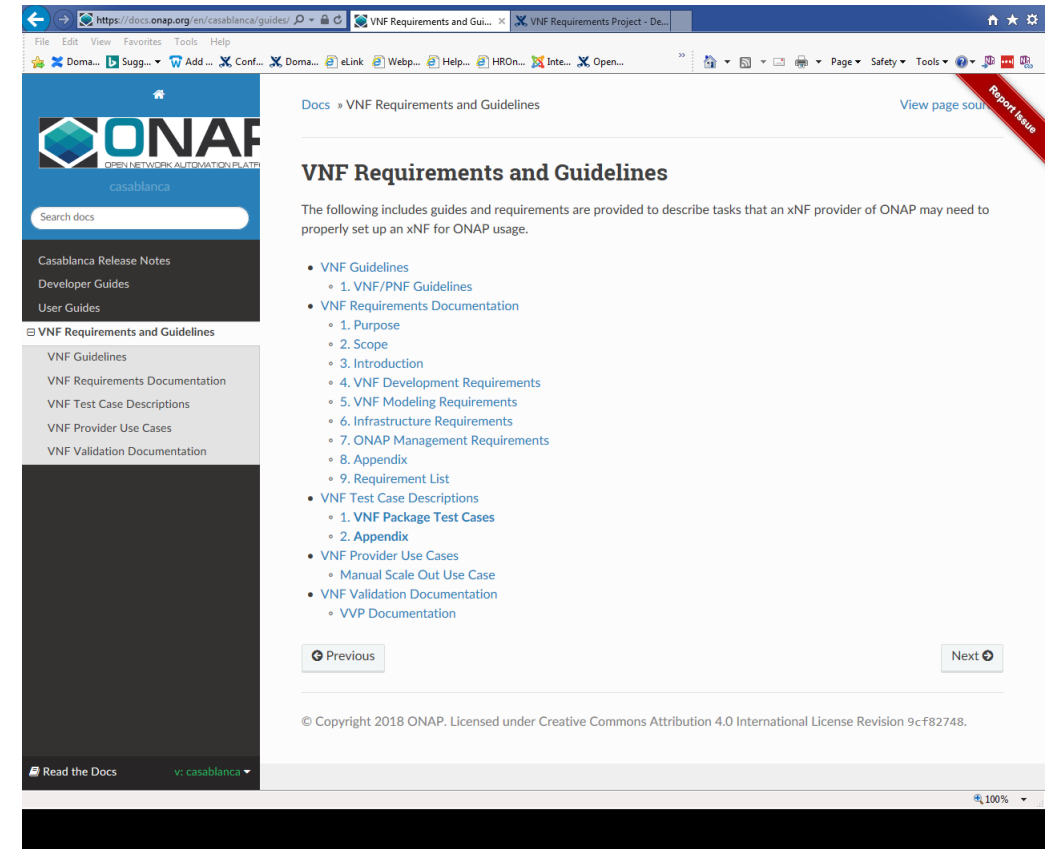


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ONAP VNF Certification



- **LFN C&V** - Sets policy on certification schemes
 - e.g. Qualified Lab Program requirements
 - Builds on OPNFV Dovetail framework
- **ONAP TSC** controls ONAP specific certifications
- ONAP Projects on VNFs
 - **VNFRQTS** (VNF Requirements - Documentation)
 - VNF Guidelines
 - VNF Requirements
 - 789 numbered requirements in Casablanca
 - Of which 634 are MUST/MUST NOT
 - VNF Test Case Descriptions
 - VNF Package Inspection
 - VNF Provider Use Case
 - **Modelling**
 - VNFD
 - **VNFSDK**
 - TOSCA tests
 - 11 Requirements in Casablanca
 - 6 Tests in Casablanca
 - **VVP**
 - HEAT tests
 - 298 Requirements In Casablanca
 - 180 tests in Casablanca



Certification based on VNF Requirements

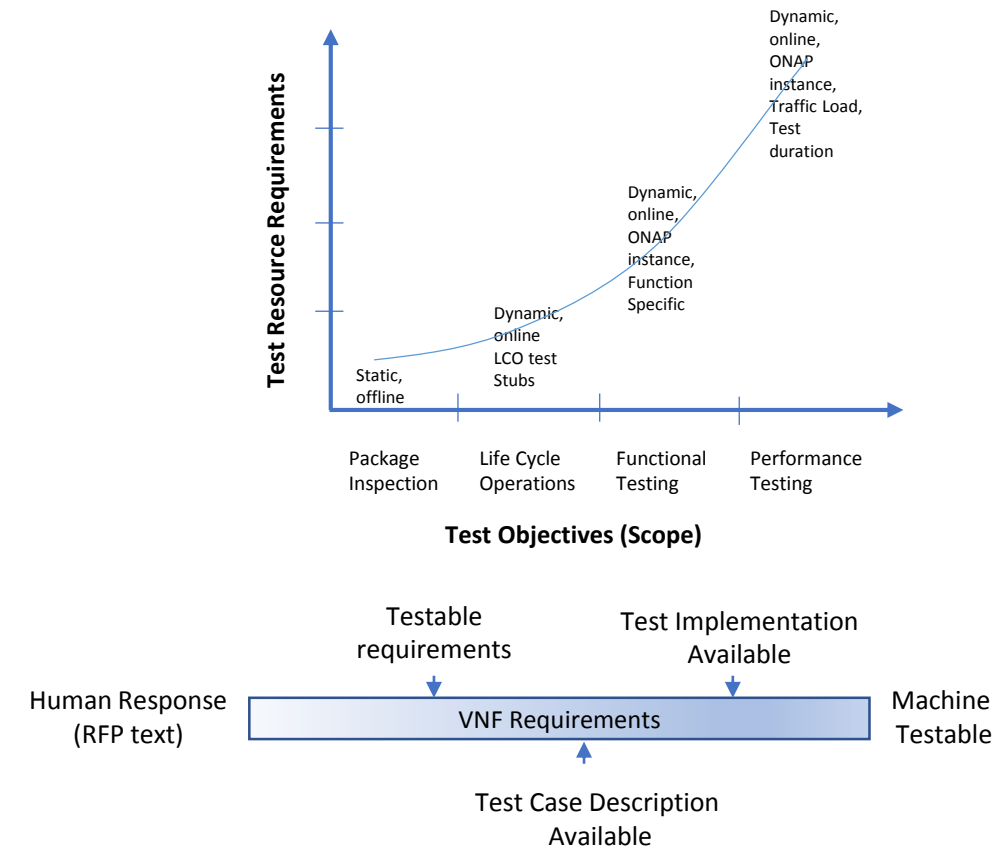
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ONAP VNF Certification



- Requirements evolve with each ONAP release
 - Feature alignment with ONAP platform evolution
 - Bug fixes
 - Reword for clarity / testability
- Not all requirements easily machine testable
 - Tests not yet written
 - Only Test Case Descriptions for VNF package Inspection in Casablanca
 - Resources need for testing
 - Documentation, process requirements etc. not intended for machine consumption
 - Human Response required (e.g. radio buttons, URLs)

VNF Certification bar to raise over time



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ONAP VNF Certification



- Several Major Options in VNF features required by ONAP
 - Where VNF needs only support one option
 - Lots of subsidiary requirements in that option
 - VNF unlikely to implement multiple options (substantial functionality cost)
 - Option likely long lived (would take >2 ONAP releases to converge)
- Major options identified:
 - VNF Package – HEAT / TOSCA / HELM (+ documentation, preload, etc)
 - Management Interfaces – VFC / Netconf/ Ansible / Chef
 - Life Cycle Operations – SDNC/APPC, VFC, ETSI (SOL003)
- **BUT** – VNF Certification should
 - have **Specific** meaning / **Assurance** of quality

Too many options in ONAP for only one VNF Certification

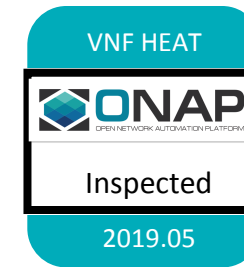
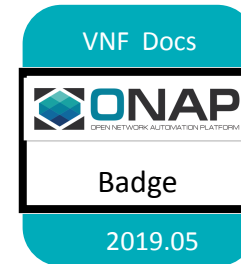
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ONAP VNF Certification



Recommendations

- Start Simply
 - Build on existing test suites first
- Unified LFN portal view
 - Start with VNF Package Inspection testing and VNF Documentation (radio buttons/ URLs);
 - allow for other testing badges to be added in future
- Separate logos/ badges for major options: Initial set :
 - VNF Documentation
 - VNF HEAT Package
 - VNF TOSCA CSAR Package
- Dublin release Impact:
 - Project Impacts: VNFQTS/ VNFSDK/ VVP/ INT
 - Test script updates / additions
 - Integration of test invocation tools with Dovetail
 - Integration of VNF testing with ONAP CI/CD processes.
 - LFN/ONAP website establishment and process governance docs
 - Prototype proposal – OPNFV Plugfest Paris - Jan 2019



Certifications to launch with Dublin

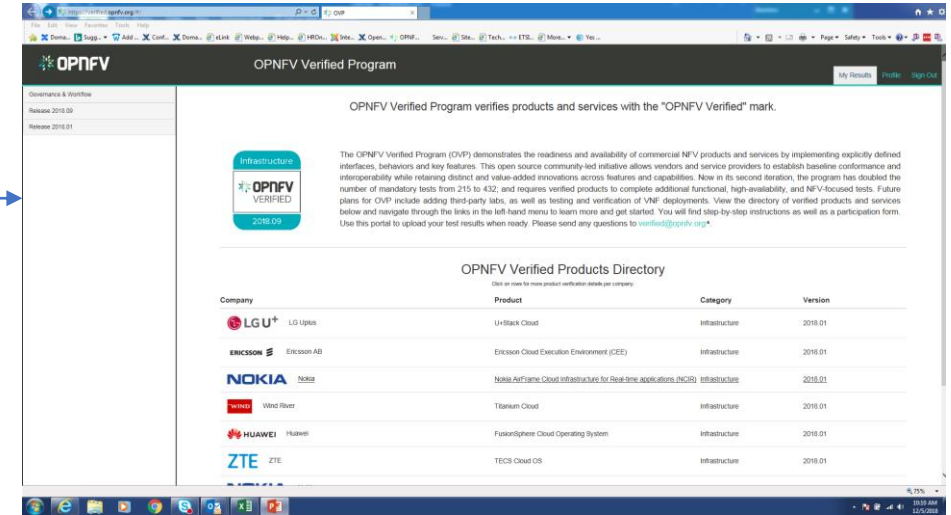
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ONAP VNF Certification



• Unified Front End for VNF Certification

- Build on OPNFV Dovetail Framework
- LFN hosted website
- Public view
- Private VNF provider view



Private test results

Your most recently uploaded test results are listed here.

Upload Results

Upload Date	Test ID	CVP Version	Owner	File Name	Label	Status	Log	SUT	SUT Version	Operation	Share List
2018-11-23 07:33:44	2f1c3bc	2018.01	EneaDall	Enea_NFVCore11_OVP_testing_logs_20181121_1453.tar.gz	None	review	logs	info	Enea NFV Core 1.1	Operation	Share List
2018-07-01 23:40:58	c5a9a0c	2018.01	ParkJeongMin	logs_20180701_2339.tar.gz	None	review	logs	info	UET02-01	Operation	Share List
2018-05-26 07:44:10	4c8fb0c	2018.01	georgiunz	logs_20180508_1109.tar.gz	Ericsson Cloud Execution Environment	review	logs	info	CEE 0	Operation	Share List
2018-05-30 06:39:11	d30e11c	2018.01	jvesalal	logs_20180530_0624.tar.gz	NOR Mandatory tests 2018.01	review	logs	info	NCL_R18-12	Operation	Share List
2018-05-25 02:17:26	91105d3a	2018.01	jvesalal	logs_20180524_2140.tar.gz	NOR Mandatory tests 2018.01	review	logs	info	NCL_R18-11	Operation	Share List
2018-01-26 07:23:54	7e2ead4c	2018.01	jp_hw	logs_20180112_2116.tar.gz	dovetail_static_mandatory	review	logs	info	FusionSphere OpenStack V100R000C10	Operation	Share List
2018-01-25 08:34:43	2e5730b4	2018.01	mikarautakumpu	logs_15_14_28.tar.gz	Nokia AirFrame mandatory tests 2018.01	review	logs	info	Nokia AirFrame Data Center Solution RM17	Operation	Share List
2018-01-04 07:36:37	2e448002	2018.01	louie_jong	logs_04_07_18.tar.gz	Espressos cvo_0.0.0 mandatory test	review	logs	info	None	Operation	Share List

Submit results button

List of review

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ONAP VNF Certification



ONAP VNFs My Results Profile Sign Out

Public Summary view

Company	Product	Category	Version	Documentation Badge	HEAT Badge	CSAR Badge	Life Cycle Badge	Functional Badge	Performance badge
X, Inc.	X-101	vIMS	1.2.5	2019-06-30	2019-06-30				
Y, LLC.	Y's Bestest	vFW	Black Hawk	2019-10-30		2019-10-30			
Z, SPA	Gizmo#1	vEPC	sku123Z	2019-08-15					

hyperlink to evidence files / Vendor sites / ..

- possibility to filter by column to know
- all the VNF of a vendors
 - all the vIMS
 - all the HEAT packaged badge VNFs
 -

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ONAP VNF Certification



VNF Documentation Badge

- Radio buttons and URLs
- Build on CII badge website as an example
- ~33 requirements for VNF documentation in Casablanca



Basics 0/8

What is the human-readable name of the VNF?

What is a brief description of the VNF?

What is the URL for the VNF ?

Basic VNF website content

The VNF URL MUST succinctly describe what the software does (what problem does it solve?). Met Unmet ?

The VNF URL MUST provide information on how to: obtain, provide feedback (as bug reports or enhancements)? Met Unmet ?

What license(s) is the VNF released under?

VNF Documentation

The VNF URL MUST provide reference documentation that describes the external interface (both input and output) Met Unmet ?

The VNF URL SHOULD provide documentation in English and be able to accept bug reports and comments about code in English. Met Unmet ?

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ONAP VNF Certification



• VNF HEAT Badge

- Based on VVP validation test scripts
- ~298 requirements for HEAT in Casablanca
- ~190 tests implemented in Casablanca

Validation Report

- Profile: ONAP
- Tool Version: 0.12.0
- Directory Validated: C:\Users\l12972\work\vnf-validation-tool-att\regression_tests\heat_templates\stark_template2
- Checksum: fe6a6ae89665dfb8566e8bf9df551134
- Generated: 2018-12-05 15:11:33.594000 Central Standard Time
- Total Failures: 0

No validation errors found.

Validation Report

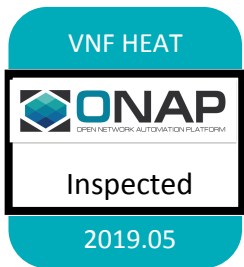
- Profile: ONAP
- Tool Version: 0.12.0
- Directory Validated: C:\Users\l12972\work\vnf-validation-tool-att\regression_tests\heat_templates\stark_template2
- Checksum: e0ee6f6d631136d8f9f01b084f7b159a
- Generated: 2018-12-05 15:16:06.796000 Central Standard Time
- Total Failures: 1

Validation Failures

CSV PDF Print Search:

File(s)	Error Message	Requirement(s)	Resolution Steps
stark_base.yaml	<p>Failed: test_nova_servers_vm_types_use_get_param</p> <p>These OS::Nova::Server resources do not derive one or more of their name, flavor, image properties via get_param: STARKD_B_server_0 Full Details</p>	<p>R-901331: The VNF's Heat Orchestration Template's Resource OS::Nova::Server property image value MUST be obtained via a get_param.</p> <p>R-481670: The VNF's Heat Orchestration Template's Resource OS::Nova::Server property flavor value MUST be obtained via a get_param.</p> <p>R-663631: The VNF's Heat Orchestration Template's Resource OS::Nova::Server property name value MUST be obtained via a get_param.</p>	<p>Nova Server name, flavor, and image use get_param: Ensure that the OS::Nova::Server properties for name, flavor, and image only use the get_param function. To do so: 1) Locate any OS::Nova::Server resource - Ensure that the properties: name, flavor, and image do not use any function other than get_param.</p>

Showing 1 to 1 of 1 entries



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ONAP VNF Certification



- **VNF CSAR Badge**

- Based on VNFSDK validation test scripts
- ~11 requirements for TOSCA in Casablanca
- ~6 tests implemented in Casablanca



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ONAP VNF Certification



Use Cases for invocation of test scripts

- a) User {VNF Provider, ONAP Operator} *invokes test scripts locally* to validate a VNF package so that errors can be resolved locally before submission to larger mechanized processes.
 - Stand alone tool
- b) LF ONAP Project or ONAP Operator use *automated invocation of test scripts as part of CI/CD tool chain* for regression testing
 - Linter
- c) LFN/ONAP Maintains *public website to invoke tests or upload test results* and consolidate results from multiple test sources so that industry has a consolidated view of certified VNFs
 - a) VVP Web/VNFSDK-VTP
- d) ONAP operator maintains an *internal website to invoke tests and consolidate results unique to their environment*, so that any discrepancies from (c) can be resolved.
 - a) VVP Web/VNFSDK – VTP