HP publishes a catalog of virtual network functions (VNFs) provided by HP OpenNFV partners and tested in the HP OpenNFV Labs. Each VNF in the catalog is validated at either the silver, gold, or platinum level. This document describes what the different validations mean.

Validations provide added value for communications service providers (CSPs)

Silver validation—This is the first tier of qualification that says a VNF successfully operates in the HP OpenNFV environment. The silver validation includes onboarding (qualification) that confirms that the VNF runs in the HP Helion cloud environment, which includes validation of basic VNF functionality running in the HP OpenNFV platform.

Gold validation—This middle tier of qualification includes everything in the silver validation, plus guaranteed performance testing of scalability, assuring that the VNF can scale up and out to address the demand volatility that CSPs face. This validation also ensures that the VNF is capable of service function chaining (SFC) so that it can be incorporated into a multifaceted solution. In addition, it includes validation of OSS integration.

Platinum validation—This is the highest level of validation. It includes everything in the gold validation and guarantees that the VNF will remain functional as software and hardware continue to update or change.

Figure 1: The following describes the testing that takes place for each validation.
Silver testing includes:

- **VNF deployment in virtual infrastructure manager (VIM)**—HP’s onboarding tool identifies the CPU, storage, and memory requirements of the VNF.
- **VIM level monitoring setup**—This test provides a real-time view of the VNF’s performance and the resources it uses by determining the parameters of the VM running within a predefined threshold. Based on the information derived from monitoring, basic scaling actions will be triggered on the VNF.
- **VIM VNF setup testing**—This basic capabilities test determines if the VNF provides correct functionality. For example, is a router passing packets?

Gold testing includes all of the tests detailed in the silver testing plus:

- **VNF functional testing**—This is a higher level functionality test of the network function to identify additional capabilities specific to the VNF.
- **Software-defined networking (SDN) (SFC/NS) setup**—This service function chaining (SFC) test validates the VNF’s ability to be incorporated into a multifaceted solution.
- **VNF performance testing**—The VNF performance test validates performance numbers in the VNF’s specifications by applying a load test and stress test to the VNF using technology from Spirent, IXIA.
- **Service model (NFV-D) integration**—This test provides automated adjustments to the VNF environment (bandwidth, failures, etc.), while reporting software and hardware usage.

Platinum testing includes all of the tests detailed in the gold testing plus:

- **Lifecycle management**—This provides a mapping of version changes in the HP OpenNFV platform to version changes in the VNF software version to assure that the VNF will remain functional as software and hardware continue to update or change.
- **Upstream OSS adaptor (SiteScope, NNMi Monitors)**—These tests demonstrate independent Integration capabilities with monitoring tools such as SiteScope and NNMi.