ETSI — World Class Standards

## What is an NFV PoC?

Network Functions Virtualization (NFV) leverages standard IT virtualization technology to consolidate many network equipment types onto industry standard high volume servers, switches and storage, which could be located in data centers, network nodes or end-user premises.

The open demonstration of NFV capabilities in a Proof of Concept (PoC) helps to build industrial awareness and confidence in NFV as a viable technology. Proofs of Concept also help to develop a diverse, open, NFV ecosystem. Results from PoCs guide ongoing standardization work in ETSI's NFV Industry Specification Group (ISG) by providing feedback on interoperability and other technical challenges.

Whether by means of exhibits made at specific events, demonstrations running in laboratories, or even full deployments on experimental networks, any given PoC not only impacts its immediate audience, but the cumulative set of PoCs also provides a measure of industry impact from these NFV concepts.

The NFV ISG has developed an NFV PoC Framework to coordinate and promote multi-vendor Proofs of Concept illustrating key aspects of NFV ISG work. The Proofs of Concept are scoped around the NFV ISG use cases, requirements and architecture and address the topics being progressed by the NFV ISG working groups. The PoCs are expected to feedback their findings and lessons learnt to the NVF ISG. The NFV PoC Framework is published as an ETSI NFV Group Specification in GS NFV-PER 002.

The PoC Framework outlines:

- The rationale for NFV PoCs
- The NFV PoC process
- The format and criteria for NFV PoC proposals
- The NFV PoC Report format and requirements

Current PoC Hot Topics are:

- HT01 - Use of SDN in an NFV architectural framework
- HT02 - Test Methodology for NFV
- HT03 - End-to-End Fault Correlation
- HT04 - Lawful Interception

ETSI's Centre for Testing and Interoperability (CTI) works with the NFV ISG to coordinate the different Proofs of Concept, and participates to the review process. The CTI has long experience in supporting technology evaluations and interoperability events and can assist the PoC teams with test expertise, administration and project management support.

# Latest Proofs of Concept

The following NFV Proofs of Concept are being developed according to the ETSI NFV ISG Proof of Concept Framework. PoC results are fed back to the NFV Industry Specification Group. Many proofs of concept have already been developed and new demonstrations are underway. For an updated list of the ongoing PoCs and further details, please see www.etsi.org/nfv-poc or contact us: CTI_Support@etsi.org.

- PoC#16: NFVIaaS with Secure, SDN-controlled WAN Gateway
- PoC#17: Operational Efficiency in NFV Capacity Planning, Provisioning and Billing
- PoC#18: VNF Router Performance with Hierarchical Quality of Service Functionality
- PoC#19: Service Acceleration of NW Functions in Carrier Networks
- PoC#20: Virality based content caching in NFV framework
- PoC#21: Network Intensive and Compute Intensive Hardware Acceleration
- PoC#22: Demonstration of High Reliability and Availability aspects in a Multivendor NFV Environment
- PoC#23: Demonstration E2E orchestration of virtualized LTE core-network functions and SDN-based dynamic service chaining of VNFs using VNF FG
- PoC#24: Constraint based Placement and Scheduling for NFV/Cloud Systems
- PoC#25: Demonstration of Virtual EPC (vEPC) Applications and Enhanced Resource Management
- PoC#26: Virtual EPC with SDN Function in Mobile Backhaul Networks
- PoC#27: VoLTE Service based on vEPC and vIMS Architecture
- PoC#28: SDN Controlled VNF Forwarding Graph
- PoC#26: Virtual EPC with SDN Function in Mobile Backhaul Networks
- PoC#27: VoLTE Service based on vEPC and vIMS Architecture
- PoC#28: SDN Controlled VNF Forwarding Graph
- PoC#29: Service orchestration for virtual CDN service over distributed cloud management platform
- PoC#30: LTE Virtualized Radio Access Network (vRAN)
- PoC#31: STB Virtualization in Carrier Networks
- PoC#32: Distributed Multi-domain Policy Management and Charging Control in a virtualised environment
- PoC#33: Scalable Service Chaining Technology for Flexible Use of Network Functions
- PoC#34: SDN Enabled Virtual EPC Gateway
- PoC#35: Availability Management with Stateful Fault Tolerance
- PoC#36: Active Video Monitoring in an L3VPN
- PoC#37: Demonstration high availability vEPC and SDN controlled Service Chain
- PoC#38: Full ISO 7-layer stack fulfilment, activation and orchestration of VNFs in carrier networks
- PoC#39: Virtualised service assurance management in vGi-LAN
- PoC#40: VNFaaS with end-to-end full service orchestration

Q3 2016