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ABSTRACT: *the present document provides some guidance to the academic research community as to suitable topics to support the development of the NFV*

ISG NFV proposed topics for Research Agenda 2014

Building on the early discussions at ETSI NFV ISG and demonstrations of NFV technologies in 2013, the following topics are suggested as areas suitable for further academic research in 2014 to support the ongoing development of the NFV ecosystem:

* Security of the virtualized infrastructure for network functions
* Abstractions for networks and carrier-scale network services in imperative and declarative languages
* Impacts of data plane workloads on Computer Systems Architectures
* Locality and latency in software implementations of large-scale network services
* Re-architecting network functions (e.g. 3GPP) to recognize availability of cloud technology mechanisms for scalability and reliability
* Evolution patterns to NFV, management of transition and heterogeneous scenarios
* Portability mechanisms and management across NFV infrastructure realizations
* Tools for validating network services and automating their deployment and management
* Applying compositional patterns (Network Function Chains) for parallelism, control logic, performance, monitoring and reliability of network services
* Monitoring and metering of carrier-scale virtualized networks. Application of Big Data models
* Addressing the privacy implications of the new virtualized network service models. Relying on NFV to increase user privacy at the network scale
* Explore how the new virtualization support paradigms can facilitate new network concepts and architectures
*Operationalization of NFV with diagnostic and support frameworks
*Commercial and Economic impact of NFV on ecosystems
*autonomic (self) management technologies in NFV (e.g., processing of alarms)
*Complexity of NFV systems
*Energy Efficiency of NFV systems
*Performance optimization, tradeoffs & planning rules for multiple VNF workloads
*New service modelling and algorithms for automatic changes of virtual network services architecture
*What "Next Big Thing(s)" will be enabled post-NFV?

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