

Annex A (normative): NFV ISG PoC Proposal Template

A.1 NFV ISG PoC Proposal Template

A.1.1 PoC Team Members

- Include additional manufacturers, operators or labs should additional roles apply.
- PoC Project Name: [Multi-Vendor on-boarding of vMS on a cloud management framework](#)
- Network Operators/ Service Providers: [Deutsche Telekom](#) Contact: [Sven Langer](#),
LangerS@telekom.de
- Manufacturer A: [Huawei Technologies](#) Contact: [Gerd Schuetz](#),
Gerd.Schuetz@huawei.com
- Manufacturer B: [Alcatel-Lucent](#) Contact: [Sivan Barzilay](#),
sivan.barzilay@alcatel-lucent.com
- Additional Members: _____ Contact: _____

A.1.2 PoC Project Goals

- General PoC Project Goal: [verify SW based integration and automated on-boarding of VNFs provided by a single vendor and its integration into a NFVI in a multi vendor setup.](#)
- PoC Project Goal #1: [permit Network Operator to virtualize network functions to create and deploy service automatically as per GS NFV-004 Gen.1.](#)
- PoC Project Goal #2: [verify the decoupling of VNF associated software instances from underlying infrastructure, and CMS \(cloud management system\) is able to allocate the required resources of the VNFs running on top of NFVI as per GS NFV-004 Port.2.](#)
- PoC Project Goal #3: [verify mechanisms to allow virtualized network functions to be scaled automatically as per GS NFV-004 Elas.2.](#)
- PoC Project Goal #4: [verify mechanisms to recover virtualized network functions when related fault occurs as per GS NFV-004 Res.1 and Cont.4.](#)

A.1.3 PoC Demonstration

- Venue of the PoC: [Lab of Deutsche Telekom, Darmstadt \(Germany\)](#)
- [Demonstration will be held via web session](#)

A.1.4 (optional) Publication

Publication of PoC results outside the ISG is encouraged to enable peer review, to avoid duplication of PoC proposals and to enable others to build on the PoC outcomes. Publication of PoC results is not

mandatory and is not a selection criterion, but if you are proposing publication, please provide the following information:

EXAMPLES include: Conferences, public demonstrations, online publication, trade magazine, etc.

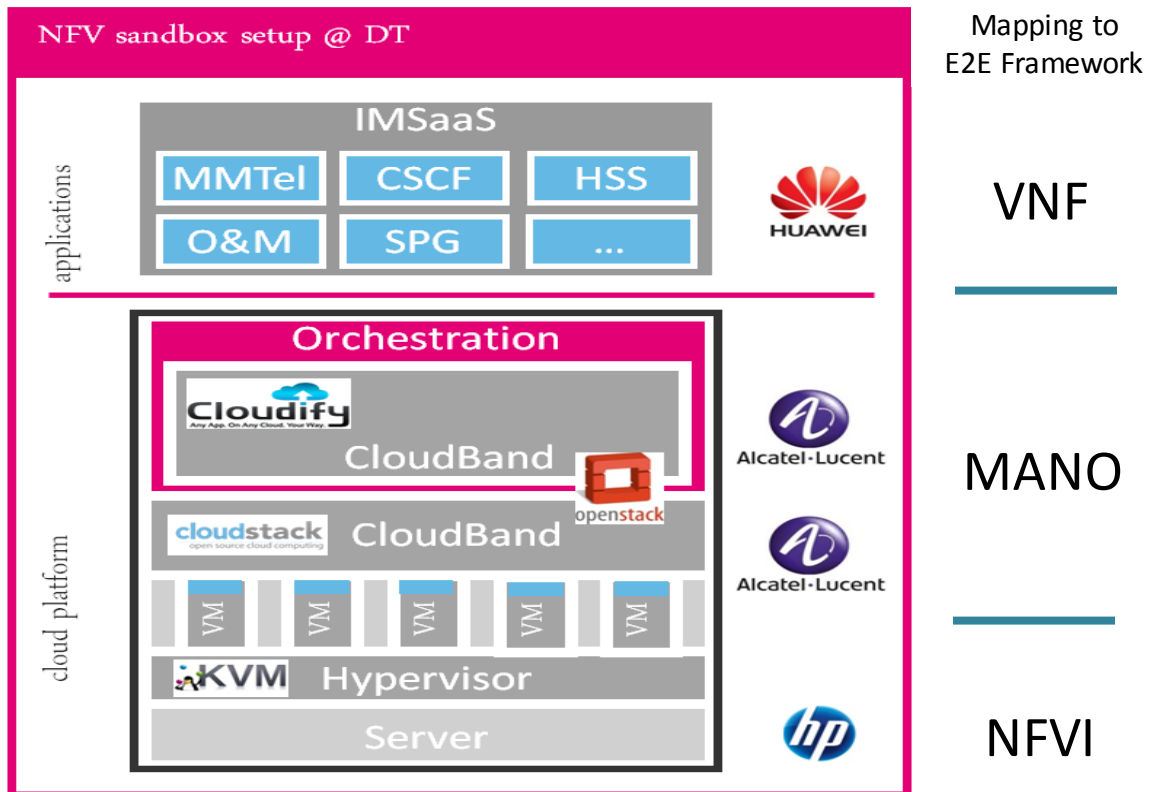
- What would be the publication channel(s) for the PoC. _____
- What would be the planned publication date(s)? _____
- URLs where applicable: _____

A.1.5 PoC Project Timeline

- What is the PoC start date? [The PoC has already been conducted from May-July 2013.](#)
- (First) Demonstration target date: [an additional demo will be arranged on 30th April 2014](#)
- PoC stages target dates(optional) [Only one stage planned](#)
- PoC Report target date [30th of April 2014](#)
- When is the PoC considered completed? [The PoC will be considered finished upon a successful demonstration via Web Sessions on April 30th](#)

A.2 NFV PoC Technical Details (optional)

A.2.1 PoC Overview



A.2.2 PoC Scenarios

- Scenario 1 – One-click service deployment. IMS service is provided by several 3GPP Network Functions, such as CSC, HSS, MMTel, etc. These functions, all from Huawei, are virtualized according to NFV specifications. With the pre-defined templates and scripts, all functions can be deployed automatically onto the cloud platform provided by DT and ALU. The IMS service tested in that PoC is the basic call set-up.
- Scenario 2 – Auto-scaling of VNF. Based on Scenario 1, the traffic load generated by a simulator increases and pushes up the work load of the VNF. When the work load exceeds the pre-defined threshold, additional resources (VM) are automatically allocated to provide more capacity to the VNF that handles the increased traffic. With this mechanism of the scale-out, the capacity of the VNF will automatically adjust to the appropriate level at which the quality and stability of the service will be guaranteed. The process of scale-in, handling the situation of reducing VNF's capacity due to decreasing traffic load, is similar but in reverse direction.
- Scenario 3 – Automated healing of VNF. Based on Scenario 1, when a VM containing a component of a VNF (VNFC) fails, a new VM will be automatically allocated and created with appropriate component instantiated on it. This process heals the VNF with no service interruption.

A.2.3 Mapping to NFV ISG Work

- 1) Specification of the most relevant NFV ISG end-to-end concept from the NFV Use Cases, Requirements, and Architectural Framework functional blocks or reference points addressed by the different PoC scenarios:

	Use Case	Requirement	E2E Arch	Comments
Scenario 1	Use Case #05 – Virtualization of Mobile Core and IMS	GS NFV-004 Gen.1 GS NFV-004 Port.2		One-click service deployment
Scenario 2	Use Case #05 – Virtualization of Mobile Core and IMS	GS NFV-004 Elas.2		Auto-scaling of VNF (in, out)
Scenario 3	Use Case #05 – Virtualization of Mobile Core and IMS	GS NFV-004 Res.1 GS NFV-004 Cont.4		Automated healing of VNF

2) Validation of NFV SWA and MANO concepts:

	INF	SWA	MAN	REL	PER	Comments
Scenario 1/2/3		Sec 7	Sec 5			Validating the framework and flow related to VNF lifecycle management described in the GS documents of the WGs in a multi-vendor context.

A.2.4 PoC Success Criteria

The following criteria are required for the PoC to be regarded as successful:

Within a multi-vendor context from DT(HP server), Huawei and ALu, with a reasonable effort of integration, the E2E framework of NFV is feasible particularly in the three scenarios of VNF lifecycle management.

- 1. The VNFs composing IMS service can be automatically deployed by means of simple operations, e.g. click-to-start.*
- 2. VNF can be scaled out and in automatically with the mechanism of the cloud platform and its own to handle various conditions of service traffic.*
- 3. VNF can heal itself automatically using the mechanism of the cloud platform when an underlying resource (VM for example) fails.*

A.2.5 Expected PoC Contribution

List of contributions towards specific NFV ISG Groups expected to result from the PoC Project:

- PoC Project Contribution #1: Proving the feasibility of the E2E framework of NFV in the multi-vendor context.
 - NFV Group: SWA, MAN
- PoC Project Contribution #2: Providing information of experiences of working procedure and collaboration, possible limitation and issues of the work.
 - NFV Group: SWA, MAN
- PoC Project Contribution #3: Providing information regarding VNF In and Out scalability
 - NFV Group: SWA, MAN, PER