

Manual scaling functional requirement

Description

• General

-This function requirement is to support VNF/NS manual scaling.

-Will be tested on Amsterdam's vDNS and vVoLTE use cases.

-This function requirement is not limited to VoLTE VNFs (MME, SGW, CSCF, TAS), it aims to be supported by both VF-C and APP-C VNFs and Services.

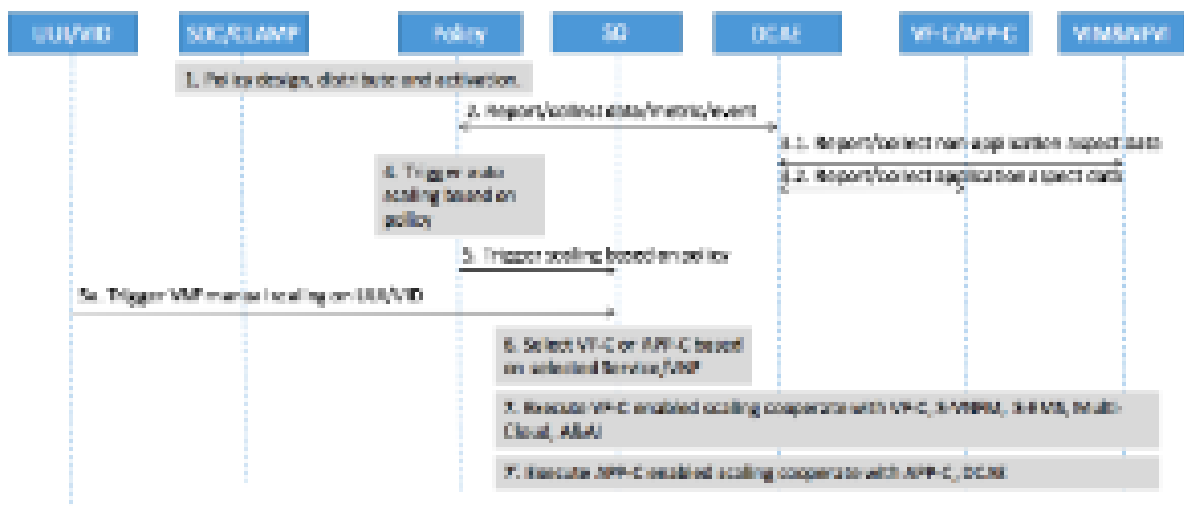
• Manual Scaling

-This is a first step towards auto-scaling and will be useful beyond the development of auto-scaling. This involves Operations triggering a scaling event through UI/VID.

-Manual scaling provides the capability of VNF/NS scale in/out triggered by operators on demand.

-The ONAP platform should be able to perform scaling of any VNF that supports scaling, in all flavors/levels supported by the VNF.

General Flows



Step 1-5 are trigger procedures: Step 1-5 are auto-scaling trigger procedures; 5a is manual scaling trigger procedures.

Step 6-7 are scaling execute procedures which is independent from trigger procedures. Step 7 is for VF-C scaling and 7a is for APP-C scaling.

VNF Capabilities

•Any dependencies on specific VNF capabilities

-VNF should support scaling in different flavors/levels

•VNFs that we would use to test the use cases

-VNFs in VoLTE usecase: MME, SAE-GW, CSCF, TAS

-vDNS

Companies willing to support

-China Mobile, AT&T, ZTE, Huawei, Wind River

Summary of ONAP platform impacts

VNFs/Services under either VF-C or APP-C have different detailed flows and requirements for each ONAP component.

The table summaries all the requirements for both VF-C and APP-C VNFs/Services, and also a overlap analysis provided.

Summary of ONAP platform impacts

Functional Req	Component	Used for	Impact
Auto and Manual Scaling	UUI	VF-C VNFs	Support trigger manual scaling for a dedicate VNF/NS instance.
	VID	APP-C VNFs	Support trigger manual scaling for a dedicate VNF instance.
	SO	both	Support scaling recipe, forward scaling demand to VF-C and/or APP-C depends on which VNF/NS is selected.
	VF-C	VF-C VNFs	Support scaling API, and execute VNF/NS scaling procedures.
	APP-C	APP-C VNFs	

References

- ETSI GS NFV-MAN 001 — “B.4 VNF instance scaling flows” describes flows of scaling. The scaling use case is grouped in 3 categories, auto-scaling, on-demand scaling and scaling based on management request.

- Auto-scaling and on-demand scaling refer to the scaling triggered by VNFM/EMS/VNF automatically, related to R46.

- Scaling based on management request refers to the scaling triggered by some senders (OSS/BSS/operators) manually, related to R47.

- http://www.etsi.org/deliver/etsi_gs/NFV-MAN/001_099/001/01.01.01_60/gs_NFV-MAN001v010101p.pdf

- ETSI IFA 005, 006, 007 define the stage 2 specifications of Or-Vnfm, Or-Vi, Vnfm-Vi interfaces;

- ETSI SOL 003 defines the stage 3 specifications of Or-Vnfm interface;

- <http://www.etsi.org/standards>, <http://www.etsi.org/deliver>,

- Openstack defines the VIM NBI APIs;

- <https://developer.openstack.org/api-guide/quick-start/>

- OASIS TOSCA defines the VNF Descriptor in TOSCA Format

- VoLTE use case support HPA capabilities