Virtualized Network Function (VNF) Pool BoF

IETF 90th, Toronto, Canada.

BoF Chairs:

Ning Zong (zongning@huawei.com)

Melinda Shore (melinda.shore@nomountain.net)

Note Well

This summary is only meant to point you in the right direction, and doesn't have all the nuances. The IETF's IPR Policy is set forth in BCP 79; please read it carefully.

The brief summary:

By participating with the IETF, you agree to follow IETF processes.

If you are aware that a contribution of yours (something you write, say, or discuss in any IETF context) is covered by patents or patent applications, you must disclose that fact.

You understand that meetings might be recorded, broadcast, photographed, and publicly archived.

For further information, talk to a chair, ask an Area Director, or review the following:

BCP 9 (on the Internet Standards Process)

BCP 25 (on the Working Group processes)

BCP 78 (on the IETF Trust)

BCP 79 (on Intellectual Property Rights in the IETF)

Agenda

- Introduction & Purpose of the BoF (Chairs, 5 mins)
- Use Case (Sue Hares, 5 mins)
  - https://datatracker.ietf.org/doc/draft-hares-vnf-pool-use-case/
- Problems – 15 mins
  - Problem Statement (Melinda Shore, 10 mins)
    https://datatracker.ietf.org/doc/draft-zong-vnfpool-problem-statement/
  - Q & A (all, 5 mins)
- Use Cases – 25 mins
  - Generic Use Case (Masaki Fukushima, 5 mins)
    https://datatracker.ietf.org/doc/draft-xia-vnfpool-use-cases/
  - vEPC Use Case (Marco Liebsch, 5 mins)
    https://datatracker.ietf.org/doc/draft-king-vnfpool-mobile-use-case/
  - vCDN Use Case (Oscar Gonzalez De Dios, 5 mins)
    https://datatracker.ietf.org/doc/draft-aranda-vnfpool-cdn-use-case/
  - Q & A (all, 10 mins)
- Charter Discussion – 35 mins
  - Charter (Chairs, 5 mins)
    http://www.ietf.org/mail-archive/web/vnfpool/current/msg00356.html
  - Open Discussion (all, 30 mins)
- Wrap-up (Chairs, 10 mins)

Introduction

- Since London BoF
  - Based on comments received during London BoF, we have updated VNFPool Charter to:
    - Narrow scope to focus on pooling within individual VNF, not reliability for the whole service graph;
    - Clarify relation to SFC WG;
    - Leave service state synchronization out of scope in this phase;
  - Updated I-Ds including PS, Use Cases

- Purpose today
  - Achieve rough consensus on VNFPool Charter (not perfect, but reasonable);

Presentations

Charter Scope

- Focus on pooling within individual VNF.
  - Redundancy management within a VNF Pool, such as the signaling between the Pool Manager and the pool members for instance registration, backup selection, etc.;
  - Protocol between a VNF and the service control entity to exchange operational information between a VNF Pool and the service control entity;
  - Protocol between the Pool Manager and the underlying network to collect the network information required for appropriate placement/selection of backup instances;
  - Reliable interfaces, such as reliable transport protocols for reliable delivery of the messages associated with the redundancy management within a VNF Pool;
  - Analysis of pooling security characteristics and requirements to identify and mitigate threats against the pooling mechanism.
- Not address the reliability related to the control or the routing between adjacent VNFs in the whole service graph.

Charter Scope

- Service state synchronization is out of scope for this phase.
  - But related discussion are still needed to identify clear requirements from multi-vendors for state synchronization ?

- Assume that a VNF Pool contains redundant VNF instances of a same functional type - different types of VNFs held in separate VNF Pools.

- VNF Pool composed of both virtualized and non-virtualized functional instances may be included after further study.

- Keep open for candidate solutions & protocols.

Work Items

- Initially the VNFPool WG will develop:
  - problem statement
  - use cases
  - requirements
  - architecture
  - gap analysis

- The VNFPool WG will seek re-chartering before adopting any work to develop new, or extend existing, protocols.

Relation to other WGs

- We believe that SFC and VNFPool are complementary.
  - SFC would essentially see a VNF Pool-enabled VNF as a normal service function and therefore be able to merge it into an SFC just like any other service functions.
  - Just like the communication between any pool users and VNF Pool, the information exchanged between the VNF Pool and the SFC may include some operational information of the VNF Pool.

- We will exchange information with relevant WGs in ETSI NFV, or other bodies as appropriate, to ensure that the work done by those bodies is taken into account and to share the progress of VNFPool WG as it produces documents.

Open Discussion on Charter

Wrap-up

- Questions for BoF

- Actions & Next Steps