Service Function Chaining (SFC) BoF

IETF 88
Vancouver, British Columbia

BOF Chairs:
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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

• Agenda Bashing
• BOF Scope and Purpose
• Overview: Problem Statement
• Overview: Use Cases and Requirements
• Overview: Architecture/Framework
• Draft Charter (for a possible SFC WG)
• Obvious Questions
• Discussion (all)
• Summary and Closure
Agenda (Detailed)

• **Introduction** (BOF-chairs) - [10 minutes]
• **Problem statement discussion** (BOF-chairs + presenter) - [20 minutes]
  – Problem statement review (Navindra Yadav, Insieme Networks) - [10 minutes]
  – Problem statement **Q&A** (open-mic) - [10 minutes]
• **SFC use case discussion** (presenter + open-mic) - [20 minutes]
  – SFC use cases (Hongyu Li, Huawei) - [10 minutes]
    • [http://datatracker.ietf.org/doc/draft-liu-service-chaining-use-cases](http://datatracker.ietf.org/doc/draft-liu-service-chaining-use-cases)
  – Use case Q&A (open-mic) - [10 minutes]
• **SFC architecture & framework discussion** - [20 minutes]
  – Architecture & framework review (Ron Parker, Affirmed Networks & Paul Quinn, Cisco) - [10 minutes]
  – Architecture & framework **Q&A** (open-mic) - [10 minutes]
Agenda (Detailed – cont)

- Charter text discussion (BOF-chairs) - [25 minutes]
  - Charter text review (BOF-chairs) - [10 minutes]
    - http://datatracker.ietf.org/wg/sfc/charter/
  - Charter Q&A (open-mic) - [15 minutes]

- Evaluation of required & existing ID's (BOF-chairs + presenters) – [10 minutes]

- General Q&A (open-mic) – [20 minutes]

- Closing (BOF-chairs) - [5 minutes]
  - Actions & Next Steps
BoF Scope and Purpose

• This is a “Working Group forming BoF”
  – Does \textit{not} mean a WG will automatically be formed
  – Need to convince the IESG that a WG is warranted

• Key elements
  – Consensus there is work to be done
  – Clear identification of and focus around work topics
  – Work is “within scope” of IETF
  – Critical mass commits to do work
  – Rough consensus on a (direction for) draft charter
SFC Background

• Berlin IETF meeting:
  – One-hour non-WG forming BoF
  – Presentation of use cases by Service Providers
  – 250+ persons in the BoF
  – Strong support to do work in space
• Since Berlin:
  – Drafts: on problem statement (quinn-sfc-problem-statement), use cases, architecture, encapsulation, ...
  – Proposed charter: problem statement, architecture, requirements, encap, management
  – Good list discussion
• Today: WG Forming BoF
Service Function Chaining (SFC)

• Today, a “composite” network service is built from a set of cooperating applications/entities interconnected by Service Nodes (FWs, LBs, SSL accelerators etc.)
• A Service Function Chain (SFC) is structured as an ordered set of service functions
• Instantiation of an SFC into the network is called a Service Function Path (SFP)
• Today, deployments achieved by:
  – Physically placing SNs on data path of underlay, or
  – Changing the forwarding of the underlying network to "steer" packets through a service chain
• Increasingly inflexible/painful deployment model:
  – Requires changing forwarding behavior of underlay, or
  – Requires physical placement of SF on data path
Service Function Chaining (cont.)

• SFC is about enforcing differentiated traffic forwarding policies that best accommodate complex services
  – Thereby optimizing service delivery and operation
  – Decouple the "steering" function from the underlay
  – Use special encapsulation to tunnel from one SF to another
  – Encapsulation also carries additional meta data in data packets for SF use

• Rest of session goes into the details
BoF Presentations
Proposed Charter Work Items

• Problem Statement & Use cases
  – draft-quinn-sfc-problem-statement
• Architecture
  – Relationships between key building block components
  – Interactions between components identify protocol work areas
• Generic Service Function Chaining Encapsulation
  – Requirements
  – Encapsulation format
• Control Plane/Management mechanisms
  – Requirements and Framework
• Manageability
  – Requirements and Framework
Use Case Considerations

• Purpose of Use Cases:
  – Help motivate/justify the problem statement
  – Provide requirements for solutions

• Expectation is that a small number of use cases will cover the above

• No need for an exhaustive set, but OK to have one for more involved scenarios

• WG will need to decide what documents are needed
SFC Charter Milestones

• April 2014 - Submit to IESG Informational document(s) defining the problem statement and core use cases for SFC
• May 2014 - Consult with OPS Area on possible charter modifications for management and configuration of SFC components
• Jan 2015 - Submit to IESG Informational document defining the architecture for SFC
• Jan 2015 - Submit to IESG requirements for a generic service function chaining encapsulation protocol.
• Aug 2015 - Submit to IESG Standards Track document specifying the generic service function chaining header encapsulation.
Questions For BoF

• Berlin show of hands (from minutes):
  – “Should the IETF work towards creating a WG?”
    Yes: slightly fewer but still a lot. No: a couple

• Question for today:
  – Is there support to form a WG with the posted charter?
Q&A Time
Remaining Time

• **Evaluation of required & existing ID's** (BOF-chairs + presenters) - [20 minutes]
  – SFC requirements (Ron Parker, Affirmed Networks) - [10 minutes]

• **General Q&A** (open-mic) - [10 minutes]

• **Closing** (BOF-chairs) - [5 minutes]
  – Actions & Next Steps