

# Service Function Chaining Use Cases

## draft-liu-sfc-use-cases-03

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# Overall Context & Objective

- The delivery of value-added services relies on the invocation of advanced Service Functions (SFs) in a given order
- The traffic is forwarded through a set of SFs for specific purposes, such as:
  - **Direct or steer** a portion of the traffic to somewhere
  - **Split** flows into an offloading path
  - **Filter** the traffic to be clean and secure, e.g. IPS/IDS
  - **Control** the flow to be admin-ed, e.g., parental control,
- **This draft introduces a set of SFC Use Cases**

# General Observations (1)

- Instantiated chains are driven by business and engineering needs
- The amount of instantiated SFCs can vary in time, depending on the service engineering objectives and service engineering choices
- The amount of instantiated SFCs are policy-driven and are local to each administrative entity
- The technical characterization of each Service Function is not frozen in time
  - A Service Function can be upgraded to support new features or disable an existing feature, etc.

# General Observations (2)

- Some stateful SFs (e.g., NAT or firewall) may need to treat both outgoing and incoming packets
  - The design of SF Maps must take into account such constraints, otherwise, the service may be disturbed. The set of SFs that need to be invoked for direction is up to the responsibility of each administrative entity operating an SFC-enabled domain
- For subscription-based traffic steering, subscriber-awareness capability is required
- Some Service Functions may be in the same subnet; while others may not
- Service Functions are deployed directly on physical hardware, as one or more Virtual Machines, or any combination thereof

# Rationale of the Document

- Identify a set of SFC use cases
- For each use case, provide description with a focus on specific considerations to be considered during the SFC design phase
- It is not the purpose of this document to be exhaustive ..but instead
  - Draw the set of deployments context that are likely to see SFC solutions deployed

# Typical SFC Use Cases

- This draft describes a set of scenarios for SFC deployment
  - Use Case of Service Function Chain in Broadband Network
  - Use Case of Service Function Chain in Mobile Networks: The Gi/SGi Interface
  - Use Case of Service Function Chain in Data Center
- This draft describes SFC use cases from the technical point of view
  - Service Function Chain with bi-directional flow
  - SFC over Multiple Underlay Networks
  - SFC over Service Path Forking
  - SFC of Service Function Sharing
  - SFC of Service Layer Traffic Optimization





# Next Step

- The draft has benefited from a large review
  - Many thanks to the reviewers
- We have addressed comments from the reviewers
  - Several iterations of the draft so far
- We do think the document is ready for WG adoption
  - Positive feedback from the mailing list to adopt this draft as starting point: <http://www.ietf.org/mail-archive/web/sfc/current/msg00966.html>
  - Adopt as a WG item?
- Any question?