# * Service Function Chaining Problem Statement

## draft-ietf-sfc-problem-statement-02.txt

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# *Problem Space: Key Items

Aspects of existing service deployments that are problematic, and are being addressed by the Service Function Chaining effort. These include:

* Topological Dependencies
* Configuration complexity
* Constrained High Availability
* Consistent Ordering of Service Functions
* Service Chain Construction
* Application of Service Policy
* Transport Dependence
* Elastic Service Delivery
* Traffic Selection Criteria
* Limited End-to-End Service Visibility
* Per-Service (re)Classification
* Symmetric Traffic Flows
* Multi-vendor Service Functions

# Service Function Chaining

* Service Overlay
  * Utilizes a service-specific overlay that creates the service topology.  The service overlay is independent of the network topology and allows operators to use whatever overlay or underlay they prefer to create a path between service functions, and to locate service functions in the network as needed.

* Service-Aware Control Plane
  * provide information about the available service functions on a network.  The information provided by the control plane includes service network location (for topology creation), service type (e.g.  firewall, load balancer, etc.) and, optionally, administrative information about the service functions such as load, capacity and operating status.

* Service Classification
  * used to select which traffic enters a service overlay.  The granularity of the classification varies based on device capabilities, customer requirements, and service offered.  Initial classification is used to start the service function chain.  Subsequent classification can be used within a given service function chain to alter the sequence of service functions applied.

* Dataplane Metadata
  * Data plane metadata provides the ability to exchange information between the network and service functions, between service functions, and service functions and the network. Metadata can include the result of antecedent classification, information from external sources or forwarding related data.

# *Status and Goals

*Document is in good shape and is driving architecture.

*Lots of discussion on the mailing list, and contributions from 16+

*Should be ready for LC soon, so please review and comment on the list!