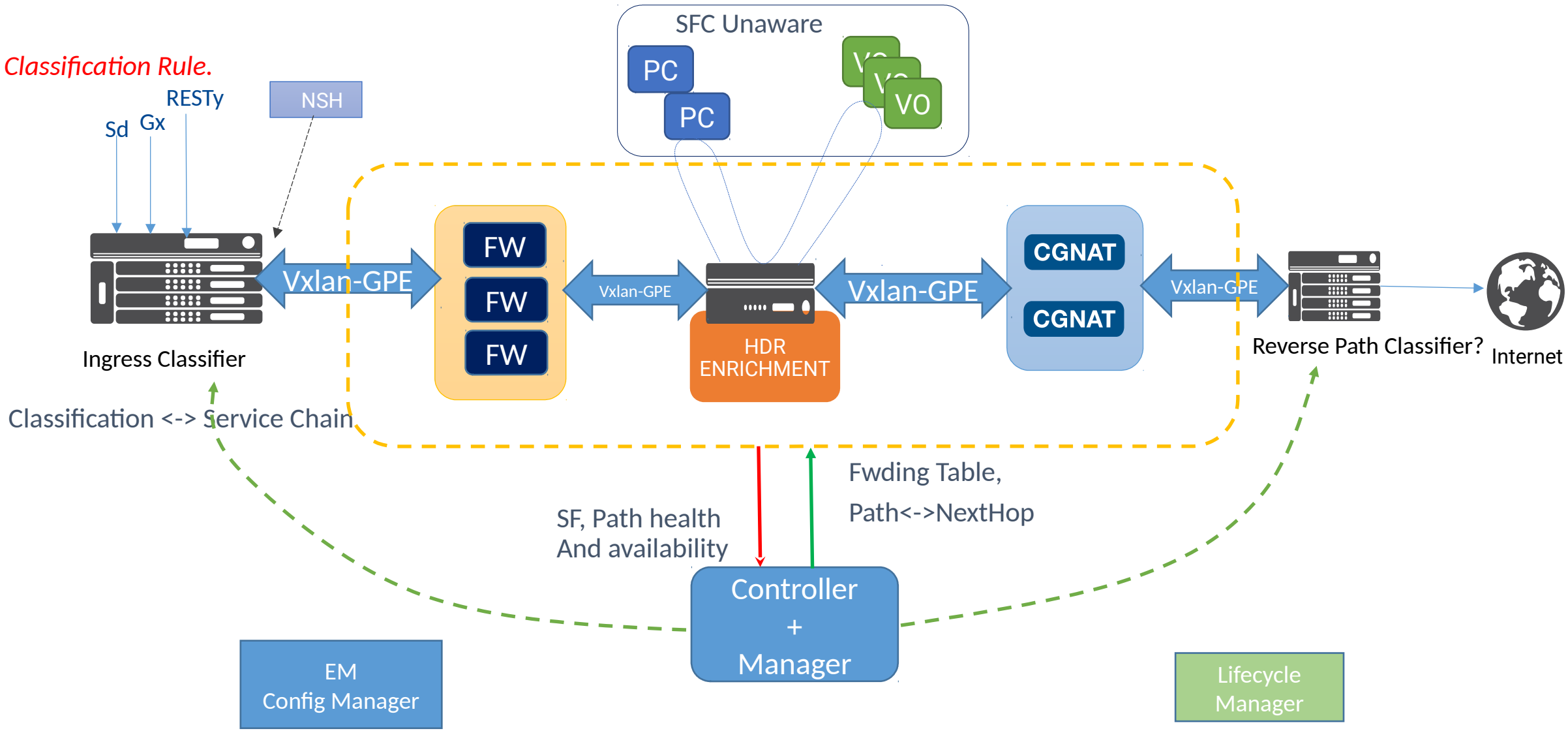
Minimal SFC Controller

Experience with a minimalistic standalone Control point

Sumandra Majee

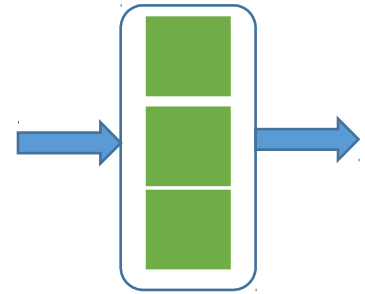
Example F5 SFC Chain



Minimal Configuration

- SERVICE Node: SfName, IP+[Port], In-Vlan/interface, Out-Vlan/interface, [Non]SFC, *SKIP*

- SERVICE Cluster: SfClusterName
  {Set of Service Node|}
  <LB Selection Method > <SKIP>



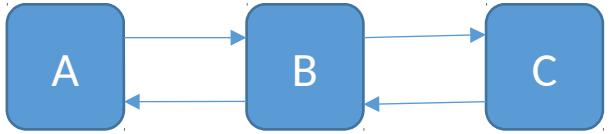
- SFF: IP, typically tunnel endpoint, secret, SF to SFF binding info

- Finally THE SF Chain: {Sf1, Sf2Clusete, Sf3} <Symmetric or Not>

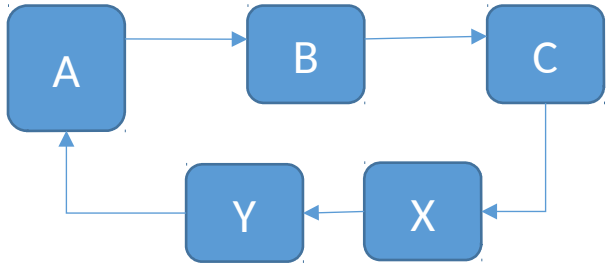
- SFC Proxy: No explicit Proxy Node

SERVICE CHAIN Types

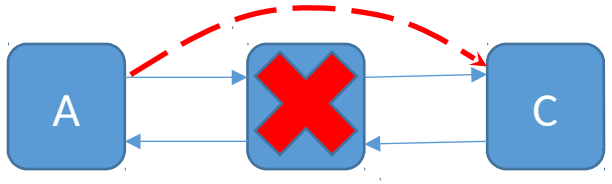
SYMMETRIC:
Both sides of flow follow same set of services. Only ingress classifier is required



ASYMMETRIC:
Ingress and Egress has different treatment. Offload can cause that. Classifier on both side.

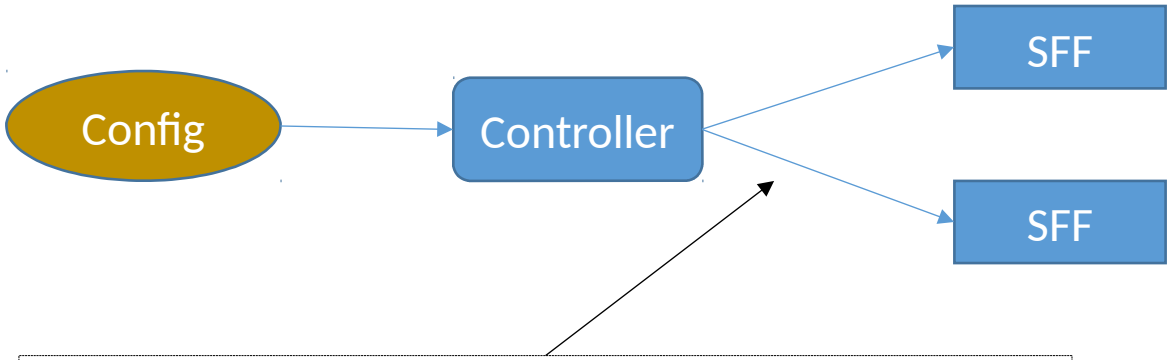


SKIP:
Skip this service if unavailable



Controller

1. Forwarding table Programming:



PathID	Next HOP	SELECT
10:1	IP,[port]	None, Skip?
10:2	POOL-A	Weighted: Sticky, Skip?

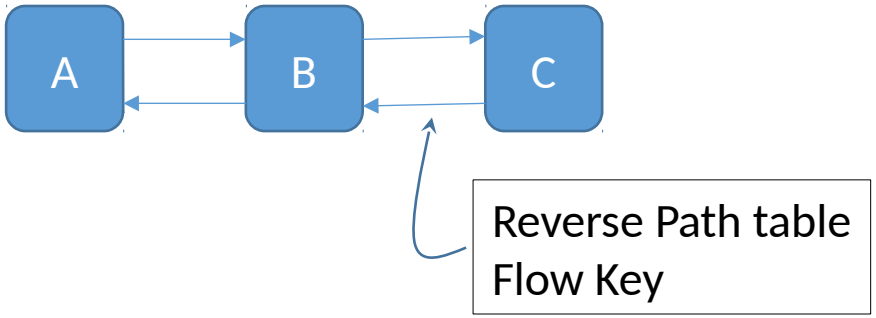
2. Capability exchange

- Local instance selection/LB Select
- Type: Hash, Weighted, fastest, RoundRobin
- Monitor service health

Again, Would like to see a common API/interface definition

Service Selection

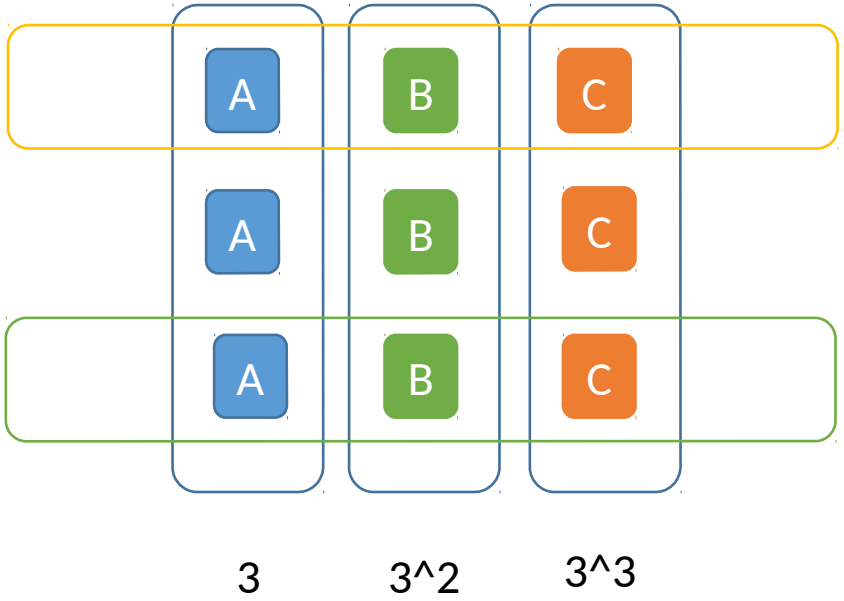
24bit of pathid oh my.., MASK advertised by controller



- Local Selection
- Select the actual flow path during classification

- Every Sfnode is represented in forwarding graph, May not have enough bits

- Represented as slice of a service



Minimal Controller Requirement

- Standardized Service, SFF, SFF Topology. Perhaps we augment the existing yang model.
- Forwarding Table Programming: Defined API, schema, cmd protocol that has wide support and implementer friendly. Writing custom plugin is not a good answer.
  - OF Model
  - RESTy, JSON… we love that..
- API for capability discovery.
- GOOD to have service and path health information. This is bit tricky.
- Controller shouldn’t worry about classification rules.

Next Step

- Do you like to see a draft?
- Love to hear from other

Q & A

BACKUP