Service function chaining + group based policy integration

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Summary

• What is it?
  Integration of two important and popular Opendaylight projects.
  - GBP: Policy abstraction. Allows users to express network configuration in a declarative versus imperative way.
  - SFC: The WG Session you are attending now…hopefully this one is clear

• Why should you care?
  - Running code (open-source and multi-vendor)
  - Cornerstone of NFV “whole stack” solution
  - Opendaylight Neutron Integration (GBP)
Top-Down View
1. SFF and classifier are OpenvSwitches
2. Encapsulation is VXLAN+NSH+ Ethernet
3. Dummy Service Functions
Integration Details

1. GBP defines policy:bar and actions. One of the actions is “chain:foo”
2. GBP calls into SFC and asks for chain:foo
3. SFC creates the needed topology: OVS bridges and forwarding rules
4. SFC returns path-ID, starting index, first hop IP:port, and encapsulation to GBP
5. GBP creates the necessary classifier rules to direct packets to the path and attach context headers (metadata)
Why this design? Unix philosophy

- “Write programs that do one thing and do it well” - Doug McIlroy
- “Write programs that work well together” - Doug McIlroy
- “Write programs to handle text streams, because that is the universal interface” - Doug McIlroy
  - Rethink this as “Text names for things you don’t understand or need to understand”
References

• GBPSFC demo: https://github.com/alagalah/gbpsfc-env
• Hackathon Document: SFC hackathon Document
• NFV Whole Stack: https://www.sdxcentral.com/articles/contributed/adopt-a-whole-stack-view-to-nfv-david-ward/2015/05/
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