Distributed Mobility Management (DMM) WG

Forwarding Path & Signaling Management (FPSM)

draft-ietf-dmm-fpc-cpdp-07.txt

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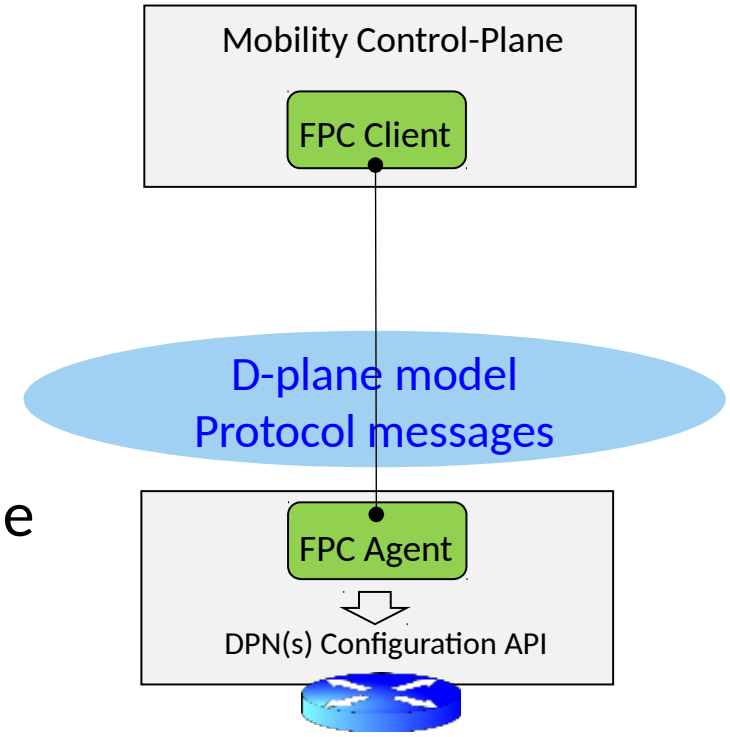
What is this work about..?

- Enable the separation of a mobility network‘s Control-Plane function from its Data-Plane function
- Enable distributed deployment of Control- and Data-Plane functions by abstracted Data-plane model and protocol messages
- Support multi-tenancy on a single real deployed D-plane network and multiple domains within a tenant



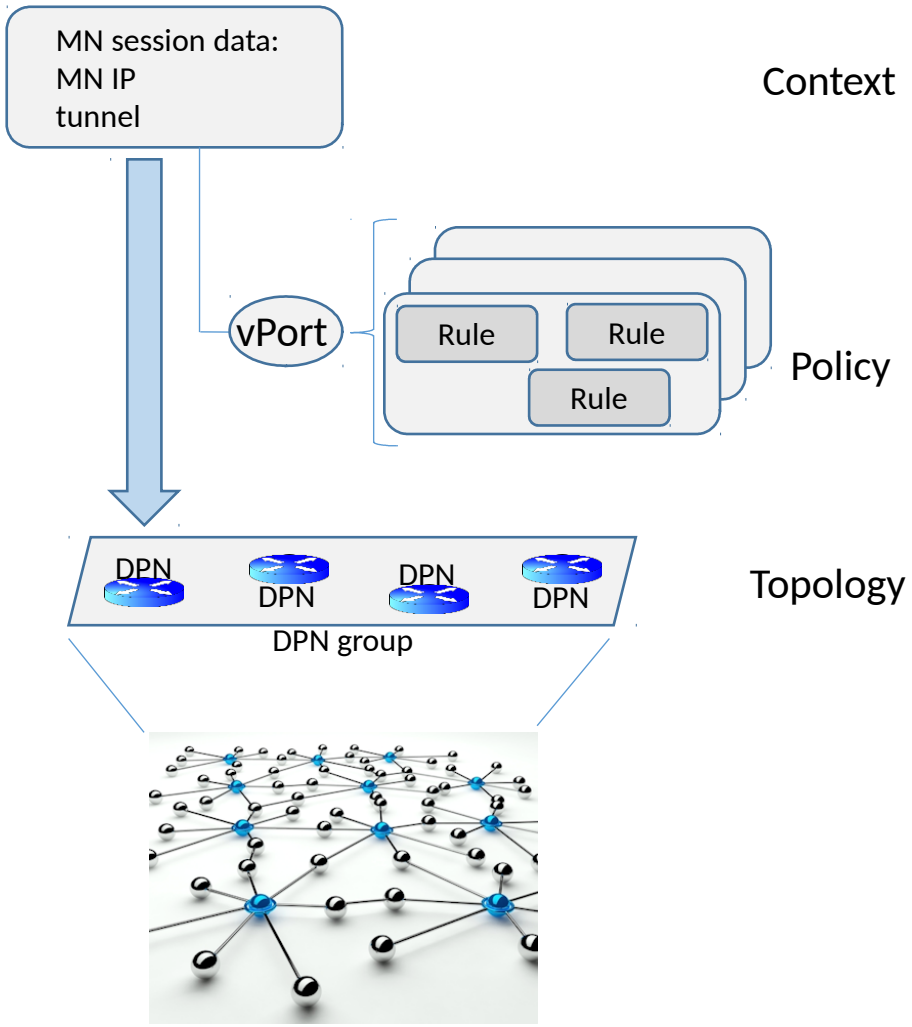
Executive Summary of Update Since IETF97

- 2 revisions before IETF98
- Addressed comments (clarification, terms, editorial)
- C. Perkins added as co-author
- Aligment of data model with core specification
- Resolved Yang conflicts

- Few open items to resolve and to clarify
  - Model and operational details

Model Principles – Overview

- Configuration of Data-Plane **Topology**
  - Pre-configured
- Configuration/Creation of Forwarding **Policy** (e.g. filters, QoS and traffic steering, etc)
  - Pre-configured, or created on demand
  - Per context or shareable
- Creation of **Context**, which represents a mobility session (tunnel endpoints, meters)
- Creation of **virtual Port** (**vPort**), which groups instances of **Policy** and binds the group to **Context**



v06/07 Updates

1. Add *Domain-reference* to Topology model

- Regarding discussions about netslice, a Domain of FPC model could refer to a set of partitioned resources for the domain, such as nodes, links with certain bandwidth, etc.

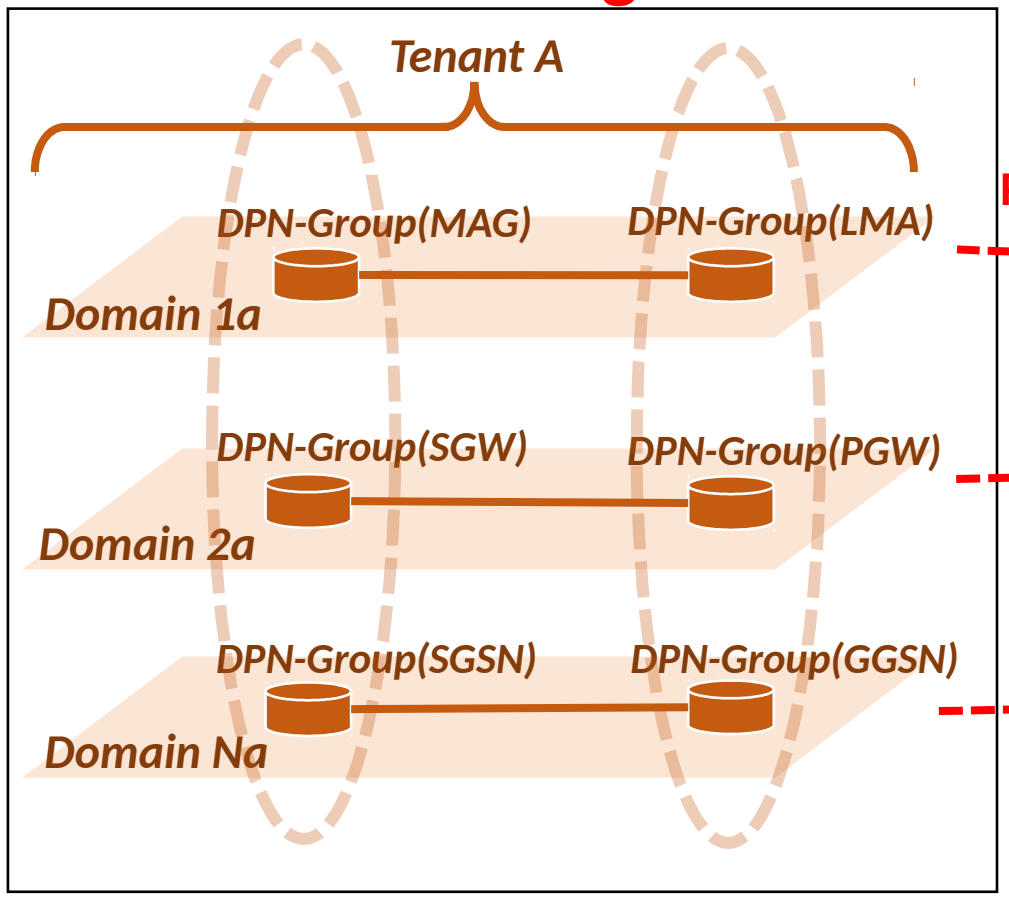
- They call it a “slice”. But we may not need to know what it is called.

- The important thing is that it could be a way to indicate a set of concrete or abstracted partitioned resources which could be dedicated to the Domain.

- Adding just one reference to *Domain* but it looks very handy and powerful to relate mobile overlay with underlay networks.

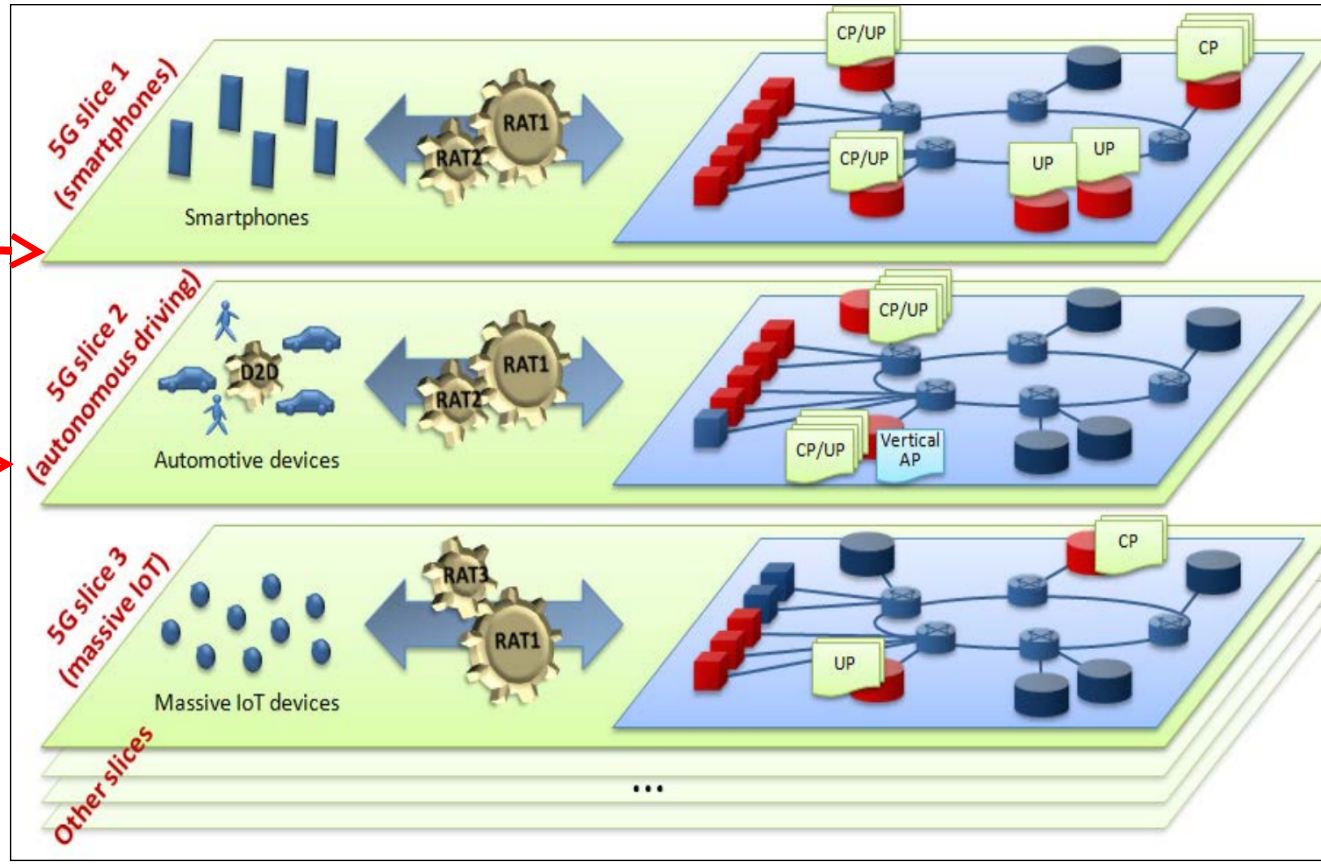
Domain-reference Points a Set of Data-Plane Resources (a.k.a network-slice)

Abstracted Data-Plane on FPC-Agent



Domain Reference

Set of Data-Plane Resources



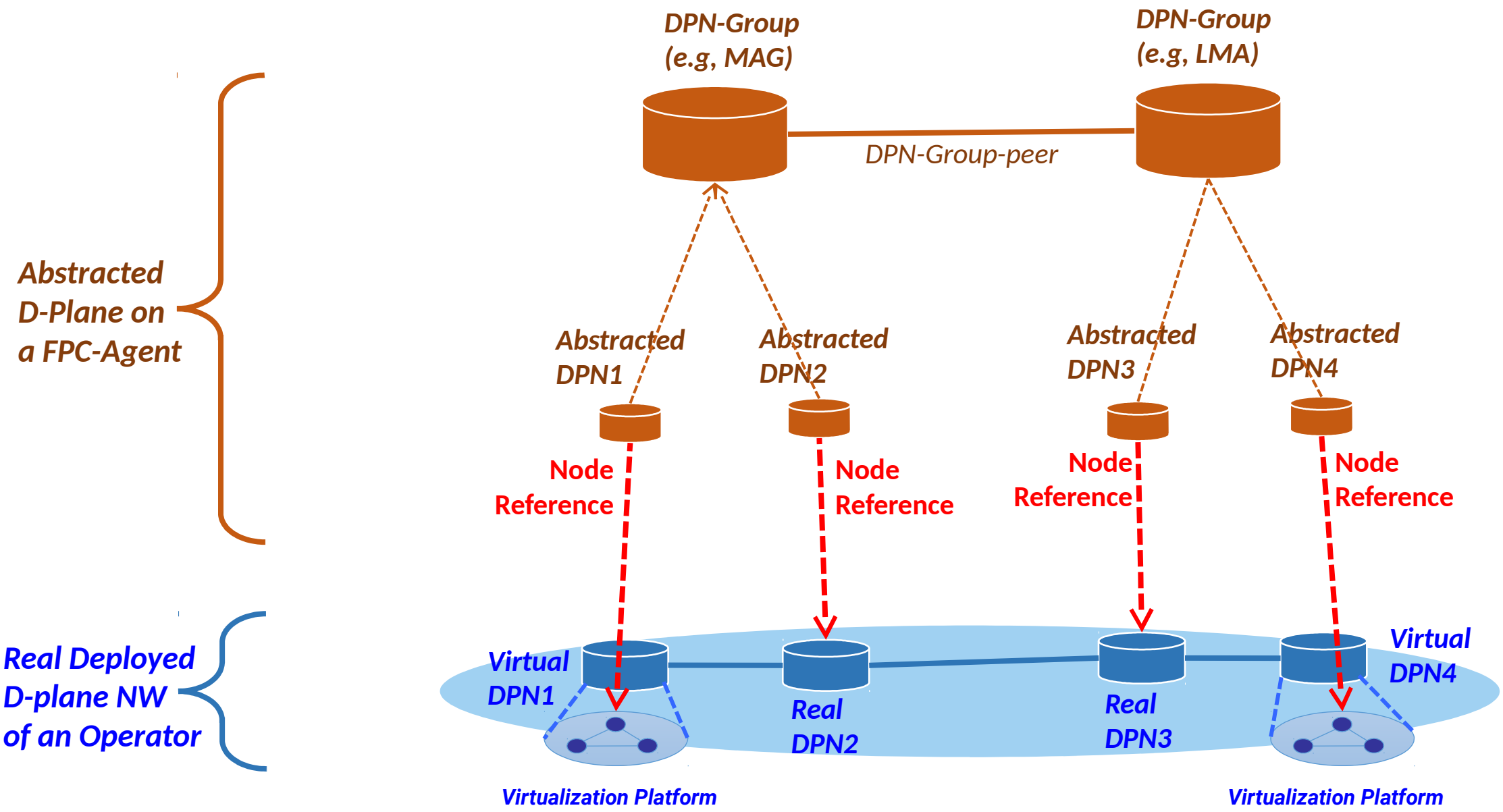
Source: NGMN white-paper

2. Add some text to Node-reference

- When a DPN need to be a software instance on a NFV-like platform,
  - FPC agent may send message or command to instantiate DPN on the platform prior to configuring it.

- Text has been added to version 07 for this purpose.

Node reference points both real or virtual DPN



3. Miscellaneous

- Add some NSH and Segment Routing (SR/SRv6) drafts as references to next-hop attribute in Mobility model.
- s/envelope protocol/interface protocol/.
- Remove text which limit instantiation in attribute applicability section, since agent need to instantiate DPN on a NFVI prior to context.
- Text describing multi-tenancy in architecture section has been improved.
- Clarified that all FPC model should be configurable in architecture section.
- Clarified that pre-configuration could save number of over-the-wire exchange in attribute application section.
- Clarified the case where a client directly sets runtime attributes and its risk, on IM section of context and attribute application section.

Remaining Discussion Points

1. Change Port to Vport

- As we agreed on Charlie's suggestion, now Port is changed to Vport
- The original intention of Port is that it should be policies from which the agent renders configurations to each DPN.
- But Vport was intended to slightly change the original semantics with the concept of which it is per DPN configurations for Contexts
- For now text describing Vport has been kept as for previous for v06.

Goal: Find another name that expresses the above more clearly.

2. Next-hop and tunnel attribute

- Currently it is treated from tunnel information between DPNs. The next-hop attribute is used to point next-hop of outside of mobility tunnel.

- However the tunnel to destination DPN in general could be also a next-hop. Clarify if tunnel information can be merged as part of next-hop attribute.

- That would allow emerging technologies like SFC, SR/SRv6 and also MIPv6 to be mobility data-plane.

3. Agent’s features and capabilities discovery

- It was in the context of how a client finds the agent whether it is single or multiple DPN agent.
- But it looks quite obvious when the mobile apps of the client defines multiple DPNs on the agent. Text has been dropped.
- However, we may need to define generic way for discovery of features and capabilities on agent.

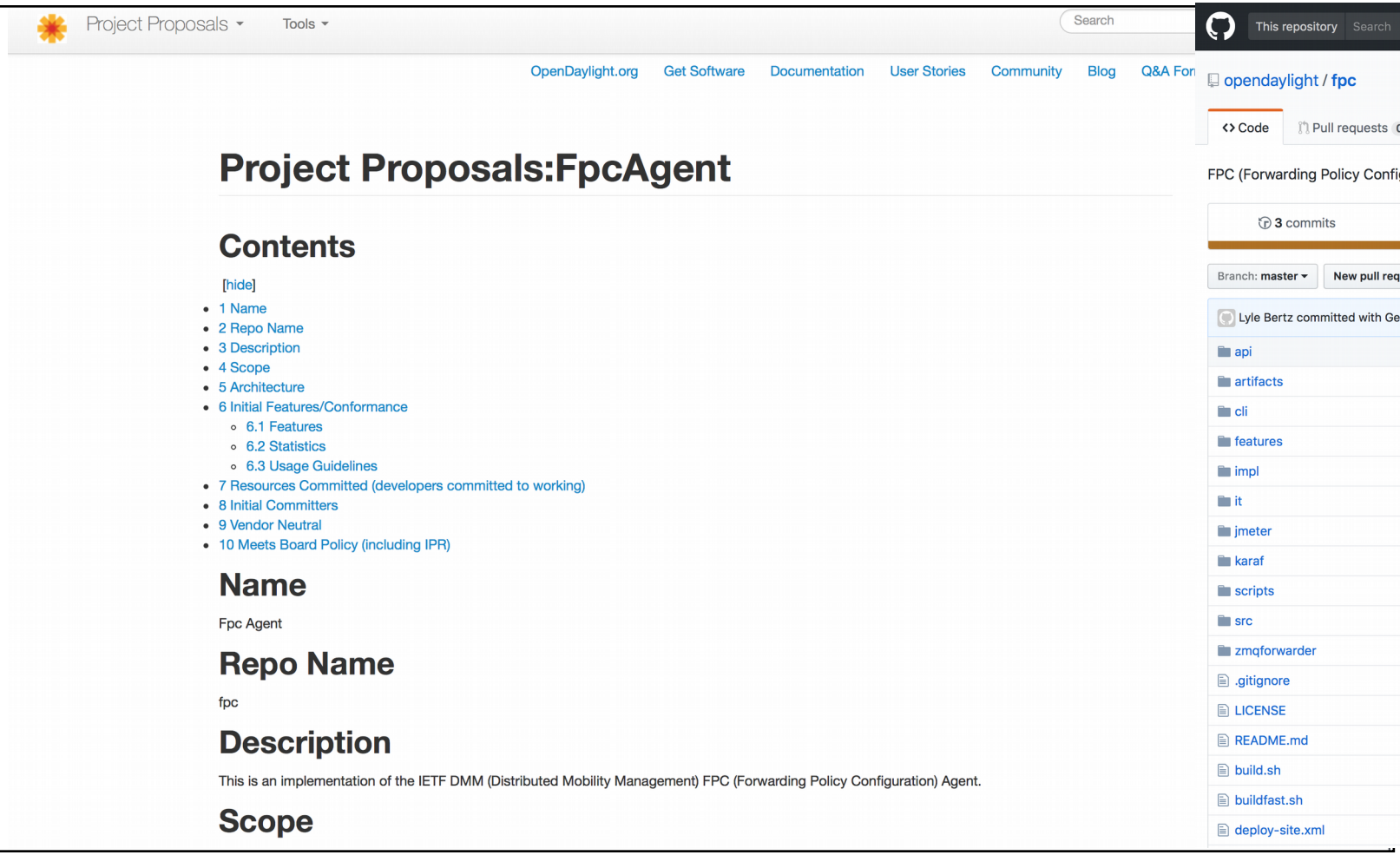
4. Monitor event reference

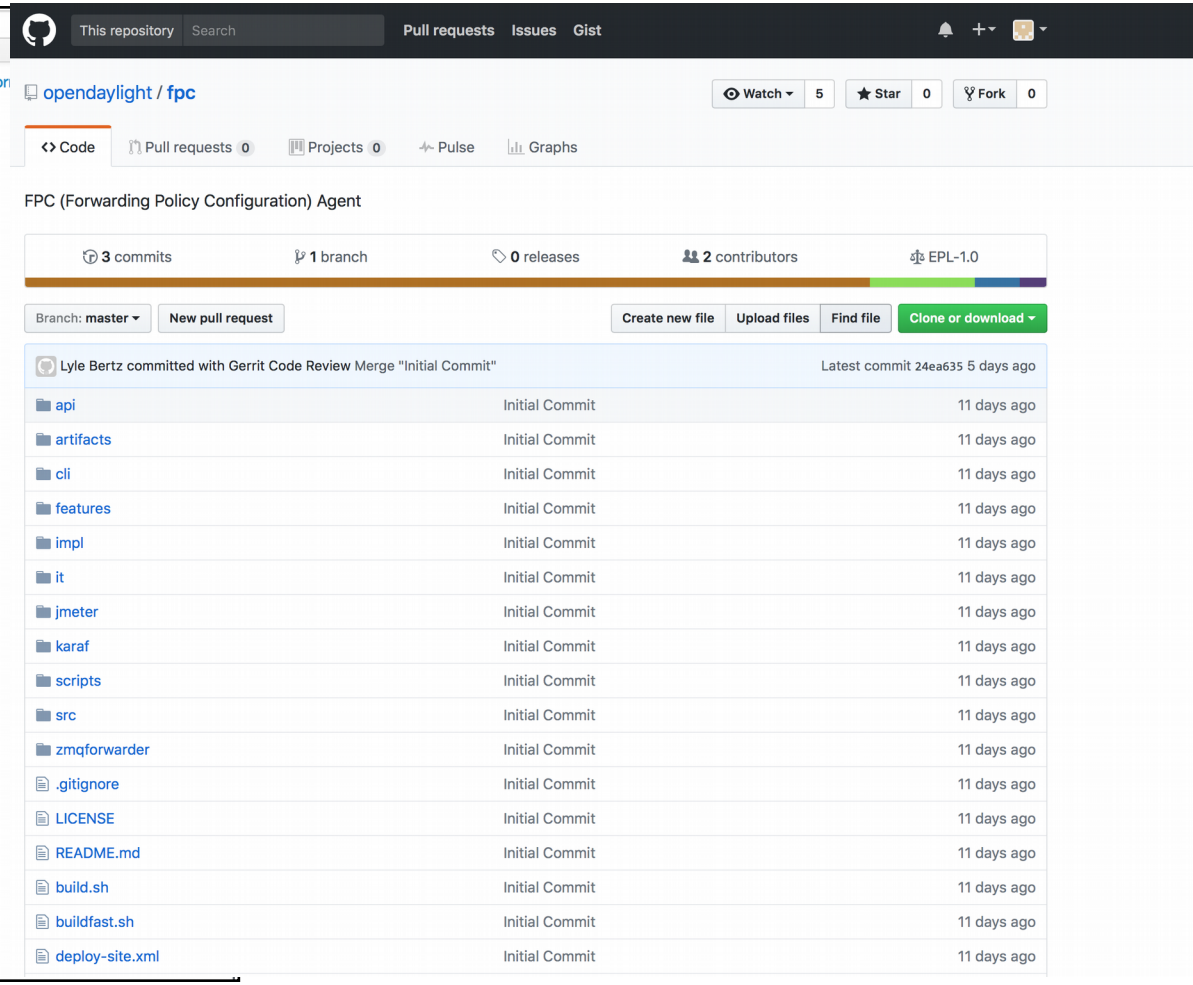
- As Charlie suggested that there could be references which already define events to be monitored in other SDOs.
- Proposed exampled from 3GPP
  - TS 32.106, Telecommunication management; Configuration Management (CM)
  - TS 32.111, Part 2: Alarm Integration Reference Point (IRP)
- More references to be added.

- Details of Monitor operation may be in a separate document
  - Compatibility/Alignment of multiple FPC documents to be ensured

FPC Implementation Update

FpcAgent has been an ODL Project





https://wiki.opendaylight.org/view/Project_Proposals:FpcAgent

https://github.com/opendaylight/fpc

Next

- More reviews needed
- Resolve and clarify remaining open items

- Target WG last call before IETF99 ?