

Distributed Mobility Management (DMM) WG

Forwarding Path & Signaling Management (FPSM)

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

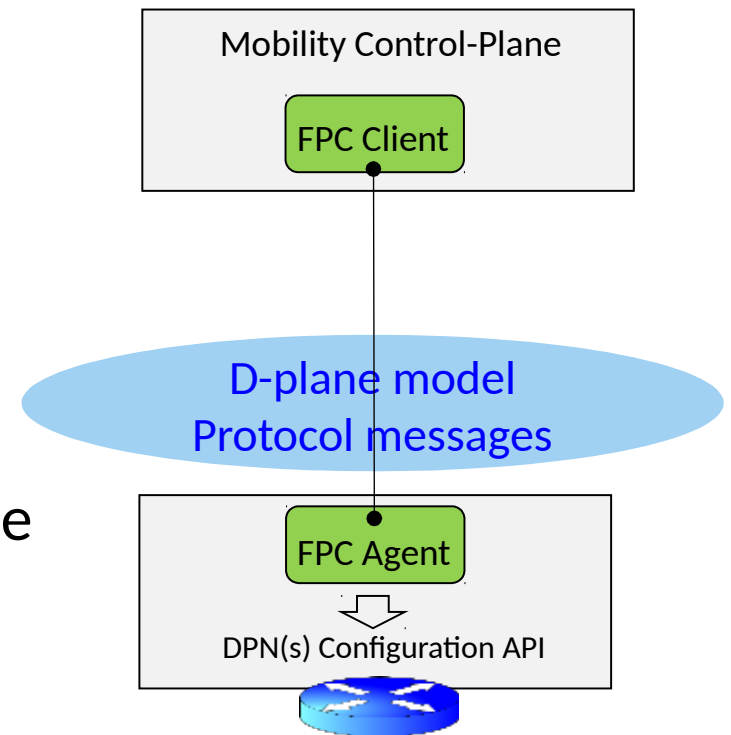
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Perkins

IETF98, Chicago

2017-03-27

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

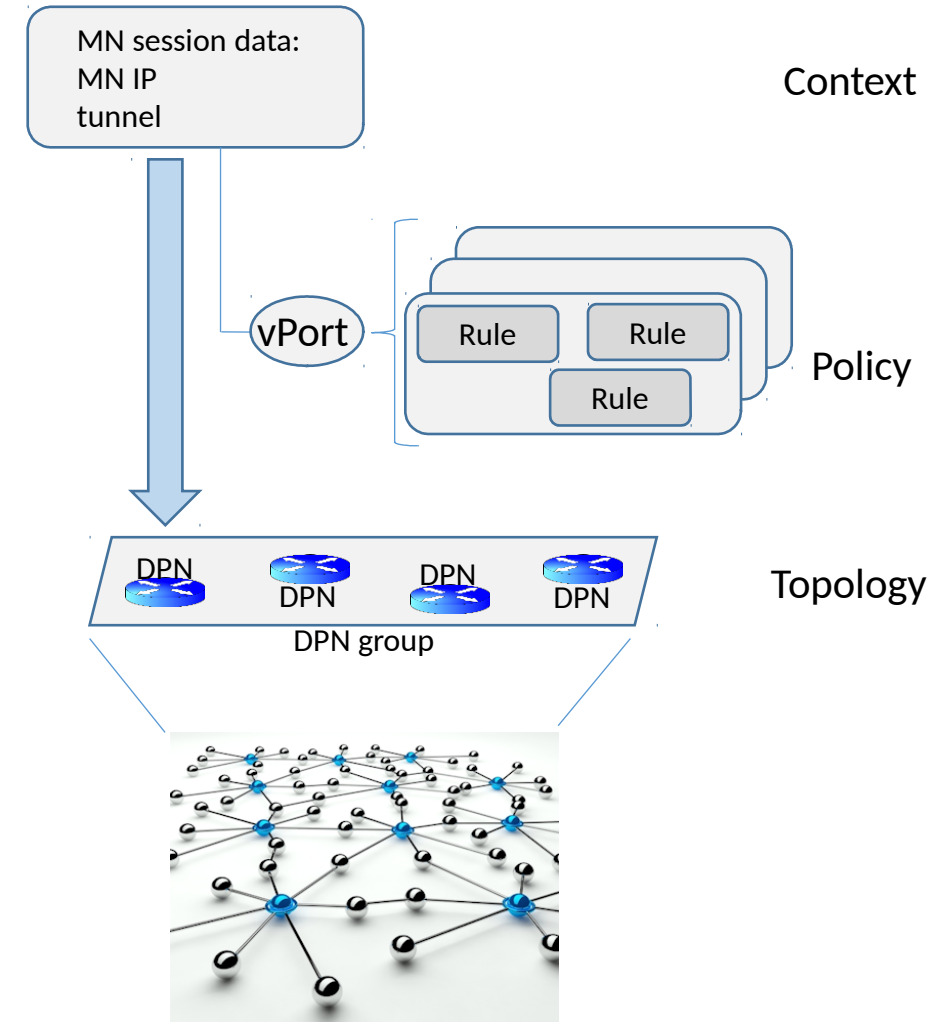


Executive Summary of Update Since IETF97

- 2 revisions before IETF98
- Addressed comments (clarification, terms, editorial)
- C. Perkins added as co-author
- Alignment 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**



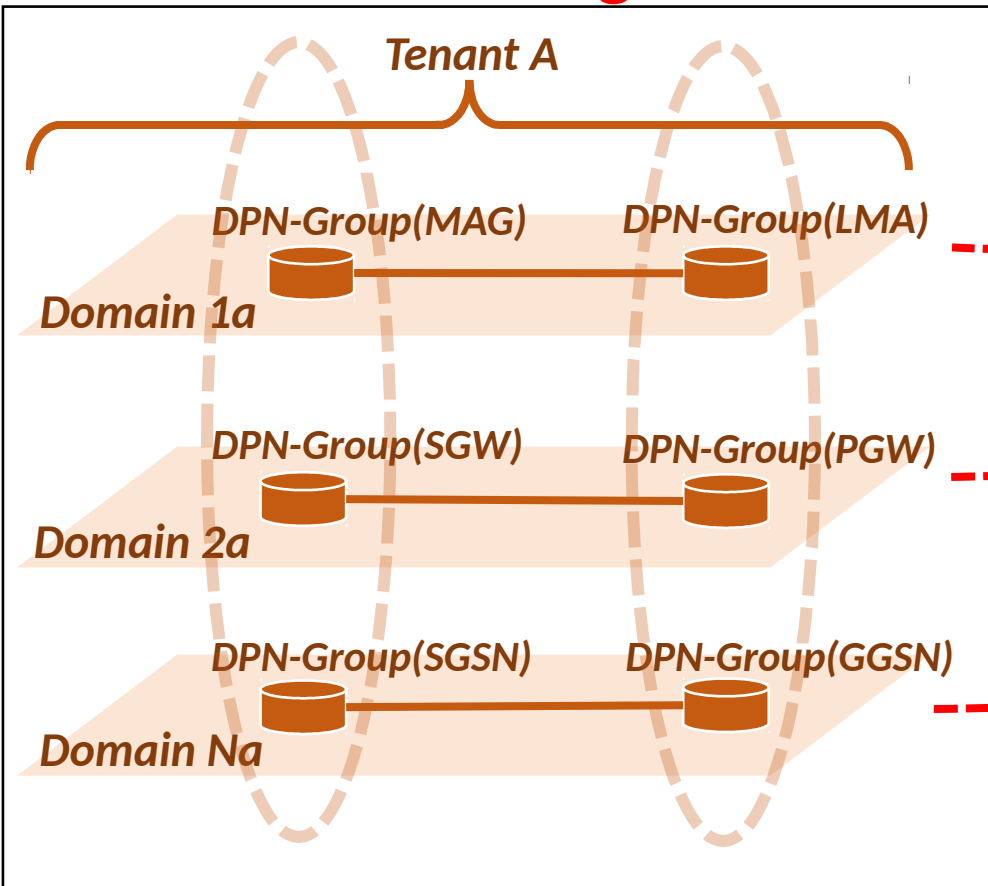
v06/07 Updates

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.

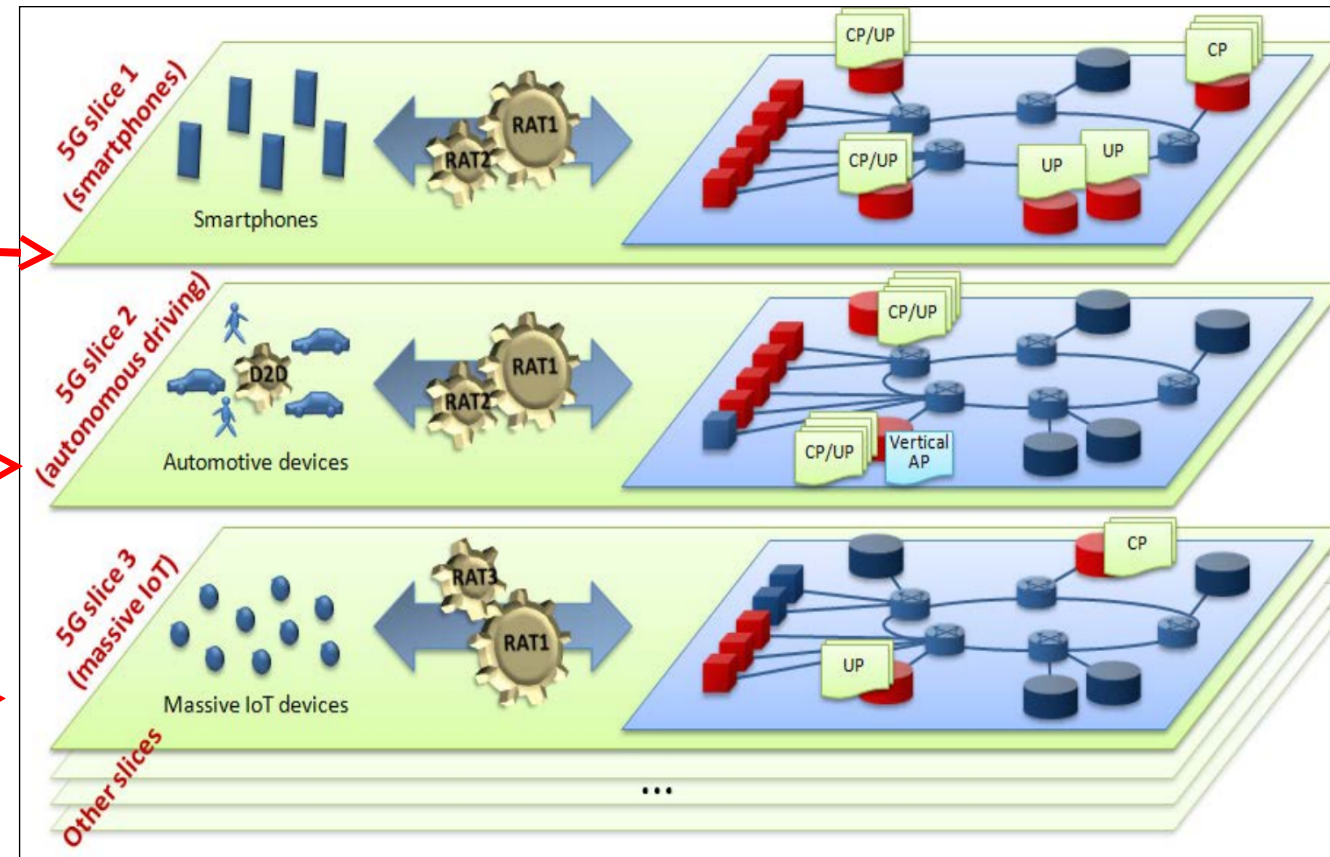
Domain-reference Points a Set of Data-Plane Resources (a.k.a network-slice)

Abstracted Data-Plane on FPC-Agent



Domain
Reference

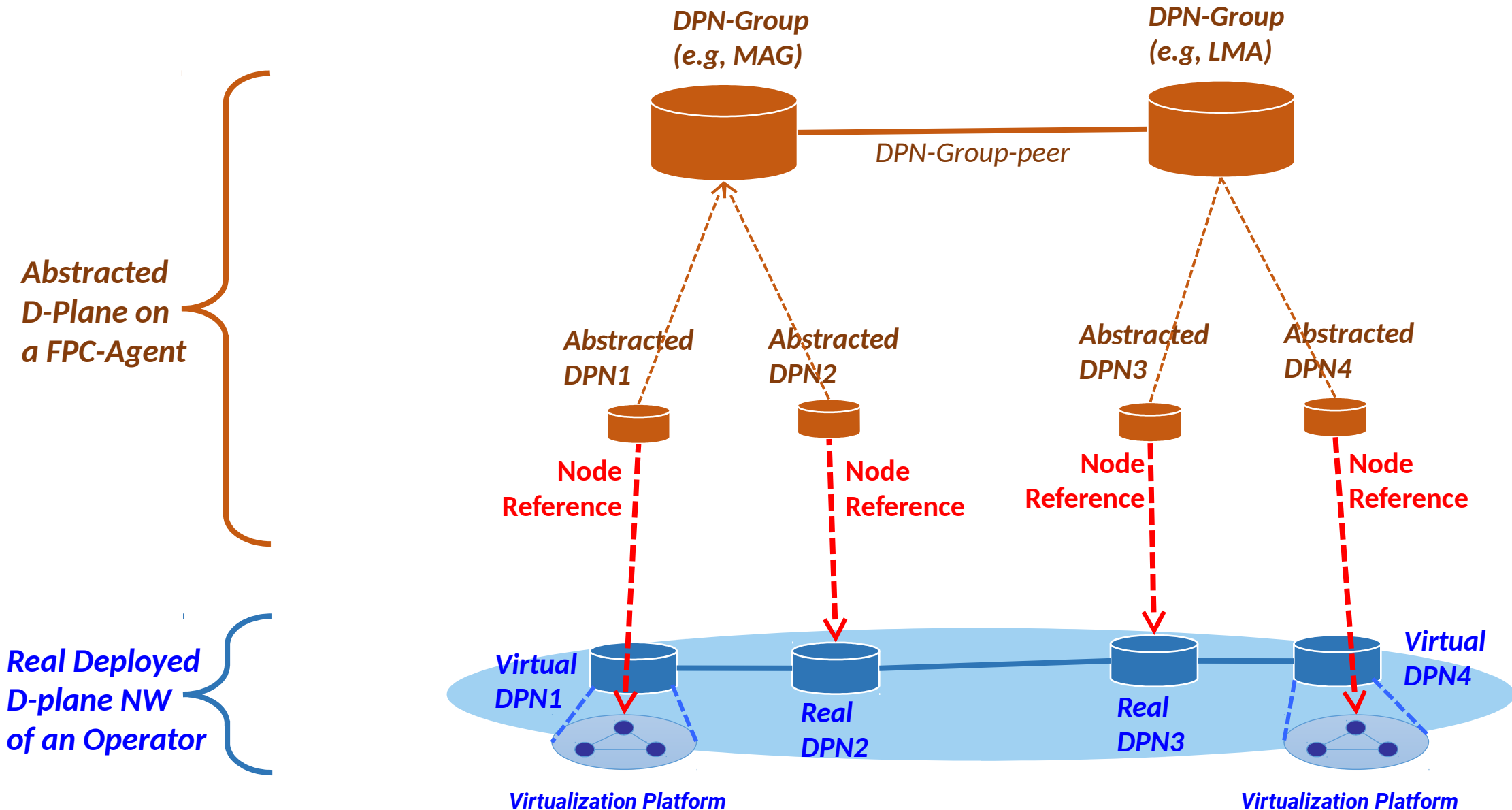
Set of Data-Plane Resources



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 examples 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

Project Proposals ▾Tools ▾

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Project Proposals:FpcAgent

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- 1 Name
- 2 Repo Name
- 3 Description
- 4 Scope
- 5 Architecture
- 6 Initial Features/Conformance
 - 6.1 Features
 - 6.2 Statistics
 - 6.3 Usage Guidelines
- 7 Resources Committed (developers committed to working)
- 8 Initial Committers
- 9 Vendor Neutral
- 10 Meets Board Policy (including IPR)

Name

Fpc Agent


Repo Name

fpc


Description


This is an implementation of the IETF DMM (Distributed Mobility Management) FPC (Forwarding Policy Configuration) Agent.


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opendaylight / fpc

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FPC (Forwarding Policy Configuration) Agent

3 commits1 branch0 releases2 contributorsEPL-1.0

Branch: master ▾New pull request

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Lyle Bertz committed with Gerrit Code Review Merge "Initial Commit"Latest commit 24ea635 5 days ago

api	Initial Commit	11 days ago
artifacts	Initial Commit	11 days ago
cli	Initial Commit	11 days ago
features	Initial Commit	11 days ago
impl	Initial Commit	11 days ago
it	Initial Commit	11 days ago
jmeter	Initial Commit	11 days ago
karaf	Initial Commit	11 days ago
scripts	Initial Commit	11 days ago
src	Initial Commit	11 days ago
zmqforwarder	Initial Commit	11 days ago
.gitignore	Initial Commit	11 days ago
LICENSE	Initial Commit	11 days ago
README.md	Initial Commit	11 days ago
build.sh	Initial Commit	11 days ago
buildfast.sh	Initial Commit	11 days ago
deploy-site.xml	Initial Commit	11 days ago

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 ?