SFC Performance Measurement

IETF 96

July 18, 2016

Anil Kumar S N (anil.sn@huawei.com)
Gaurav Agrawal (gaurav.agrawal@huawei.com)
Vinod Kumar S (vinods.kumar@huawei.com)
Christian Jacquenet (christian.jacquenet@orange.com)

IETF

Agenda

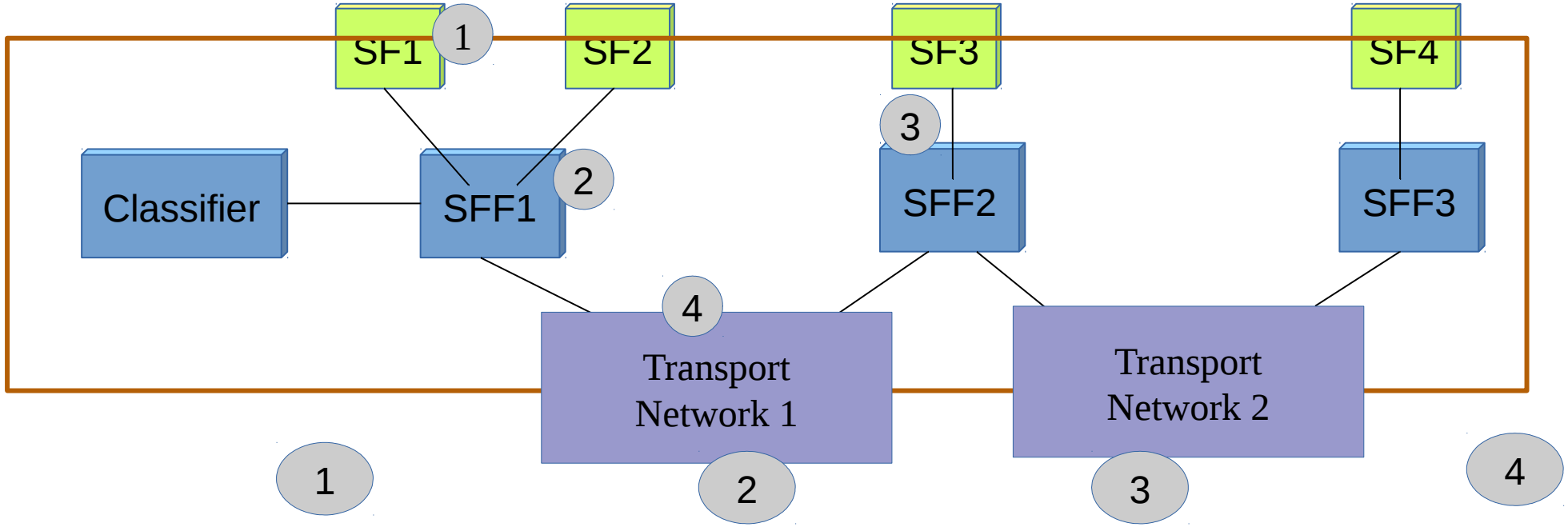
Problem statement

Requirements

Proposed Mechanism

IETF

Problem Statement



How to identify service failure and localize the issue?
How to identify service deterioration and localize the issue?
How to assure Service level agreement?

IETF

Requirements

1) PM Mechanism capable of the below checks/measuremnt

   a) Connectivity check
   b) Continuity check
   c) Trace
   d) Loss measurement
   e) delay measurement
   f) jitter measurement

2) Capability to assess and monitor at
   a) SF
   b) SFF
   c) Set of SF/SFF
   d) Segment(s) between any two SF/SFF in a SFC.
   e) SFC as a whole

SFC PM Requirement

3) Capability to measure performance for fine-grained and coarse-grained flow.

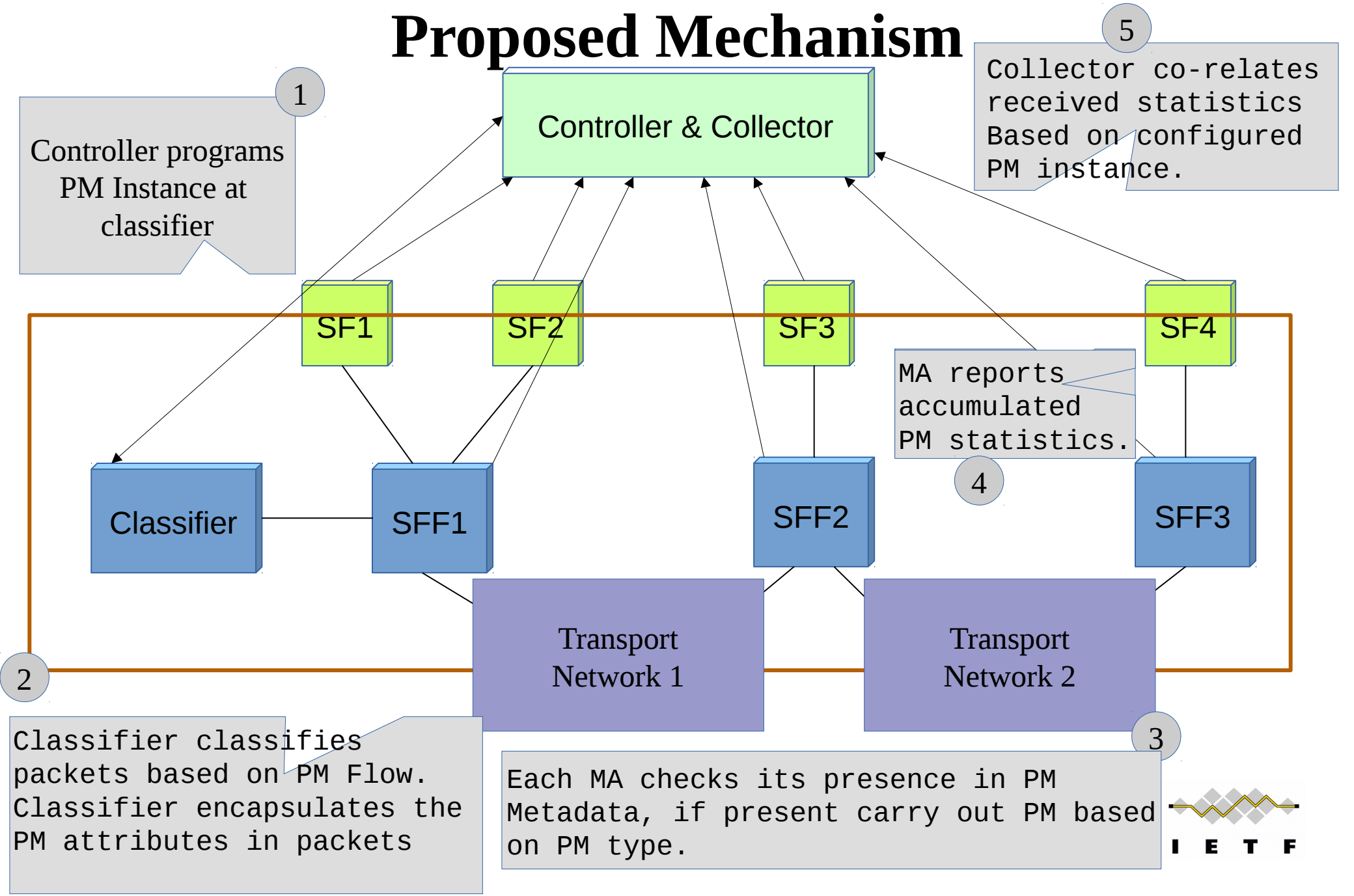
4) Capability for Continuous/proactive & selective/on-demand measurement.

5) Support for all three measurement methods:
   - Active Measurement method
   - Passive measurement method
   - Hybrid measurement method

6) Capability to measure performance even in case of out of order packets.

7) SFC PM to complement the existing Transport layer PM.

Proposed Mechanism



Proposed Mechanism using NSH

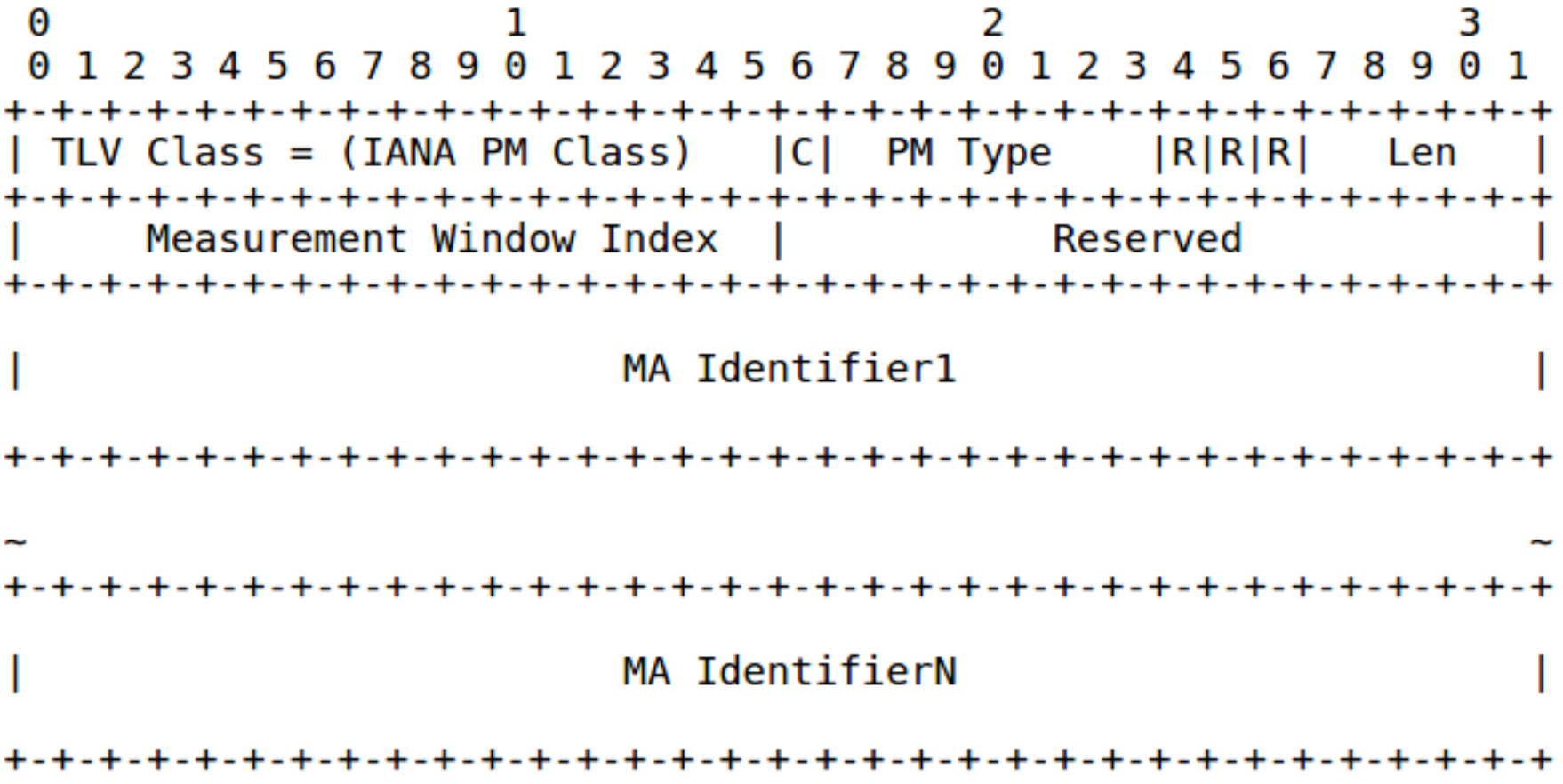


Figure 2: Packet Loss PM Context Header

IETF

References

https://datatracker.ietf.org/doc/draft-agv-sfc-performance-measurement-architecture/

https://datatracker.ietf.org/doc/draft-agv-sfc-packet-loss-measurement/

https://datatracker.ietf.org/doc/draft-agv-sfc-packet-delay-measurement/

Reference implementation is on-going in ONOS.

THANK YOU