Insitu Flow Information Telemetry

draft-song-opsawg-ifit-framework-07

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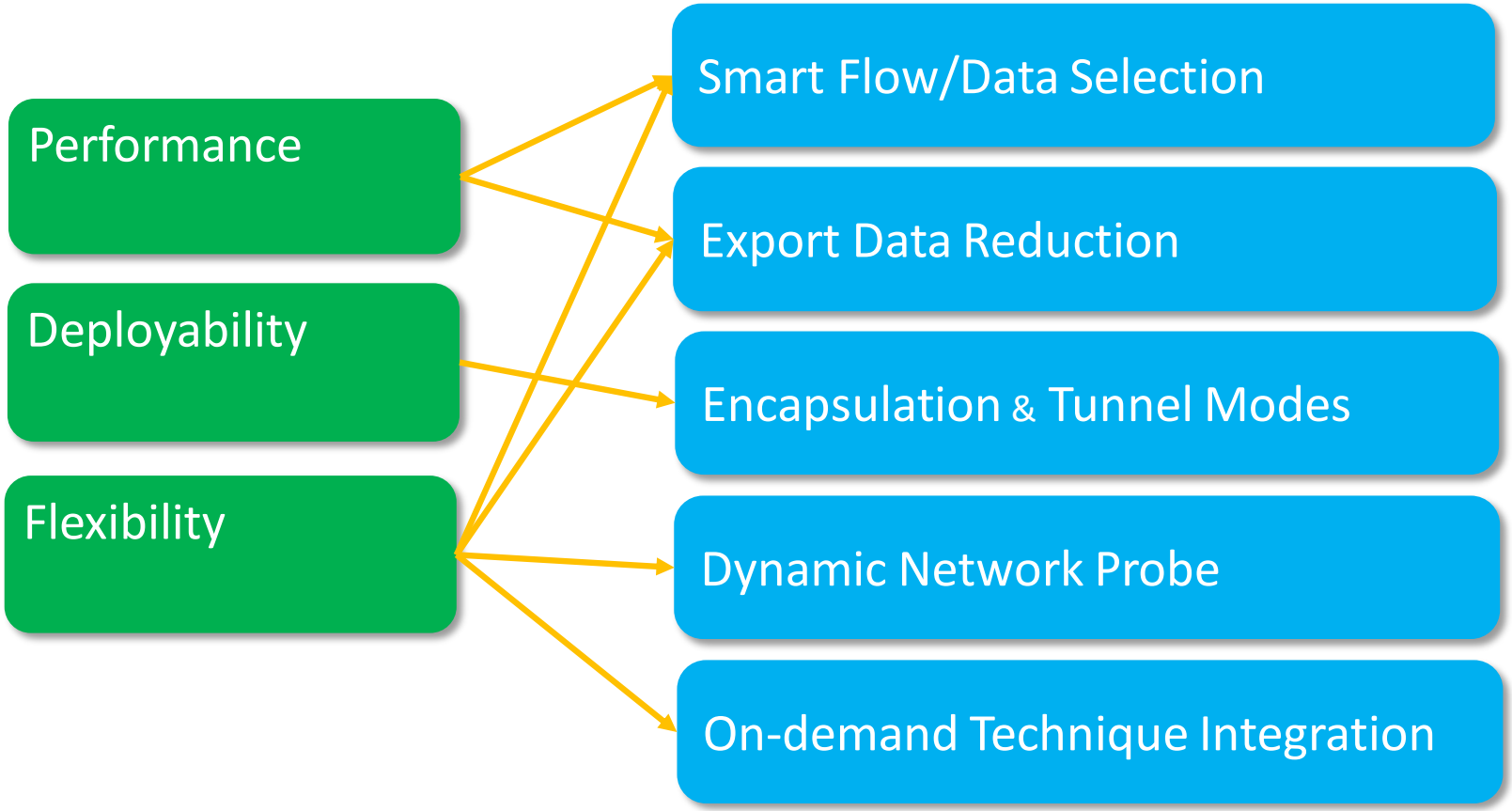
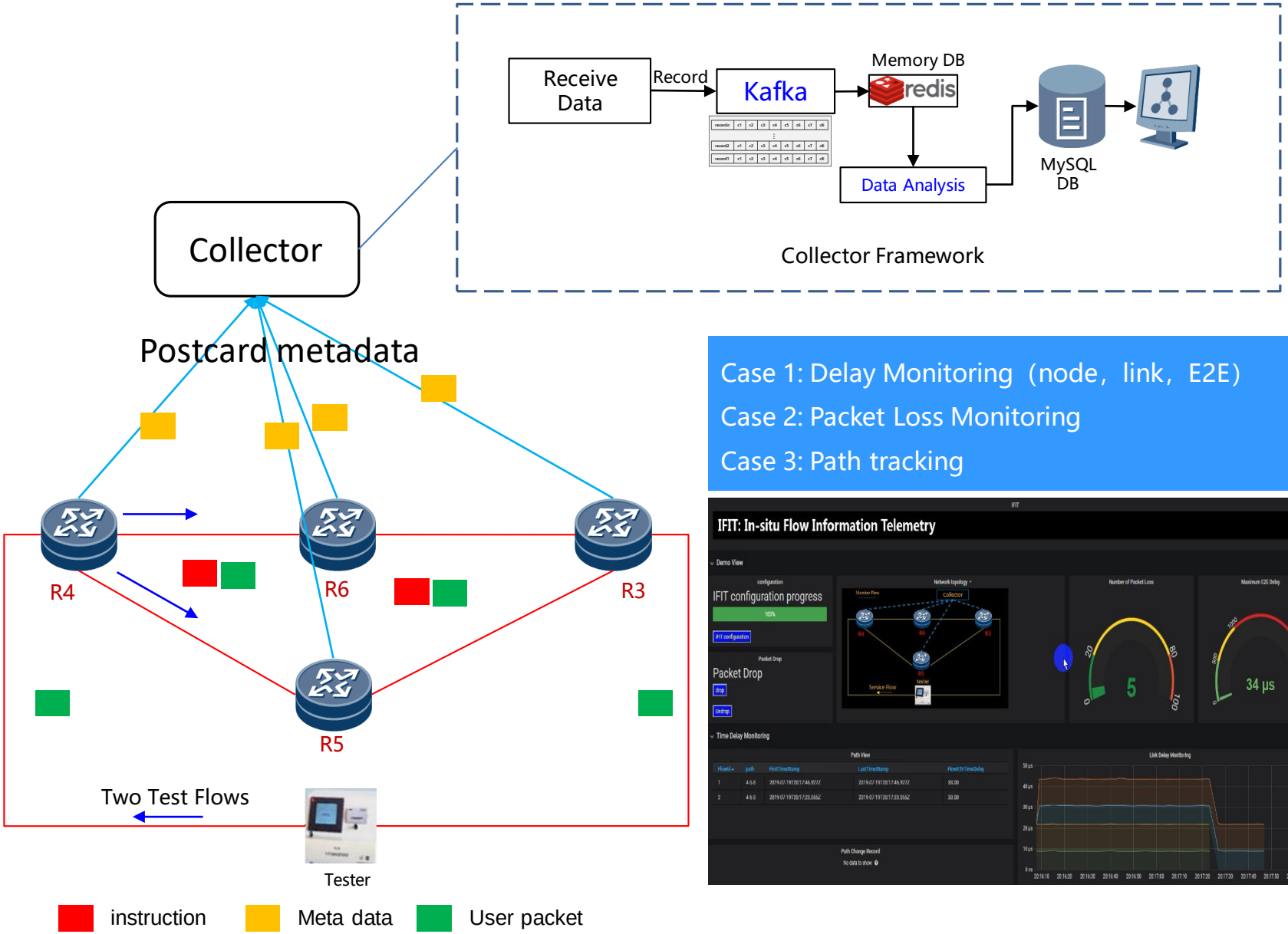
In-situ Flow Information Telemetry

- In-situ Flow Information Telemetry (IFIT) provides a reference framework that supports network OAM applications to apply dataplane on-path telemetry techniques acquiring data about a packet on its forwarding path.
- Challenges for Deployment in Carrier Networks
  - Performance
    - Forwarding impact due to packet processing
    - Bandwidth and server overload due to exported data
  - Limited data flexibility and extensibility
  - Deployment issues
  - Encapsulation and Tunnel
  - Primitives, models, API for telemetry applications

Key Components Addressing the Challenges



Architecture Implemented in IETF 105



Case 1: Delay Monitoring（node，link，E2E）

Case 2: Packet Loss Monitoring

Case 3: Path tracking

Add Two Functions

- Sketch-guided Elephant Flow Selection
  - Dynamically insert the sketch in the device
  - Select the elephant flow for high precision monitoring
- Exporting data Packing
  - Define the number of packet to be bundled.
  - Define the time interval to force export

instruction Meta data User packet

Next Step

- IETF 107 hackathon
- Using P4 switch to implement and demo

instruction Meta data User packet

Thanks