IP Flow Performance Measurement (IPFPM) Framework & Report

draft-chen-ippm-coloring-based-ipfpm-framework-02
draft-chen-ippm-ipfpm-report-00

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Vero Zheng Ed.
Mach Chen Ed.
Greg Mirsky Ed.

Update Since Last Version

- Split into two documents:
  - ✓ IPFPM Framework
  - ✓ IPFPM Report
- Framework:
  - ✓ Terminology Change
  - ✓ Reference Model
- Report:
  - ✓ New IPFIX Information Element: maIdentifier
  - ✓ Updated Templates and Optional Templates
- New author:
  - ✓ Vero Zheng & Greg Mirsky

Framework

- A Passive Measurement Method
- Terminology Change
  - ✓ Coloring-> Marking
  - ✓ DCP/TLP->MA
- Reference Model

```
                    +-----+
              +-----| MCP |-----+
              |     +-----+     |
+-----+       |  +---/     \---+  |    +-----+
| MA1 |---+   |                |  +---| MA3 |
+-----+       |                |      +-----+
+-----+       |                |      +-----+
| MA2 |-------+               +-----| MA4 |
+-----+                               +-----+
```

Figure 1: IPFPM Reference Model

- Period Number
  - ✓ Data collected correlation
- Re-ordering Tolerance

Report

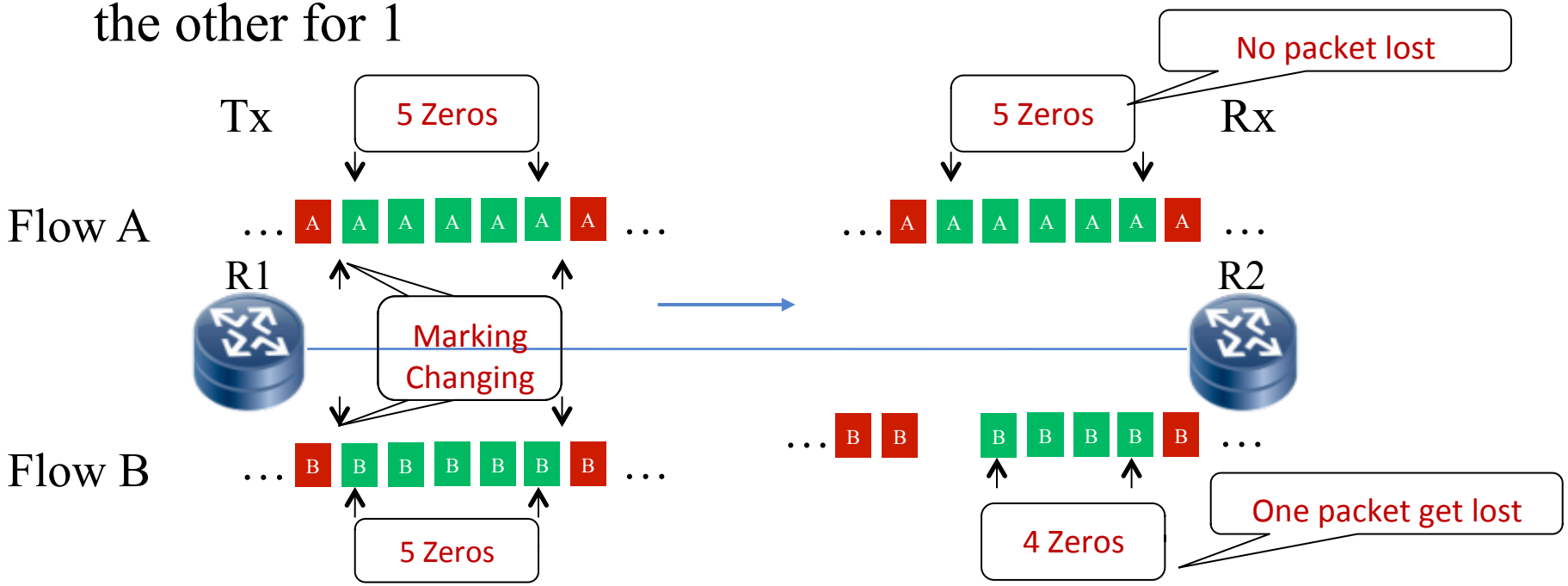
- IPFIX used for exporting the measurement statistics of IPFPM
  - ✓ MA Identifier
  - ✓ Flow Identifier
  - ✓ Period Number
  - ✓ Packet Number Count
  - ✓ Packet Octets Count
  - ✓ Time Stamp
  - ✓ MA Status
- New IPFIX Information Element:
  - ✓ maIdentifier, periodNumber, maStatus
- Templates and Optional Templates

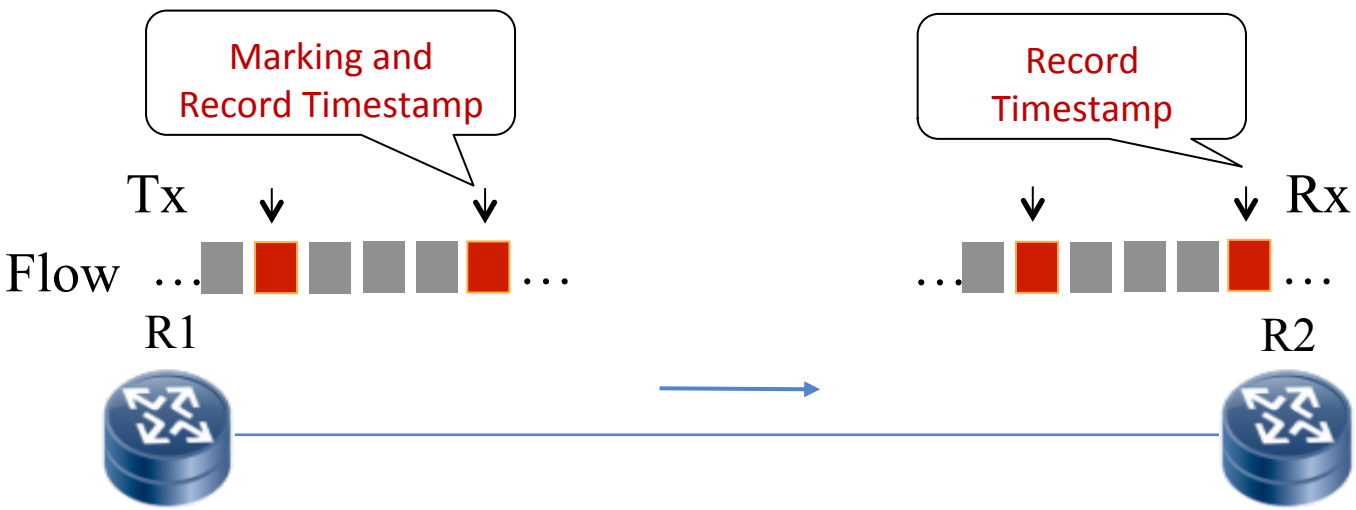
Next Steps

- Collect comments from the mailing list
- WG adoption

Packet Loss Measurement

- Packet Loss
  - ✓ Use one or more unused bits to mark the packets
  - ✓ Different markings divide the flows into different consecutive blocks
  - ✓ Counting based on each block of marker, two counters, one for 0, the other for 1



Packet Delay Measurement

- Only marking ONE packet in a period,
- Measure the packet delay based on THE packet
- Time synchronization is required