# A packet based method for passive performance monitoring

draft-tempia-ippm-p3m-02

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## Document changes: -00 to -01 to -02

Interim -01 draft submitted on September 21; -02 on October 19

Important Modifications:

- Document restructuring
  - Section "Detailed description of the method"
    - includes a general description of the alternate marking principle.
  - Section "Implementation and deployment"
    - now includes the Alternate Marking Use Cases
    - Telecom Italia application is one of the many Use Cases
- Metric transparency
  - network elements outside the monitoring domain are totally anaware that packets were marked

## Update on Alternate Marking Use Cases

Where draft-tempia-ippm-p3m is a reference:

- draft-chen-ippm-coloring-based-ipfpm-framework
- draft-morton-ippm-active-passive
- draft-bryant-mpls-flow-ident
- draft-bryant-mpls-sfl-control
- draft-bryant-mpls-synonymous-flow-labels
- draft-bryant-mpls-rfc6374-over-udp
- draft-bryant-mpls-sfl-framework
- draft-bryant-mpls-rfc6374-sfl
- draft-ietf-bier-mpls-encapsulation
- draft-mirsky-bier-pmmm-oam
- draft-fioccola-ippm-rfc6812-alt-mark-ext

## Update on Alternate Marking Use Cases

#### from *draft-bryant-mpls-sfl-framework*:

This document describes a method of providing flow identification information in order to mark packets when making RFC6374 performance measurements.

#### from *draft-mirsky-bier-pmmm-oam*:

This document describes a passive performance measurement method for multicast service over Bit Index Explicit Replication (BIER) domain, by using alternate marking.

## Next Steps

The purpose to generalize the description of the alternate marking principle for a generic packet flow (transport agnostic) is achieved.

This document could give a Unique denomination and become a General reference for other solutions based on the alternate marking.

How much more should the authors do before asking WG adoption

Reviews and comments always welcome

# Alternate Marking Extension to Cisco SLA Protocol RFC6812

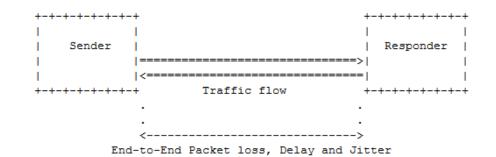
draft-fioccola-ippm-rfc6812-alt-mark-ext-00

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## High level view

- Cisco's Service-Level Assurance Protocol [RFC6812] is a widely deployed Performance Measurement protocol.
- An extension to the Cisco SLA Protocol is presented in order to implement alternate marking methodology detailed in [I-D.tempia-ippm-p3m].
- Two end points (Sender and Responder) exchange two equal alternate marking data flows:
  - Measurements: Packet Loss, Delay for each packet or Average Delay



## Benefits

- Improve time precision (It takes the packet timestamp at the transmission instant, not when packet is created).
- Reduce computational load (no sequence numbers and no timestamps into the measurement packets).
- Enable intermediate measurement points ("Hybrid" measurements) thanks to the Alternate Marking.
  - In the intermediate points artificial traffic is managed in the same way as real traffic and measured as specified for passive methodology.

### **Protocol Extension**

The Alternate Marking extension to Cisco SLA Protocol consists of three distinct phases:

- Control Phase
- Measurement Phase
- Calculation Phase

To utilize Cisco SLA Protocol, some extensions are needed:

- Most protocol specifications are the same described in RFC 6812
- New fields have been added to RFC 6812 Control Protocol
- The measurement messages is simplified in comparison to RFC 6812 (see the document for more details)

## Next Steps

- Update the Document with new specifications
- Welcome inputs from the WG
- We will have a new version for Argentina

### Reviews and comments always welcome