Alternate Marking Deployment Framework

draft-ietf-ippm-alt-mark-deployment-00

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Motivation

This draft aims to provide guidance for the AltMark (RFC 9341, RFC 9342) deployment, especially with regard to the manageability.

The scope is to clarify the following aspects:

- Deployment Domain
- Measurement Nodes
- Type of Measurements
- Configuration Aspects
- Data Export, Collection and Calculation
- Encapsulations
- Implementation Guidelines
- Security
Deployment Domain, Measurement Nodes, and Type of Measurements

AltMark Deployment Domain and Measurement Nodes
The AltMark Method is deployed in a controlled domain for security and compatibility reasons
• The typical deployment domain is an overlay network domain:
  • The traffic is encapsulated at one border, decapsulated at the other border and the
    encapsulation incorporates the AltMark data.
  • The marking nodes and unmarking nodes can border the AltMark Domain, while all the
    other nodes are transit nodes

Type of Measurements
Either one or two flag bits might be available for marking in different deployments:
• One flag: packet loss measurement, while delay measurement according to the single-marking
  method. Mean delay could also be used.
• Two flags: packet loss measurement, while delay measurement according to double-marking
  method.
The duration of the AltMark period affects the frequency of the measurement
The choice of methods affects the kind of information derived and the computational load
Configuration Aspects
Data Export, Collection and Calculation, Encapsulations, and Security

**Configuration**
The YANG model can be used for the definition of the AltMark data sent over network management protocols such as the NETCONF and RESTCONF.

- [draft-ydt-ippm-alt-mark-yang](#) has been proposed as merge of two separate YANG models

There are also other control plane mechanisms to advertise and activate AltMark capabilities, using PCEP or BGP:


**Data Export**
The new IPFIX Information Elements (IEs) to export AltMark measurement data are specified in [draft-gfz-opsawg-ipfix-alt-mark](#).

- In addition to IPFIX, YANG Push can also be used

**Encapsulations**
Different Encapsulations have been reported (IPv6, SRv6, BIER, MPLS, SFC, NVO3,...)

**Security**
The Security fundamental requirement of the limited domain is also highlighted.
Next Steps

- Make this draft stable. Anything else to clarify?
- Move forward the companion documents on IPFIX IEs and YANG Data Model

Comments are welcome!

Thank You