

IPFIX Mediation: Problem Statement

draft-ietf-ipfix-mediators-problem-statement-04

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Status

❖ WG Last Call for version -03 ended on June 5.

□ Thank you to last call reviewers:

- Gerhard Muenz
- Juergen Schoenwaelder
- Brian Trammell
- Motonori Shindo
- Benoit's 3 co-workers reviewed in previous version(-02)

□ Some reviewers said the draft is ready for next step.

❖ Posted version -04

□ Rewrote the terminologies section based on the mailing list discussion. But, it still need to consider some corner case.

□ Resolved other issues.

Discussion Points in Terminologies

- ❖ What boundary between the problem statement and framework is?
 - ➔ Moved Intermediate Aggregation/Correlation/Anonymization/Selection Process to framework draft, because they indicate a specific Intermediate Process.
- ❖ IPFIX Concentrator, Proxy, Masq. Proxy, Distributor indicate devices, or functions?
 - ➔ Specific IPFIX Mediator as an IPFIX Device.
- ❖ Keep examples out of terminology.
 - ➔ Removed examples. All terminologies are improved based on Brian proposal.

Discussion Points in Terminologies

❖ Does IPFIX Mediation cover “transport protocol mediation”?

→ Relaying directly IPFIX Messages is not IPFIX Mediation.

- UDP-to-UDP is not IPFIX Mediation.
- Duplication and load balancing for entire IPFIX Messages are not IPFIX Mediation.
- In IPFIX Distributor case, just passing through in configurable filtering functions may result in relaying IPFIX Messages. But, these configurable devices follow IPFIX Mediator specification.

→ Manipulation of an IPFIX header is IPFIX Mediation.

- Because ODID and Export Time are subsidiary information as “record” content.
 - General word “record” includes “Data Record”, “(Options) Template Record”, “Data Record associated Options Template”, subsidiary information, and traffic data transmitted by other protocol.

Open issue

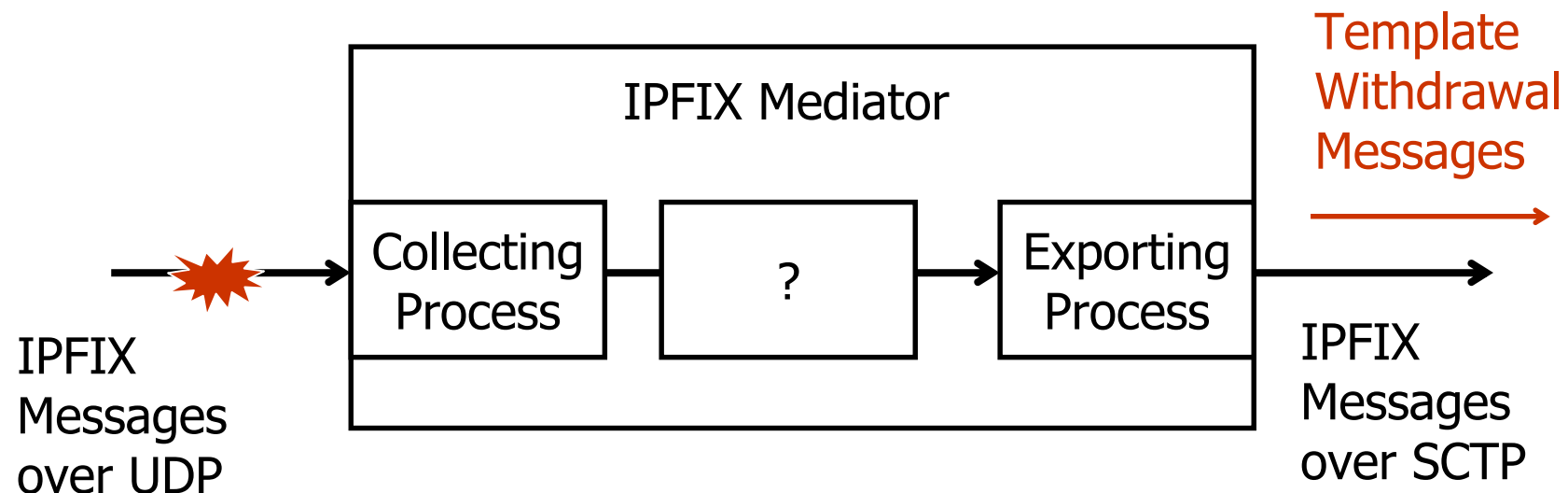
❖ Changing transport protocol “UDP” to “SCTP”

❑ Needs some functions that manipulate IPFIX Messages.

- In that case, when a Collecting Process detecting refresh timeout for a Template, Exporting Process should send Template Withdrawal Messages.

➔ Does an IPFIX Mediator cover the function?

➔ Does an Intermediate Process cover the function?



Open issue

- ❖ Does an IPFIX Mediator cover the function?
 - Yes. Because it is the manipulation of IPFIX Messages.
- ❖ Does an Intermediate Process cover the function?
 - Yes. Because it keeps state of template to transport the records.
 - Zero intermediate Process means not IPFIX Mediation.
 - Thus, “ an IPFIX Mediator hosting **zero or more Intermediate Process**” should be replaced with “an IPFIX Mediator hosting **one or more Intermediate Process**”.

IPFIX Mediation

❖ Old (-04)

□ IPFIX Mediation is the manipulation and conversion of **records** for subsequent export using IPFIX, by applying **mediation functions** to a stream of records.

→ Manipulation of records seem not include selection function.

→ What is mediation function?

❖ New

□ IPFIX Mediation is the manipulation and conversion of **a stream of records** for subsequent export using IPFIX.

Intermediate Process

❖ Old (-04)

- ❑ An Intermediate Process takes a **sequence** of records from a Collecting Process, Metering Process, IPFIX File Reader, or another Intermediate Process; performs some transformation on these records based upon the content of the records themselves, **keeps** state across multiple records, **configuration parameters**, or other data; and passes a **sequence** of transformed records on to an Exporting Process, IPFIX File Writer, or another Intermediate Process. ...
- ➔ Configuration parameters are covered in other data.
- ➔ There is no description regarding IPFIX Mediation.

❖ New

- ❑ An Intermediate Process implements **IPFIX Mediation functions**. It takes a stream of records as its input from a Collecting Process, Metering Process, IPFIX File Reader, or another Intermediate Process; performs some transformation on these records, **or makes some decision about their subsequent processing, based upon the content of each record, state maintained across multiple records, or other data sources**; and passes a stream of transformed records as its output on to an Exporting Process, IPFIX File Writer, or another Intermediate Process. ...

IPFIX Mediator

❖ Old (-04)

- ❑ An IPFIX Mediator is an IPFIX Device that provides mediation capabilities by receiving records from some data source, **hosting zero or more Intermediate Processes to transform** those records, and exporting those records in IPFIX Messages via an Exporting Process. In the common case, an IPFIX Mediator receives records from a Collecting Process but could also receive records from data sources not encoded using IPFIX, e.g., in the case of NetFlow V9 protocol translation.

❖ New

- ❑ An IPFIX Mediator is an IPFIX Device that provides mediation capabilities by receiving records from some data source, **hosting one or more Intermediate Processes to process** those records, and exporting those records in IPFIX Messages via an Exporting Process. In the common case, an IPFIX Mediator receives records from a Collecting Process but could also receive records from data sources not encoded using IPFIX, e.g., in the case of NetFlow V9 protocol translation.

Other Comments in WG Last Call

❖ Needs stronger motivation in Introduction.

- ❑ “There are no documents defining the IPFIX Mediation” is not motivation toward standardization.

- Added the description elaborating from the abstract and improved.

❖ Some editorial issues.

- ❑ IPFIX Flow Record/PSAMP Packet Reports ⇒ Data Record

- ❑ Explain figure C. in section 6.5. “Template ID Management”.

- Added the description and improved Figure C.

- ❑ Doesn't need the rule of non-key fields in Flow aggregation.

- Gerhard pointed out that in RFC5102 their values are determined by the first packet observed for the corresponding Flow.

- Removed this sentences.

Next Step

- ❖ Need to improve some editorial errors and open issues.
 - After them, all issues will be resolved.
- ❖ Ready for IESG review after submitting next version.