IPFIX Mediation: Framework

<draft-kobayashi-ipfix-mediator-model-01.txt>

Atsushi Kobayashi, Keisuke Ishibashi,
Kondoh Tsuyoshi(NTT)
Daisuke Matsubara(Hitachi)

Update IPFIX Mediator draft

- Mainly, this draft updates as follows.
  - Refines several sentences based on several comments.
    - Paul's comments are valuable. Thanks!
  - Towards writing up of framework draft, I refined terminology Section.

What is IPFIX Mediator?

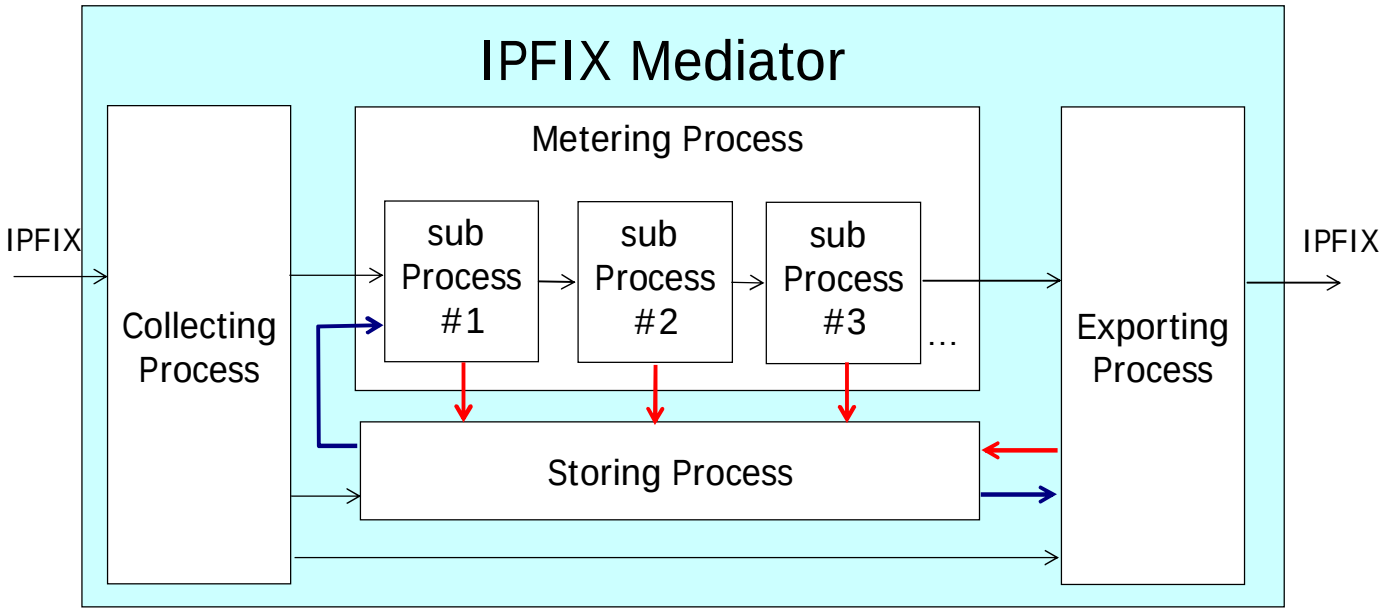
- To clarify, I listed up 2 type of IPFIX Mediator.
  - IPFIX Protocol Mediation
    - relaying and multiplexing of IPFIX Transport Sessions
    - Not change the set of Flow Records nor the value or Template of Flow Records.
  - Flow Mediation
    - Creates a new set of Flow Records from input Flow Records.
      - Aggregation
      - Selection
      - Modification
        - Changing the value of specified Information Elements.
        - Changing the Template by adding/deleting specified Information Elements.

IPFIX Mediation device

- Added IPFIX Distributor device as IPFIX Mediators.
  - IPFIX Proxy
  - IPFIX Distributor
    - It replicates Flow Records and forwards them to multiple Collectors.
    - In addition, it classifies Flow Records to work as Collector load-balancer.
  - IPFIX Concentrator
  - IPFIX Firewall

Internal Component Model

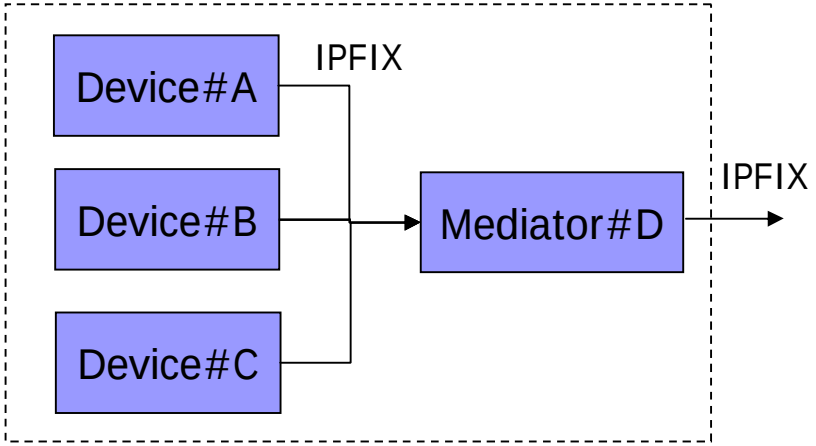
- Makes any Metering sub-process and Exporting Process able to send Data to the Storing Process.
  - Any Flow Records can be stored.
- To retrieve Flow Records, the route from Storing Process to Metering/Exporting Process was added.



Sub-Processes: Selecting Process, Aggregating Process, and Modifying Process

Observation Domain ID Management

- ODID indicates the largest set of Observation Points in original Exporters.
  - ODID is RECOMMENDED to be assigned a unique value per IPFIX Mediator.



Mediator#D reports a new ODID. It indicates the largest set of Observation Points.

- Note: IPFIX-protocol draft says that ODID should be 0, if MP aggregates input Flow Records.

Next step

- By extracting section 2 and 3.1, I will write up first framework draft.

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Next step

- Section 3.2 and section 5 "IPFIX Protocol Considerations" part could be described as "IPFIX Protocol Mediation Common Parts" draft.
  - Aggregation and anonymization draft refer to it.

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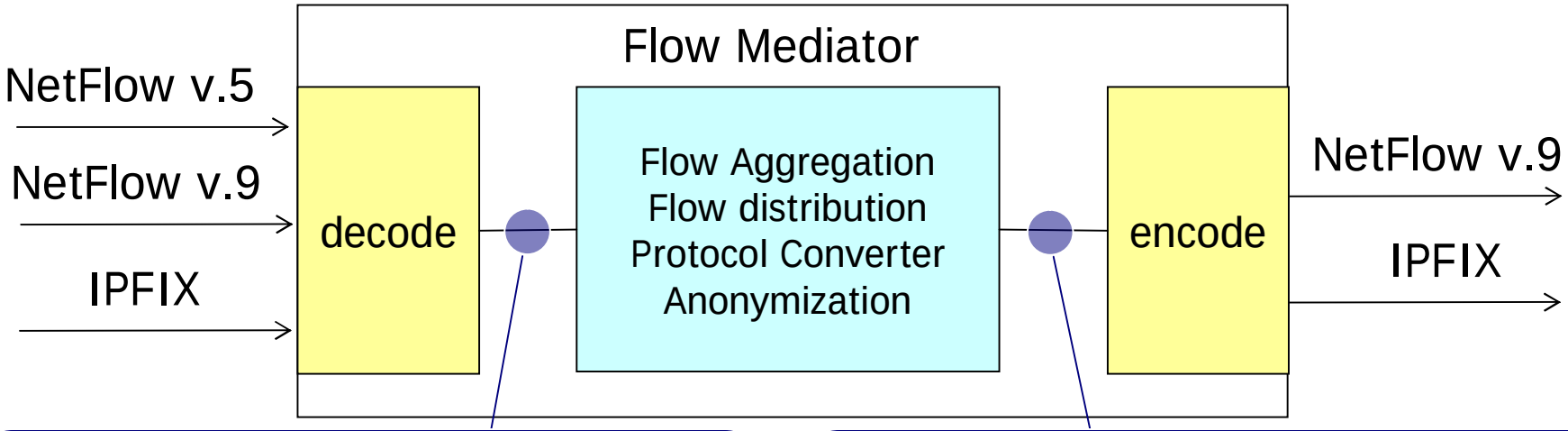
Next step

- Implementation of IPFIX Mediator
  - Input/output Flow Record parts are already available from CPAN.
    - You can write and try your own Mediator/Exporter/Collector ideas easily.
  - Then, we can discuss about framework more clearly.

You can feel Flow Mediation

- Net::Flow perl module is available on CPAN.
  - http://search.cpan.org/~akoba/Net-Flow-0.02/
  - It can decode and encode NetFlow/IPFIX packets.
  - The decoding and encoding functions are similar IF.




```
my ( $HeaderHashRef,
     $TemplateArrayRef,
     $FlowArrayRef,
     $ErrorsArrayRef) =
     Net::Flow::decode(
                    ¥$packet,
                    $TemplateArrayRef  ) ;
```

```
my ( $EncodeHeaderHashRef,
     $PktsArrayRef,
     $ErrorsArrayRef) =
     Net::Flow::encode(
                    $EncodeHeaderHashRef,
                    ¥@MyTemplates,
                    $FlowArrayRef,
                    1400 ) ;
```