

IPFIX Mediators draft

draft-kobayashi-ipfix-mediator-01.txt

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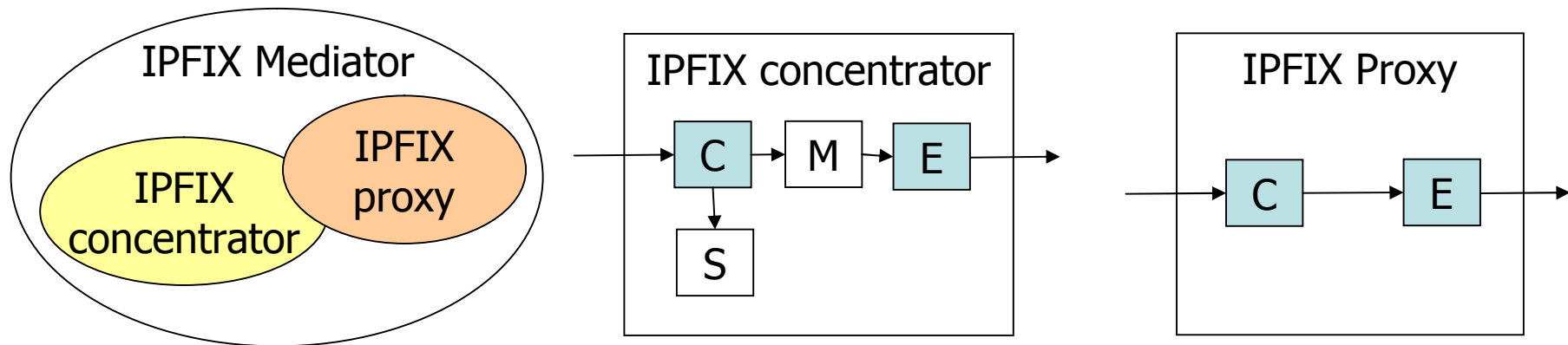
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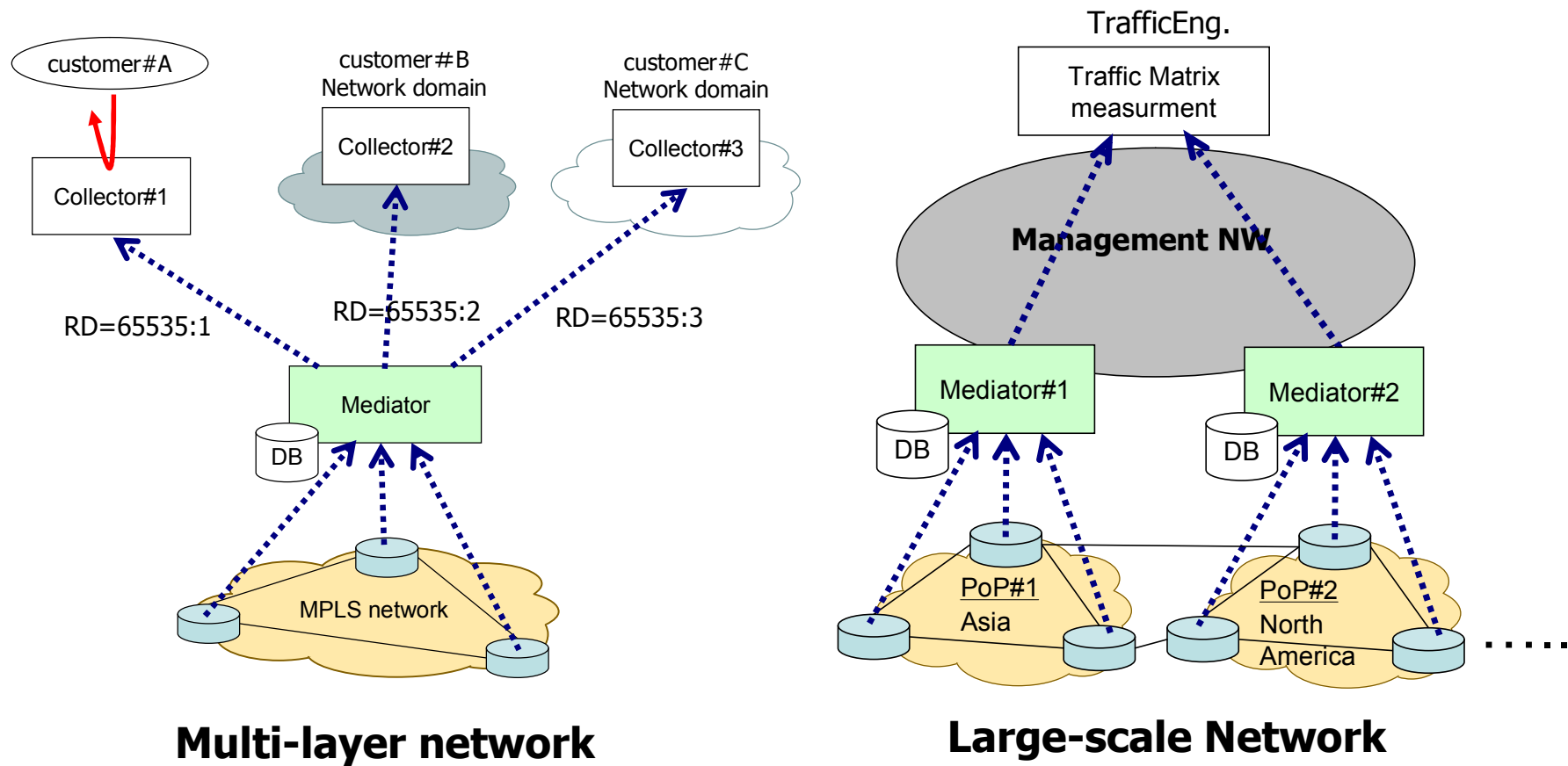
What is IPFIX Mediator?

- Hosts at least one pair of Exporting Process(E) and Collecting Process(C).
- Metering Process(M) and Storing Process(S) may be hosted as option.
- Enables multiple combinations of each process.
- Includes IPFIX concentrator and IPFIX proxy.



Why IPFIX Mediator?

To make IPFIX applicable for large-scale and multi-layer network, such as MPLS.



Main Contribution

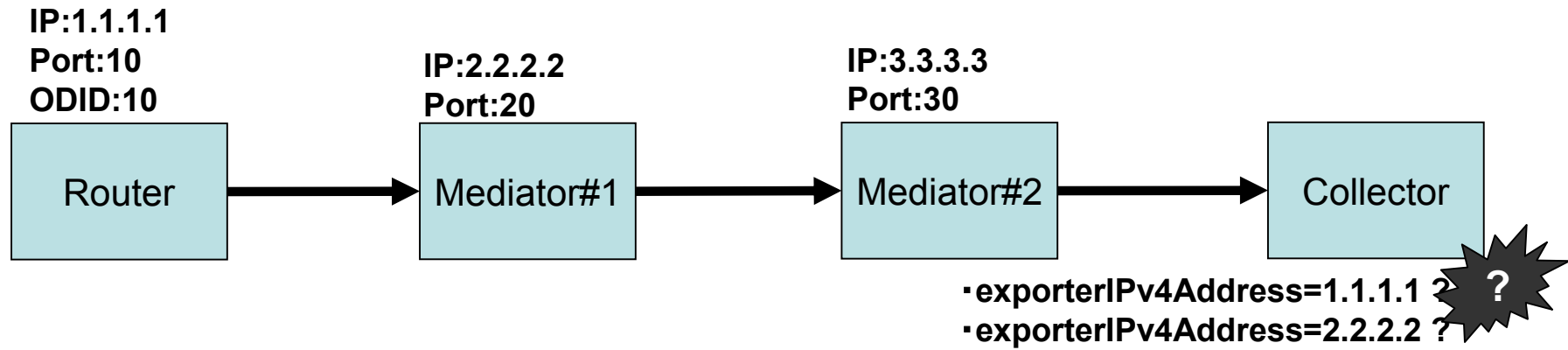
- Making IPFIX applicability in Large-scale NW.
 - In our current status, it is not enough.
 - We would like to define this topics in next stages.
- Clarifying function required by IPFIX Mediator.
 - To solve issue of cascade connection, we propose new option template.
- Clarifying the process model of IPFIX Mediator.
 - Our group has been making NetFlow Mediators. In next step, we will evaluate its efficiency.
- Making benefit solutions using IPFIX Mediator as informational.

Issues of cascade connection

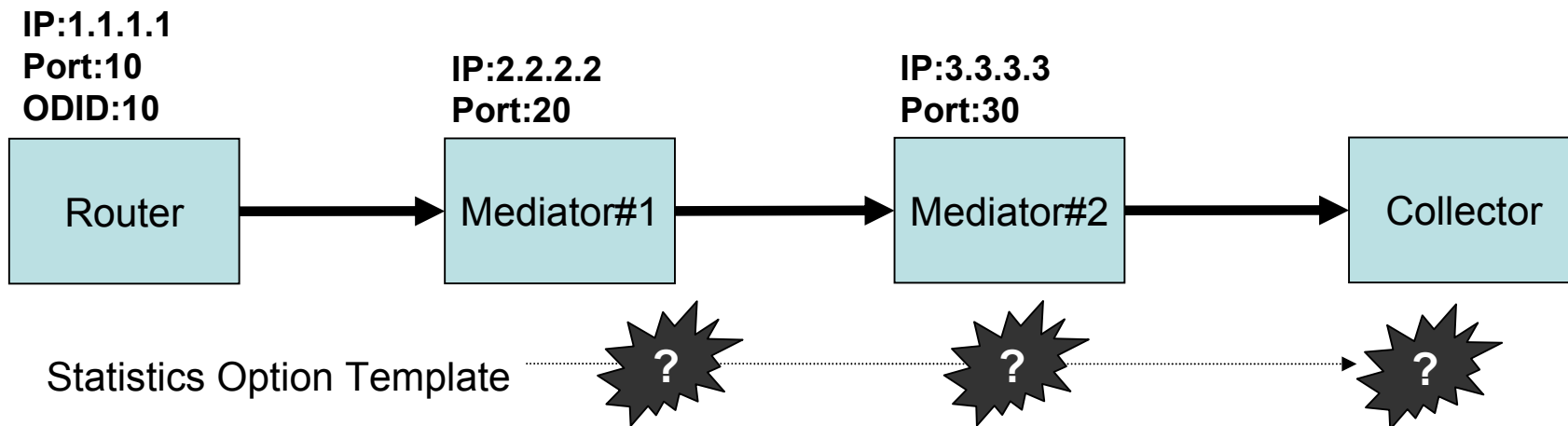
- How to inform Router's information and each Mediator's information.
 - In cascading condition, we have not discussed how to use "exporterIPv4Address" elements.
 - Final destination Collector cannot recognize whether "exporterIPv4Address" indicates Router address or Mediator address.
- How to export Option Template created by Router or Mediators.
 - Changing session makes scope field into meaningless.
 - What fields are used as scope field in that case?

Issues of cascade connection

How to inform about Router's information and each Mediator's information.

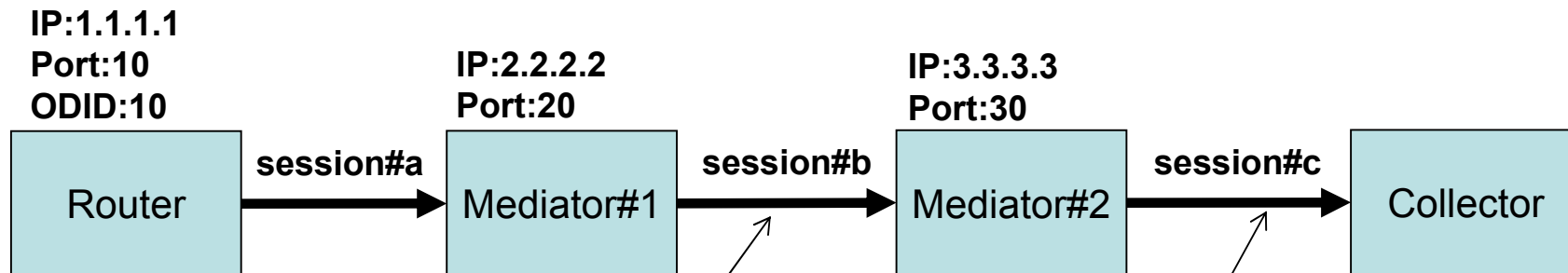


How to export Option Template that created by Router or Mediators.



Route Option Template

- This template gives route of each node.
 - Mediator puts previous Exporter information in this templates.
 - The order means route of cascade connection.



session#b OptionTemplate:

Set ID = 3
 Template ID = 259
 Field Count = 4
 Scope Count = 1 *Source Router Info.*
 templateId
 exporterIPv4Address
 exporterTransportPort
 observationDomainId

session#c OptionTemplate:

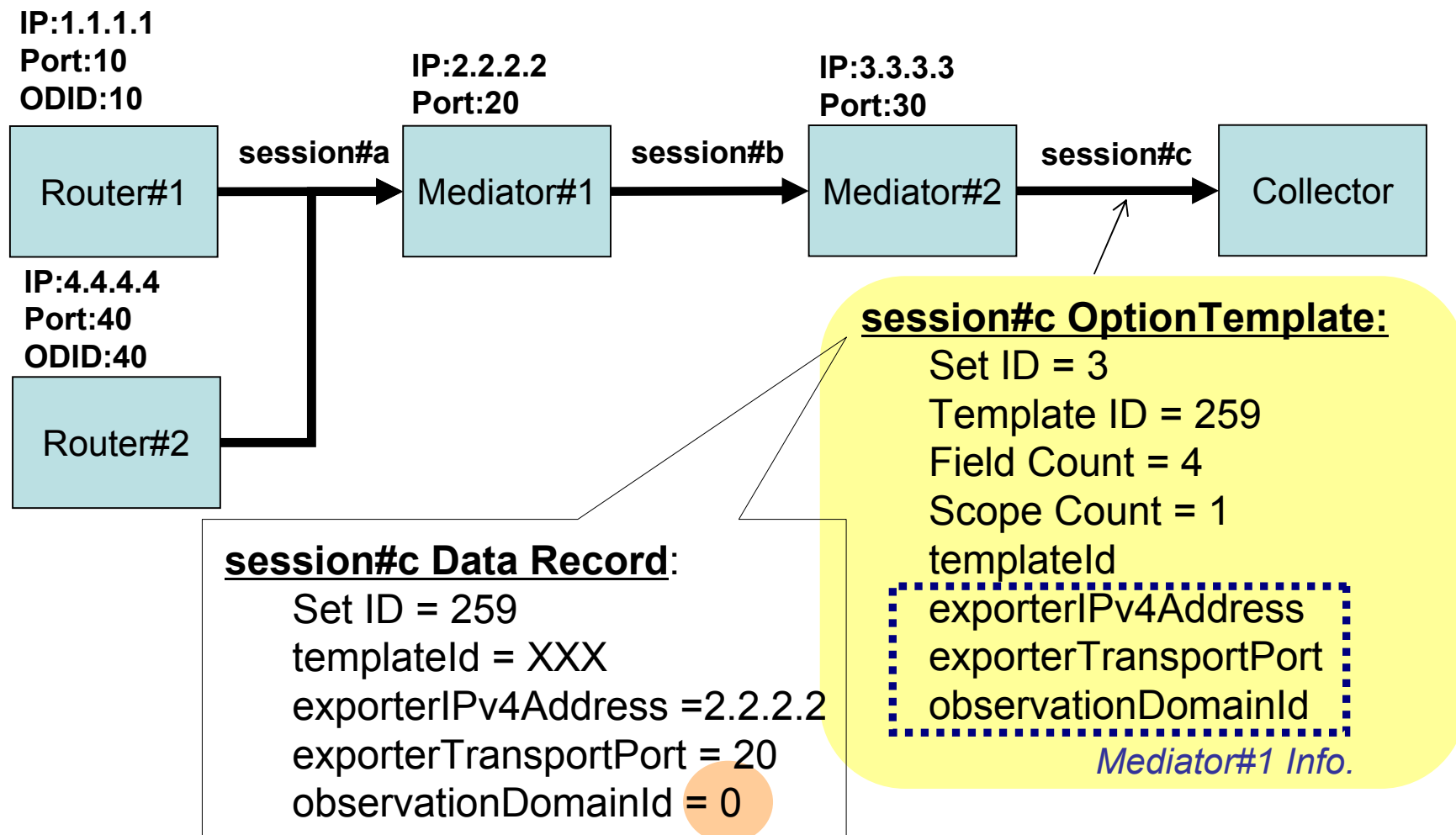
Set ID = 3
 Template ID = 259
 Field Count = 6
 Scope Count = 1
 templateId
 exporterIPv4Address
 exporterTransportPort
 observationDomainId
 exporterIPv4Address
 exporterTransportPort

Source Router Info.

Mediator#1 Info.

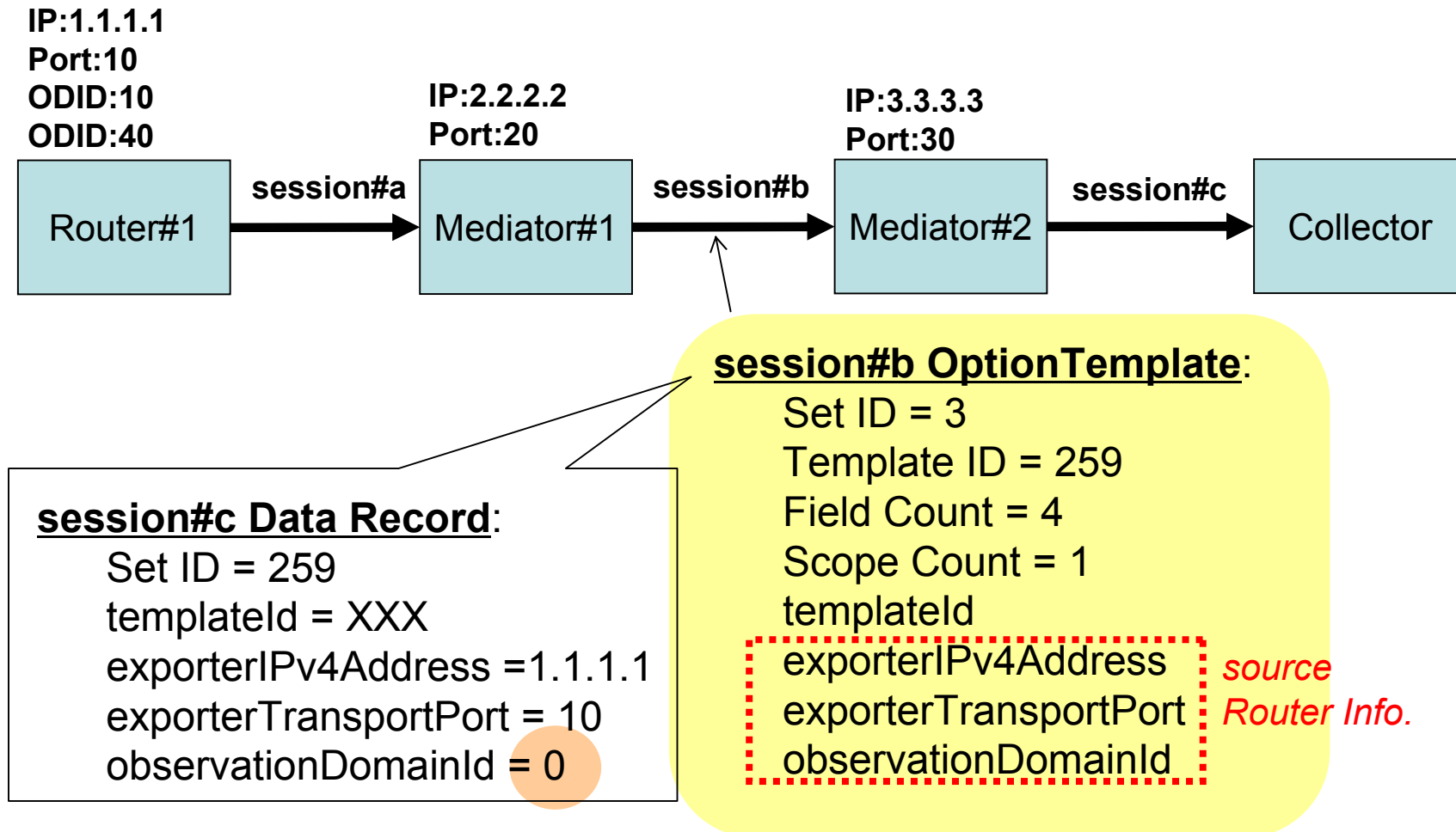
Consideration of aggregation 1/2

- Mediator aggregates Flow records beyond routers.
 - Mediator does not need to inform "exporterIPv4Address".



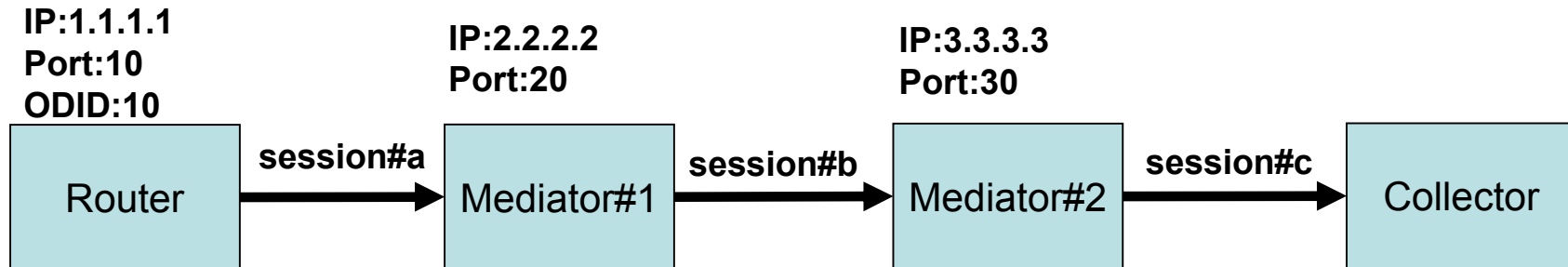
Consideration of aggregation 2/2

- Mediator aggregates Flow records beyond ODID.
 - Mediator does not need to inform original "ODID".



How to exports option template

- Mediator can use the Route Option Template as scope.



Statistics Option Template

session#a Statistics Option Template:

Set ID = 3
 Template ID = 260
 Field Count = 3
 Scope Count = 0
 exportedMessageTotalCount
 exportedFlowTotalCount
 exportedOctetTotalCount

session#c Statistics Option Template:

Set ID = 3
 Template ID = 259
 Field Count = 8
 Scope Count = 5
 exporterIPv4Address
 exporterTransportPort
 observationDomainId
 exporterIPv4Address
 exporterTransportPort
 exportedMessageTotalCount
 exportedFlowTotalCount
 exportedOctetTotalCount

Scope

Discussion

- Is New Option Template useful to be standardized?
- Is defining IPFIX Mediators more clearly necessary?

In next step, we will evaluate the our developing NetFlow Mediator.