

IPFIX Flow Aggregation

draft-dressler-ipfix-aggregation-04

draft-sommer-ipfix-mediator-ext-00

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Aggregation Process

IPFIX Field	Selection	Aggregation
sourceIPv4Address		keep
destinationIPv4Address	192.0.2.0/28	mask to 30 bit
destinationTransportPort	80	discard
packetDeltaCount		aggregate

Src IP	Src Port	Dst IP	Dst Port	Packets
192.0.2.1	64235	192.0.2.101	80	10
192.0.2.2	64236	192.0.2.102	110	10
192.0.2.3	64237	192.0.2.103	80	10
192.0.2.101	64238	192.0.2.1	80	10
192.0.2.101	64239	192.0.2.2	80	10

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192.0.2.101	64239	192.0.2.2	80	10

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192.0.2.101	64239	192.0.2.2	80	10

Src IP	Dst IP	Dst Port	Packets
192.0.2.101	192.0.2.0/28	80	20

Open Issues

- Forwarding of Option Data Records
 - ODRs that refer to an Observation Domain only include observationDomainId, defined as being unique only to an Exporting Process
 - Easy solution: Mandate OD-Ids be unique in whole aggregation domain, but more generic solution preferable
- Aggregating IP addresses that are pseudonyms
 - If Compound Flow creation not explicitly informed, wrong IP addresses may be merged
- Relation to IPFIX configuration
 - Arbitrary topologies of IPFIX processes cannot be configured, e.g. data flows cannot be merged, ...

Next Steps (TBD until 72nd IETF)

- Transmission of common properties in options w/o “Rich Template”
 - Requires reliable transmission of options → SCTP
 - Big overhead (only) in case of UDP transmission
- Transmission of aggregation rules
 - Either using “excluded properties” – too complex?
 - Or using out-of-band mechanisms – conform to the concept of IPFIX?
- Splitting the draft into
 - Flow filtering
 - Flow aggregation
- Data types
 - Update of draft-sommer-mediator-ext
 - New draft for type “range list”