

IPFIX Reliability Extensions

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<draft-bclaise-ipfix-reliability-01.txt>

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Problem Statement

- **We spoke about IPFIX for billing for a long time on the mailing list:**
Transport protocol
Application Level Acknowledgement?
- **RFC 3917**
Usage Based Accounting: reliability is a **MUST**
“The reliability requirements defined in sections 5.1 and 6.3.2. are not sufficient to guarantee the level of reliability that is needed for many usage-based accounting systems.”
- **Draft abstract**
“Defines an extension to the IP Flow Information eXport (IPFIX) protocol in order to accommodate the specific requirements of billing.”

Specifications

Transport

- **PR-SCTP [RFC-3758] MUST be used**

Data Records MUST also be sent over a reliable stream

A second SCTP association MUST be opened in advance

All Templates and Option Templates MUST be sent ahead of time

The SCTP association parameters SHOULD be tuned in order to allow a minimum detection time in case of connection failure

The Exporting process MUST retransmit the SCTP un-acknowledged information to its backup collector

Specifications

Reliable Server Pooling

- **RSERPOOL architecture SHOULD be used**

Pool of Collecting Processes

round-robin policy is the default RSerPool policy:

When a Collecting Process fails, will automatically select a new Collecting Process from the pool

- **Note: draft-coene-rserpool-applic-ipfix-02.txt**

Specifications

Uniqueness

- **The Collecting Process MUST create an unique packet ID out of the IPFIX Message Export Time, Sequence Number, Source ID, and Exporter**
- **The Collector MUST associate every Data Record with this unique packet ID**
- **Primary Collector SHOULD check missing Data Records from other Collectors**
- **And de-duplication if necessary**

Open Issues & Conclusion

- **Open Issues:**

Application Level ACK to be done

Explain the communication between collector?

- **Conclusion:**

No IPFIX protocol modifications, only extensions

Even if not complete, this draft goal is to restart the reliability discussions