

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**