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