draft-fu-dots-ipfix-tcp-tracking-00

Marvin Zhenghui

Content

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The goal of this presentation is to summarize things up and solicit comments as much as possible.

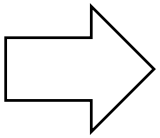
Background

- draft-fu-dots-ipfix-tcp-tracking-00
  is a new iteration of
  draft-fu-dots-ipfix-extension-01
- The original draft proposes a set of
  IPFIX Information Elements
  that can be used for DDoS detection.
- The new iteration cuts off some Information Elements that are deemed unnecessary.

Changes from last iteration

draft-fu-dots-ipfix-extension-01

~~fragmentPacketCount~~
~~fragmentFirstTooShortCoun~~
~~fragmentFlagErrorCount~~
~~fragmentOffsetErrorCount~~
~~icmpEchoCount~~
~~icmpEchoReplyCount~~
~~octetVariance~~
serverResponseTime
clientResponseTime
sessionResponseTime
tcpControlStateBits
pktTimeInterval
pktTimeIntervalVariance
tcpOutoforderTotalCount



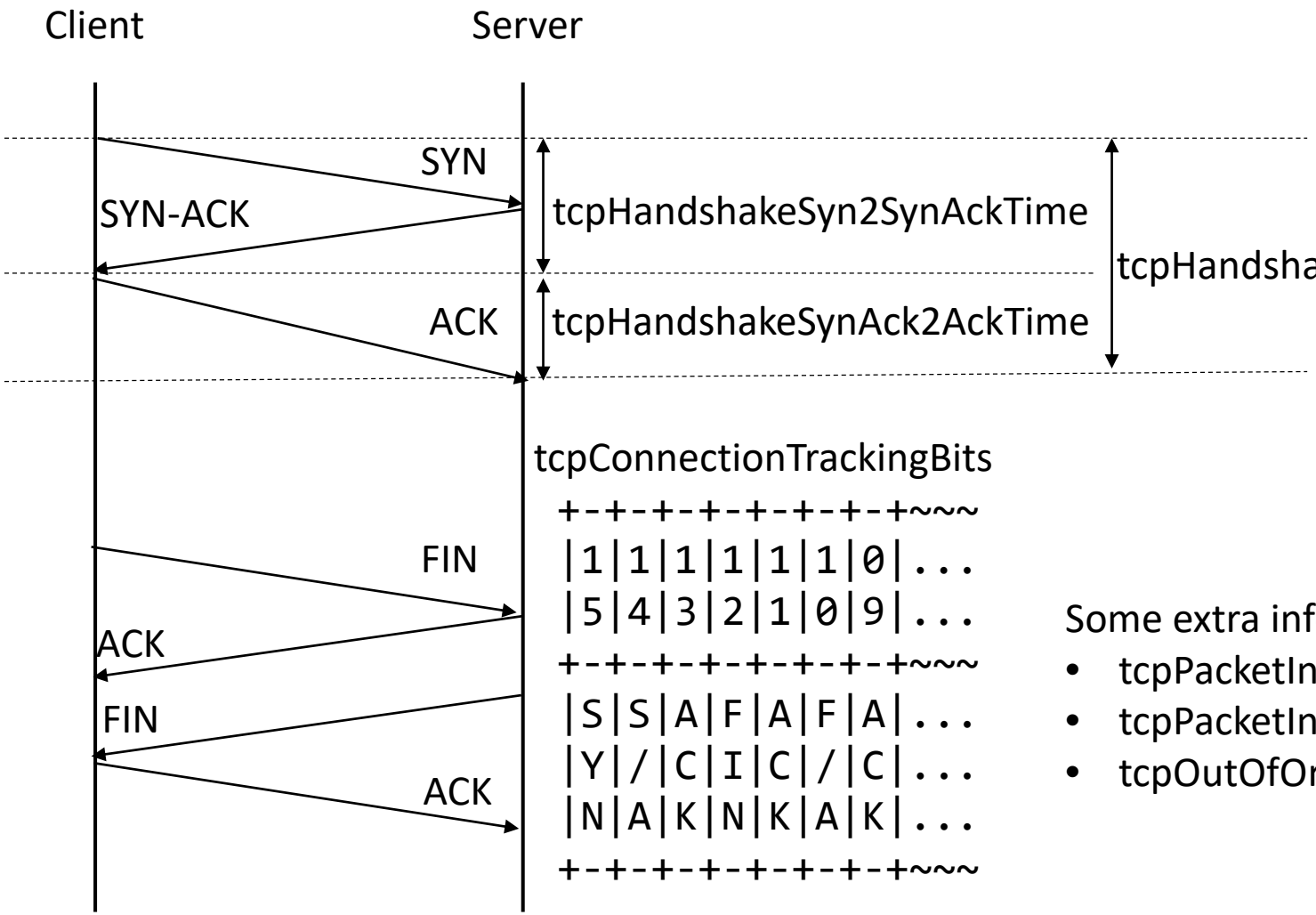
draft-fu-dots-ipfix-tcp-tracking-00

tcpHandshakeSyn2SynAckTime
tcpHandshakeSynAck2AckTime
tcpHandshakeSyn2AckRttTime
tcpConnectionTrackingBits
tcpPacketIntervalAverage
tcpPacketIntervalVariance
tcpOutOfOrderDeltaCount

Ideas

- The focus of the new draft is to detect anomaly in TCP traffics
  - It's easier to tell apart anomaly if information is collected from massive TCP connections.
  - Collected information will be processed using big data technologies, to monitor for behavioral changes.
- Why choose IPFIX?
  - We need a way to export this information.
  - IPFIX is standard and widely supported.
  - Need to define several new Information Elements on IPFIX.

TCP connections Tracking



Some extra information:

- tcpPacketIntervalAverage
- tcpPacketIntervalVariance
- tcpOutOfOrderDeltaCount

Issues

- Asymmetric traffic
  - Asymmetric traffic reduces the applicability of the new IEs. The information can only be collected at convergent points.
- Performance concern
  - How well it scales depends on the power of the collecting device. It may limit the applicability of the new IEs.

Next step

- We appreciate the comments DOTS WG has given.
- Possible directions:
  - Direct submission to IANA IPFIX Registry?
  - Discussion in other WGs?
  - …

Thanks