

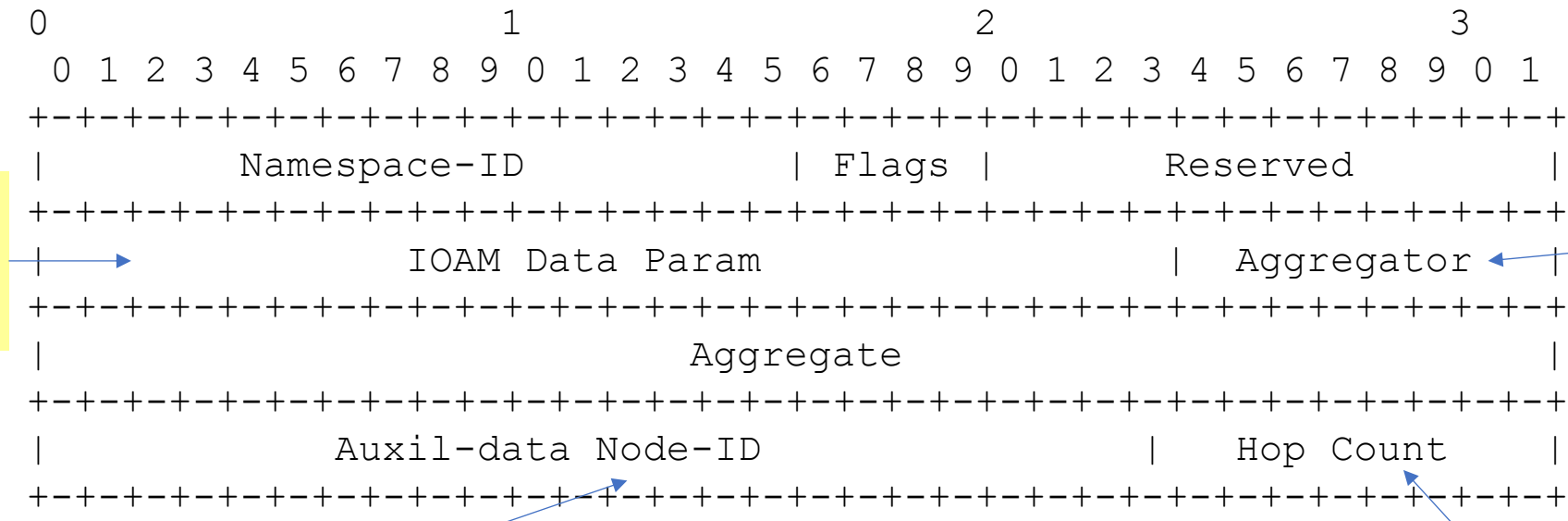
Aggregation Trace Option for IOAM

draft-cxx-ippm-ioamaggr-02 (A. Clemm – self, L. Metzger – OST)

- IOAM allows to collect certain telemetry data across hops along a path
 - Issues to contend with: packet size (data records * n hops), need for correlation, data processing...
- We propose a new option: Aggregation Trace Option
 - Aggregate data during traversal: min, max, sum, average*
 - Very simple operations (comparison, addition, increment)
Aggregate[hop_i] := function (Aggregate[hop_{i-1}], data item)
 - Possible uses:
 - Identify bottle necks and outliers (performance diagnosis)
 - Assess path carbon metrics (sustainable networking)
 - Aggregate packet dwell times (service level guarantees)
- Limited+fixed packet overhead, reduced data volume, greater network intelligence
- Update in Rev -02: description of use cases
 - For PoC & use case, see also <https://ieeexplore.ieee.org/abstract/document/10588907> (IEEE NetSoft 2024)

Overview + next steps

want to generalize beyond current IOAM params



min, max, sum

Use for min, max to identify bottleneck or for debug info in case of errors

Use to calculate average from sum

- We believe this complements IOAM nicely and addresses an important gap
- IPPM seems to be the right landing spot
- Interested? Comments? Questions? Please contact us: draft-cxx-ippm-ioamaggr@ietf.org