Temporal Aggregation
(& Composition Framework)

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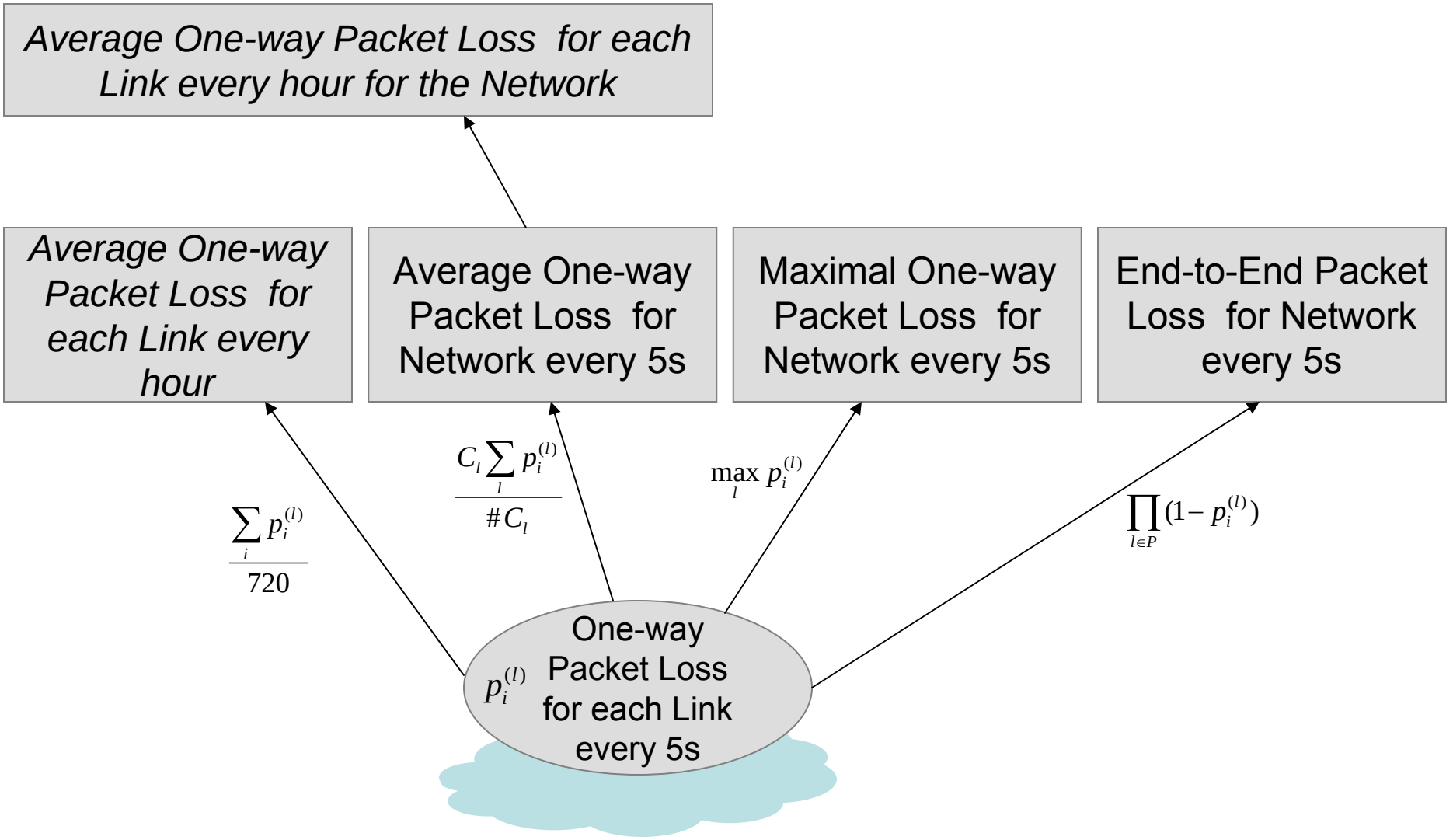
Origin of this work

- Geant2 JRA1 project:
  - Unified framework for active & passive measurements
  - Single “producer”, multiple “consumers”
    - Performance evaluation
    - Performance history
    - Weather map
    - Anomaly detection
    - …

Composition in General



Temporal Aggregation

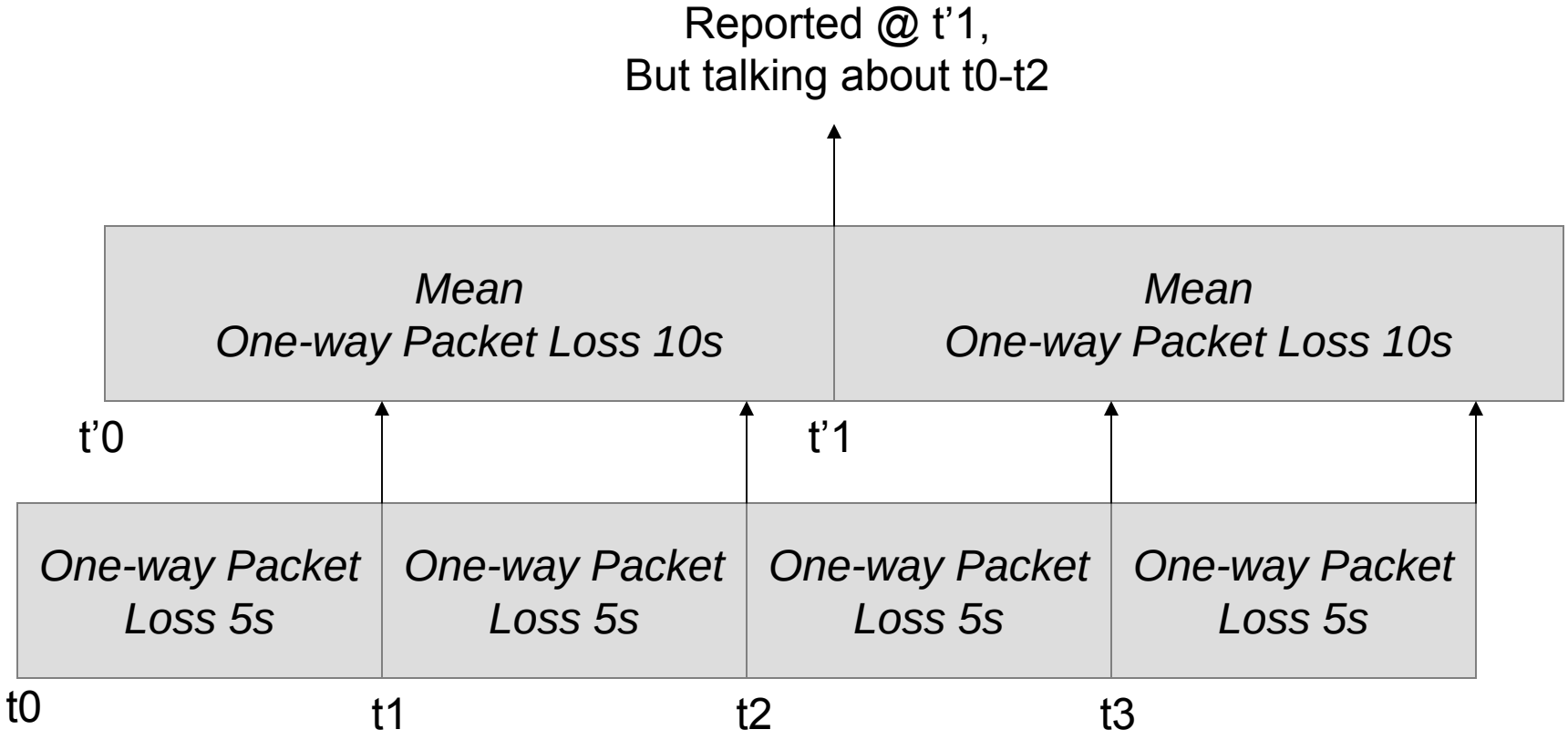
- Packet Loss reported every second

  → what can we say about the mean loss over an hour ?

- Set of measurements $M=\{V_i\}$
  - $F(V_i)$
  - F=composition function (e.g. mean)
  - Naming: Type-P-F-Δt-metric
    - Type-P-mean-60s-OWPL
    - Gets complicated: Type-P-mean-60s-mean-OWD

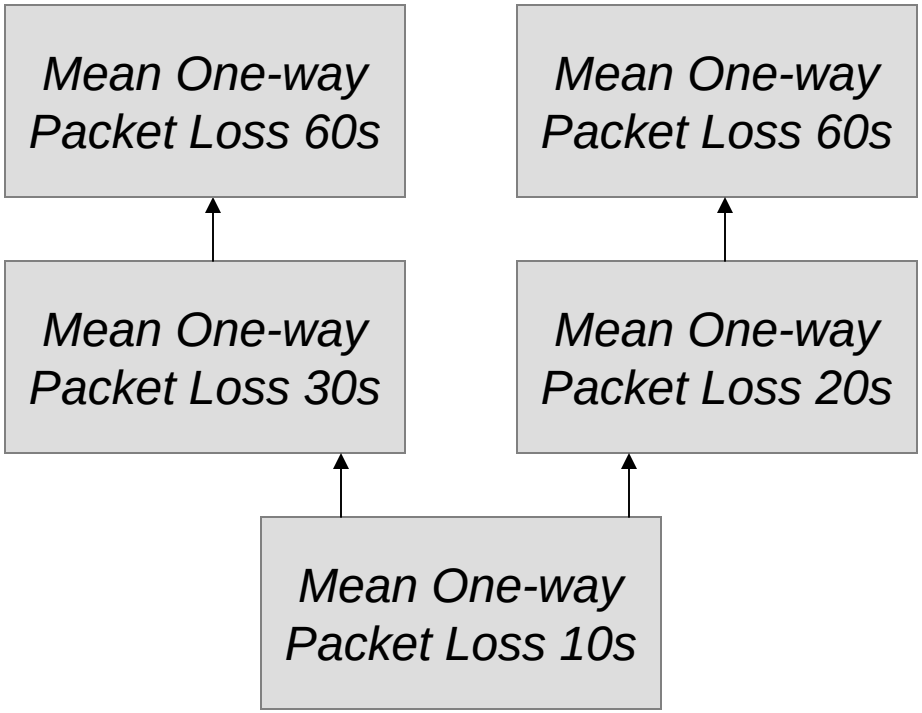
Errors

- Composition of underlying errors
- Time alignment



Stepwise Composition

- Useful to recommend intervals ?



Draft

- General Composition Intro → Framework
- Temporal Composition on OWD
  - Type-P-mean-delta_T-mean-OWD,
  - Type-P-minimum-delta_T-minimum-OWD,
  - Type-P-maximum-delta_T-maximum-OWD,
  - Type-P-deviation-delta_T-mean-One-Way-Delay,
  - Type-P-square_sum-delta_T-square_sum-One-Way-Delay
    - Help metric for aggregating deviation