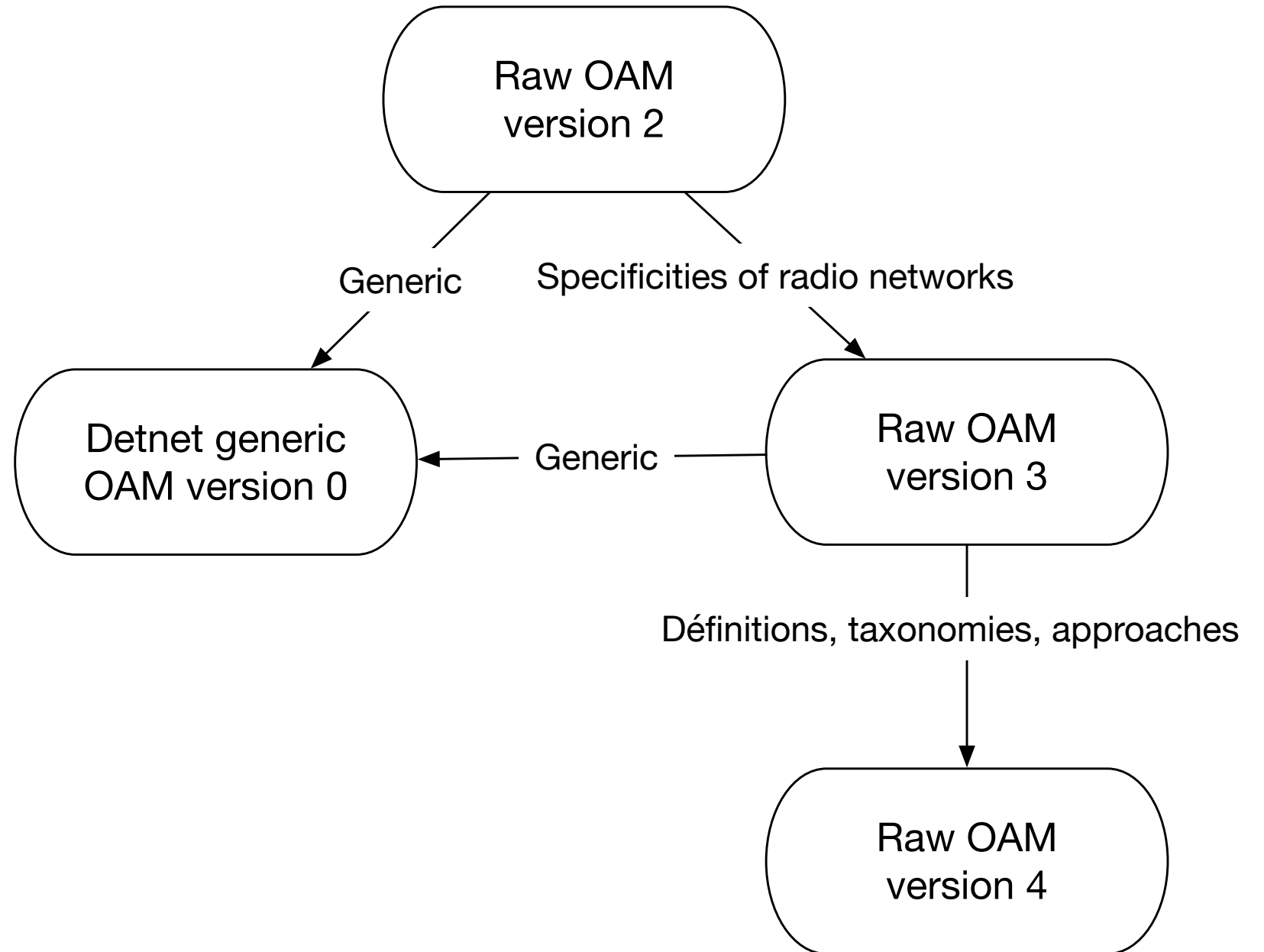


Operations, Administration and Maintenance (OAM) features for RAW

draft-theoleyre-raw-oam-support-04

Theoleyre, Papadopoulos, Mirsky

Update



Update - Terminology

- Definitions in detnet-oam
 - Maintenance Endpoint
 - active/passive/hybrid measurements
 - Control / data plane
- + what is specific to RAW
 - Piggybacking (because of the medium access cost)
 - In-band / out-of-band: without / without the data packets (same resources)
 - Route over / mesh under: hop-by-hop control info may be inserted or not
 - Defect (transient because of radio instabilities) vs. fault (permanent)

Update – RAW networks

- What is specific to radio networks (unchanged)
 - link « abstraction »
 - Broadcast transmissions
 - Complex layer-2 forwarding

Update – Operation - RAW networks

- Objective: keep the network up and running
- Connectivity Verification
 - Anycast forwarding with different probabilities for each receiver
- Route tracing
 - Mesh topology
 - Several possible forwarders
- Faults are common in wireless
 - Link quality variations, obstacles, etc.

Update – Administration - RAW networks

- Objective: keeping track of resources and how they are used
- Large collection of metrics
 - RSSI, LQI, Packet Delivery Ratio, Queue length
 - Per radio channel, per router, per flow
- Bandwidth limitations
 - Radio networks need to *compress* the volume of control information

Update – Maintenance - RAW networks

- Objective: keeping track of resources and how they are used
- Reliability in the control plane
 - A wireless packet may or may not be received
 - How to guarantee consistency?
 - Particularly challenging if data is compressed
- Dynamic behavior
 - The characteristics change continuously

Next Step

- Any missing point?
- Your comments, suggestions, questions always welcome and greatly appreciated
- WG adoption?

Thank you!