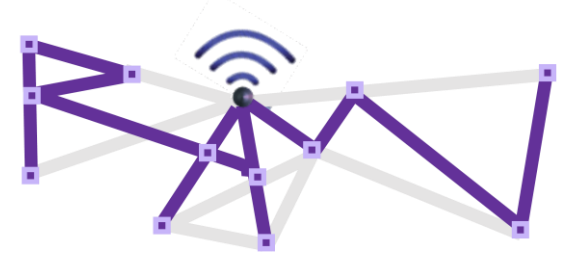# Reliable and Available Wireless Architecture

Presenter: Pascal Thubert

Authors: P. Thubert (+ contributors)

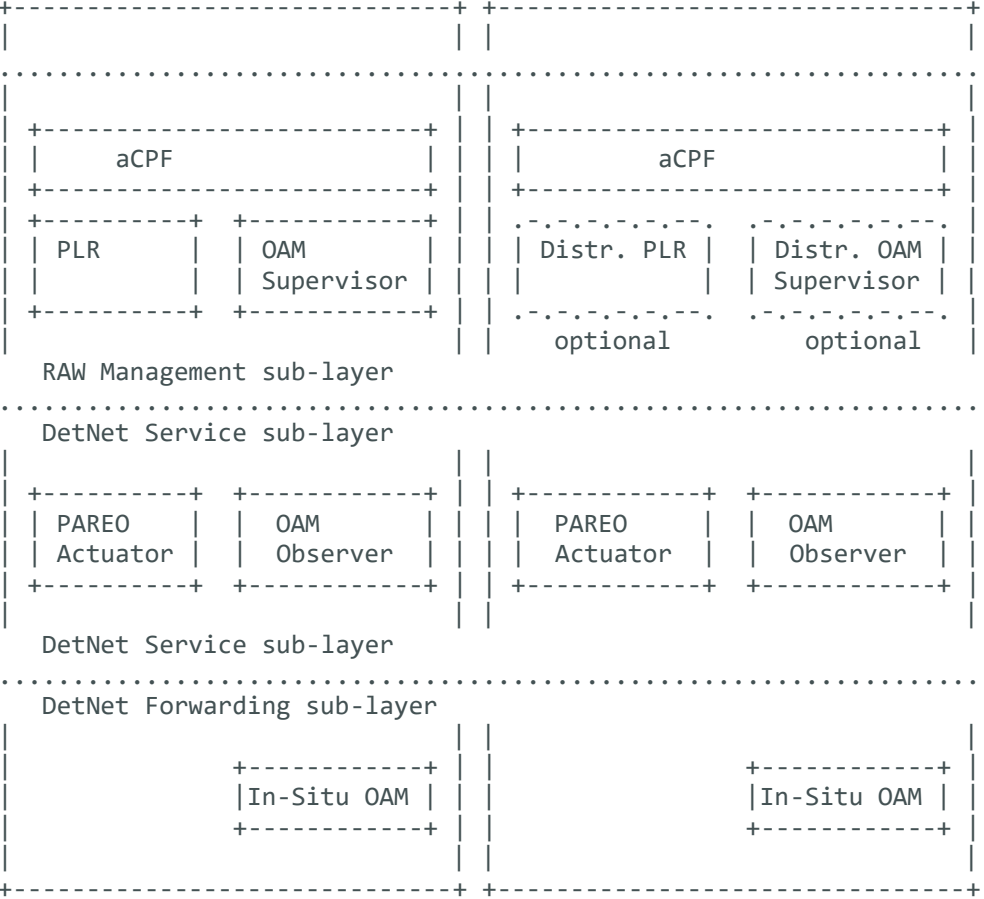draft-ietf-raw-architecture

Since IETF 117 (-13 to -16)

- Reviews! Sheperding by Janos, then Greg and Corinna

- Naming Convention / Terminology
  - Track(s) => Recovery Graphs
  - East, West, North, and South => Forward and Crossing
  - Path Selection Engine (PSE) => Point of Local Repair (PLR)
  - Simple (or serial) path or branch => Lane
  - Orient: The RAW-enhanced DetNet Controller Plane => DetNet Operational Plane
  - RAW now reuses terminology defined for MPLS in [RFC4427] (concept of recovery)
  - And terminology defined for RSVP-TE in [RFC4090] (PLR)

Since IETF 117 (-13 to -16)
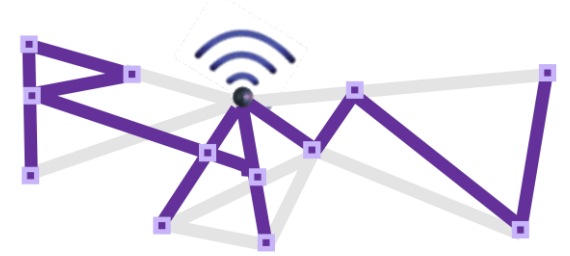
- The RAW Operational Plane elements (PLR and OAM Supervisor) may gather aggregated information from lower layers about e.g., link quality.

- This information may be obtained from inside the device using specialized API (e.g., L2 triggers) or via control protocols such as BFD [RFC5880] or DLEP [RFC8175]. It may then be massaged and exported through oOAM messaging, and passed to the Controller Plane using the aCPF.
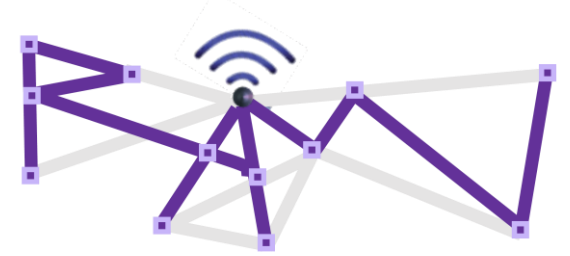
Node Architecture
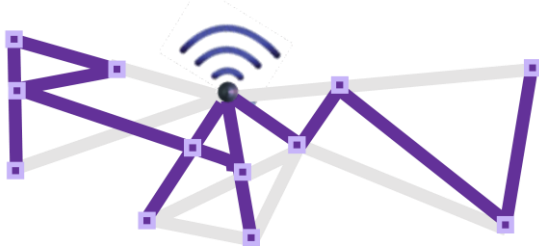
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+--------------------------+ +--------------------------+
|                        | |                          |
|......................| |..........................|
| +----------------------+ | | +----------------------+ |
| |       aCPF         | | | |       aCPF         | |
| +----------------------+ | | +----------------------+ |
| +---------+ +----------+ | | .-..-..-..-. .-..-..-..--. |
| | PLR     | | OAM      | | | | Distr. PLR | | Distr. OAM | |
| |         | | Supervisor | | | |            | | Supervisor | |
| +---------+ +----------+ | | .-..-..-..--. .-..-..-..--. |
|                        | |   optional       optional   |
|   RAW Management sub-layer                              |
|.....................................................|
|   DetNet Service sub-layer                              |
|                        | |                          |
| +---------+ +----------+ | | +----------+ +----------+ |
| | PAREO   | | OAM      | | | | PAREO    | | OAM      | |
| | Actuator | | Observer | | | | Actuator | | Observer | |
| +---------+ +----------+ | | +----------+ +----------+ |
|                        | |                          |
|   DetNet Service sub-layer                              |
|.....................................................|
|   DetNet Forwarding sub-layer                           |
|                        | |                          |
|          +-----------+ | |          +-----------+ |
|          |In-Situ OAM | | |          |In-Situ OAM | |
|          +-----------+ | |          +-----------+ |
|                        | |                          |
+--------------------------+ +--------------------------+

       End System or              Relay
       Ingress Edge Node          Node
```

Since IETF 117 (-13 to -16)

- The concept of recovery graph is agnostic to the underlaying technology and applies but is not limited to any fully or partially wireless mesh.

- RAW specifies strict and loose recovery graphs depending on whether the path is fully controlled by RAW or traverses an opaque network where RAW cannot observe and control the individual hops.

Vs RAW framework
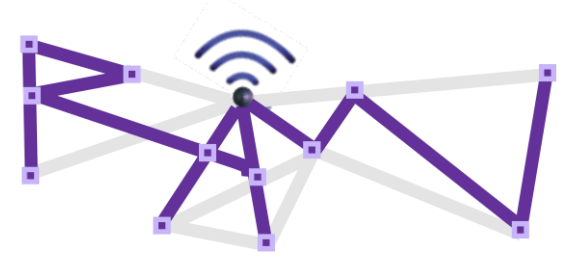
- The idea at RAW was to document
  - the architecture as the intention (structuring what we will do)
    and
  - the framework as the realization (how we did it)

- Suggestion
  - Publish the RAW Architecture (appears ready)
  - Start updating the framework to track the progress