Reliable and Available Wireless

Rick Taylor, Eve M. Schooler

IETF 115 - London

Friday, November 11th, 2022

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Note Well - Policies

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Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
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Administrivia

- Meetecho:
  - https://meetings.conf.meetecho.com/conference/?group=raw
  - Integrated Chat/IM/Jabber
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- Minutes:
  - Shared notetaking is integrated into Meetecho (Please collaborate!)
  - https://notes.ietf.org/notes-ietf-115-raw

- Meeting materials:
  - https://datatracker.ietf.org/meeting/115/session/raw

- Mailing list:
  - raw@ietf.org
  - To subscribe: https://www.ietf.org/mailman/listinfo/raw

Document Status

- **In IESG Review**
  - https://datatracker.ietf.org/doc/draft-ietf-raw-ldacs/
  - https://datatracker.ietf.org/doc/draft-ietf-raw-use-cases/
- **Awaiting write up**
  - https://datatracker.ietf.org/doc/draft-ietf-raw-technologies/ *(expired)*
- **WG Documents**
  - https://datatracker.ietf.org/doc/draft-ietf-raw-architecture/
  - https://datatracker.ietf.org/doc/draft-ietf-raw-framework/
  - https://datatracker.ietf.org/doc/draft-ietf-raw-oam-support/
  - https://datatracker.ietf.org/doc/draft-ietf-raw-industrial-requirements/ *(expired)*
- **Under Consideration**
  - https://datatracker.ietf.org/doc/draft-bernardos-raw-joint-selection-raw-mec/
  - https://datatracker.ietf.org/doc/draft-bernardos-raw-mec/
  - https://datatracker.ietf.org/doc/draft-bernardos-raw-multidomain

Agenda:
Architecture Draft --
Status Update & Discussion

From: Rick Taylor <rick@tropicalstormsoftware.com>
Sent: Thursday, November 10, 2022 10:37 AM
To: raw@ietf.org
Subject: [Raw] Splitting the RAW Architecture document

Hi All,

The chairs have had concerns about the progress of the RAW architecture document over the last year, and after a productive discussion between the key contributors and reviewers, we have requested that the document be split into two.

The first document will remain the RAW Architecture, and will include the majority of existing information, consisting primarily of the Path Selection Element, and its interaction with OAM functions and generalised DetNet Service Functions.

Although mention of wireless optimized Service Functions, e.g. PAREO, will remain in the architecture, the bulk of the detail will be moved to a new WG document, to be worked on in parallel.

As a number of people have contributed text to a large document now being split, the chairs have decided that both the documents will only record the Editor of the documents as primary author, and acknowledgements to all contributors will be made in both documents.
Pascal Thubert has kindly offered to continue as Editor.

Regards,

Rick&Eve

Presentation – Pascal Thubert

Track Terminology

2. Terminology

RAW reuses terminology defined for DetNet in the "Deterministic Networking Architecture" [RFC8655], e.g., PREOF for Packet Replication, Elimination and Ordering Functions.

RAW also reuses terminology defined for 6TiSCH in [6TiSCH-ARCHI] such as the term Track. A Track associates a complex path with PAREO and shaping operations. The concept is agnostic to the underlaying technology and applies but is not limited to any fully or partially wireless mesh. RAW specifies strict and loose Tracks depending on whether the path is fully controlled by RAW or traverses an opaque network where RAW cannot observe and control the individual hops.

2.3.2. Track

A networking graph that can be followed to transport packets with equivalent treatment; as opposed to the definition of a path above, a Track represents not an experience but a potential, is not necessarily a linear sequence, and is not necessarily fully traversed (flooded) by all packets of a flow. It may contain multiple paths that may overlap, fork and rejoin, for instance to enable the RAW PAREO operations.

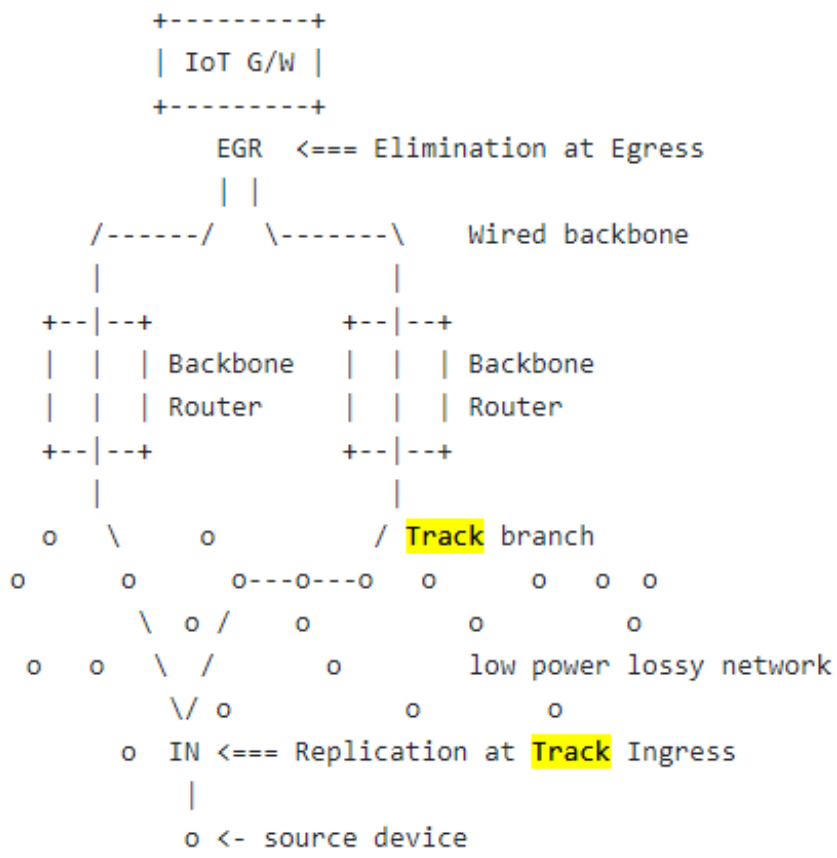

Figure 1: Example IoT Track to an IoT gateway with 1+1 redundancy

In DetNet [RFC8655] terms, a Track has the following properties:

* A Track is a Layer-3 abstraction built upon P2P IP links between routers. A router may form multiple P2P IP links over a single radio interface.

* A Track has one Ingress and one Egress nodes, which operate as DetNet Edge nodes.

* A Track is reversible, meaning that packets can be routed against the flow of data packets, e.g., to carry OAM measurements or control messages back to the Ingress.

* The vertices of the Track are DetNet Relay nodes that operate at the DetNet Service sub-layer and provide the PAREO functions.

* The topological edges of the graph are serial sequences of DetNet Transit nodes that operate at the DetNet Forwarding sub-layer.

2.3.3. SubTrack

A Track within a Track. The RAW PSE selects a subTrack on a per-packet or a per-collection of packets basis to provide the desired reliability for the transported flows.

2.3.4. Segment

A serial path formed by a topological edge of a Track. East-West Segments are oriented from Ingress (East) to Egress (West). North/South Segments can be bidirectional; to avoid loops, measures must be taken to ensure that a given packet flows either Northwards or Southwards along a bidirectional Segment, but never bounces back.

Open Mic

BACKUP

Milestones Status

Date	Milestone	Associated documents
Jul 2023	Evaluation of Existing IETF Technologies and Gap Analysis Document submit to IESG	
Feb 2023	Framework Aspects for a Wireless Network Document	draft-ietf-raw-framework
Nov 2022	Working Group Adoption of Evaluation of Existing IETF Technologies and Gap Analysis Document	
May 2022	Architecture/Framework Aspects for a Wireless Network Document submit to IESG	draft-ietf-raw-architecture
Mar 2022	OAM Document submitted to IESG	draft-ietf-raw-oam-support
Feb 2022	Technologies Document submit to IESG	draft-ietf-raw-technologies

Done milestones

Date	Milestone	Associated documents
Done	Use Cases Document submit to IESG	draft-ietf-raw-use-cases
Done	Working Group Adoption of Architecture/Framework Aspects for a Wireless Network Document	
Done	LDACS Document submitted to IESG	draft-ietf-raw-ldacs
Done	Working Group Adoption of OAM Document	draft-ietf-raw-oam-support
Done	Working Group Adoption of LDACS Document	draft-ietf-raw-ldacs
Done	Working Group Adoption of Technologies Document	draft-ietf-raw-technologies
Done	Working Group Adoption of Use Cases Document	draft-ietf-raw-use-cases

IETF 114 Agenda

Intro	Rick Taylor & Eve Schooler Administrivia - Note well, in-person MeetEcho, Doc status	10 mins
LDACS	Nils Maeurer https://datatracker.ietf.org/doc/draft-ietf-raw-ldacs/	15 mins
Architecture	Pascal Thubert https://datatracker.ietf.org/doc/draft-ietf-raw-architecture/	40 mins
WiFi Update	Jerome Henry	15 mins
Use cases	Carlos Bernardos https://datatracker.ietf.org/doc/draft-ietf-raw-use-cases/	5 mins
Multidomain extensions	Carlos Bernardos https://datatracker.ietf.org/doc/draft-bernardos-raw-multidomain/	10 mins
FEC for IP Datagrams	Robert Moskowitz	15 mins
Discussion	Open Mic	30 mins