

eduroam Monitoring

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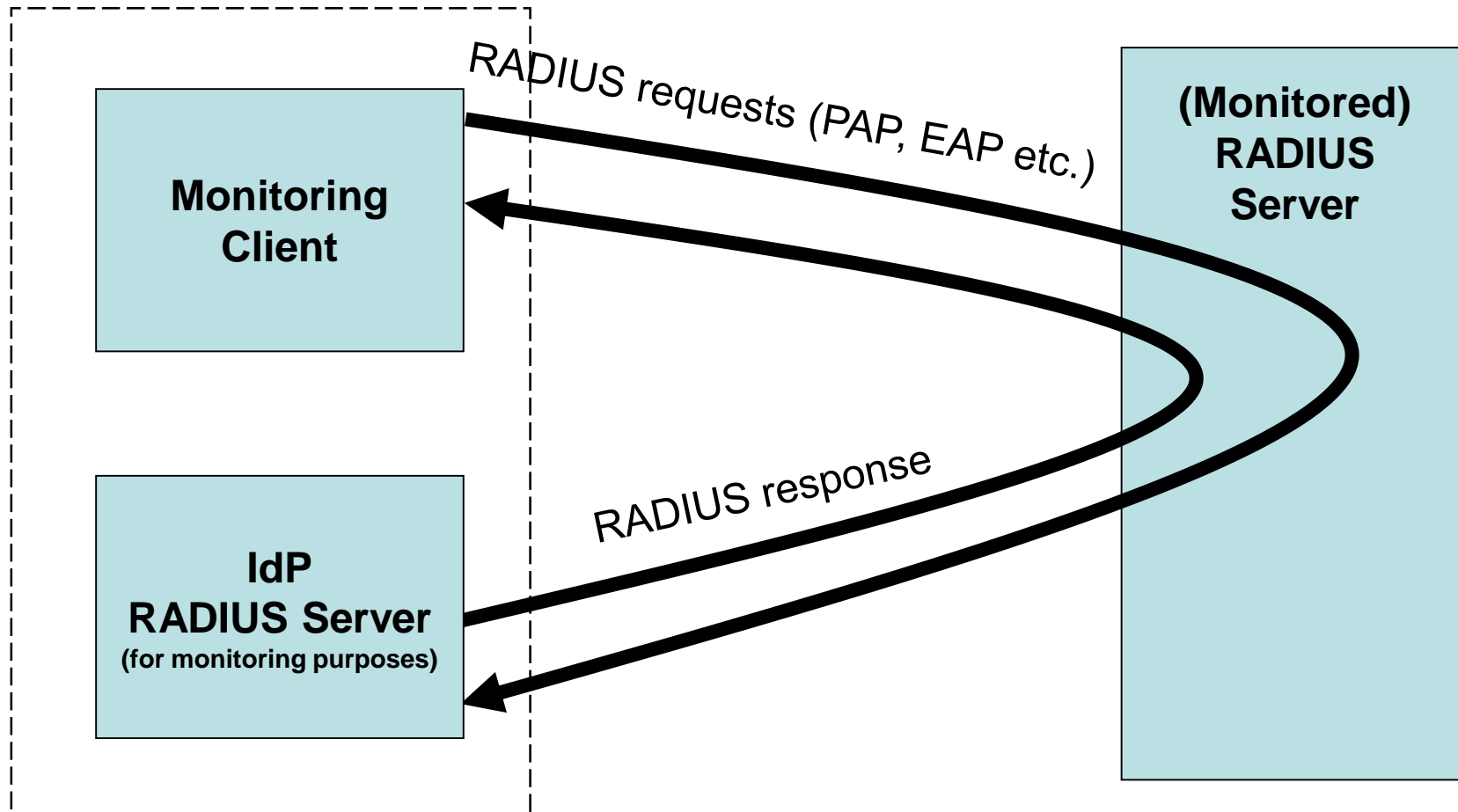


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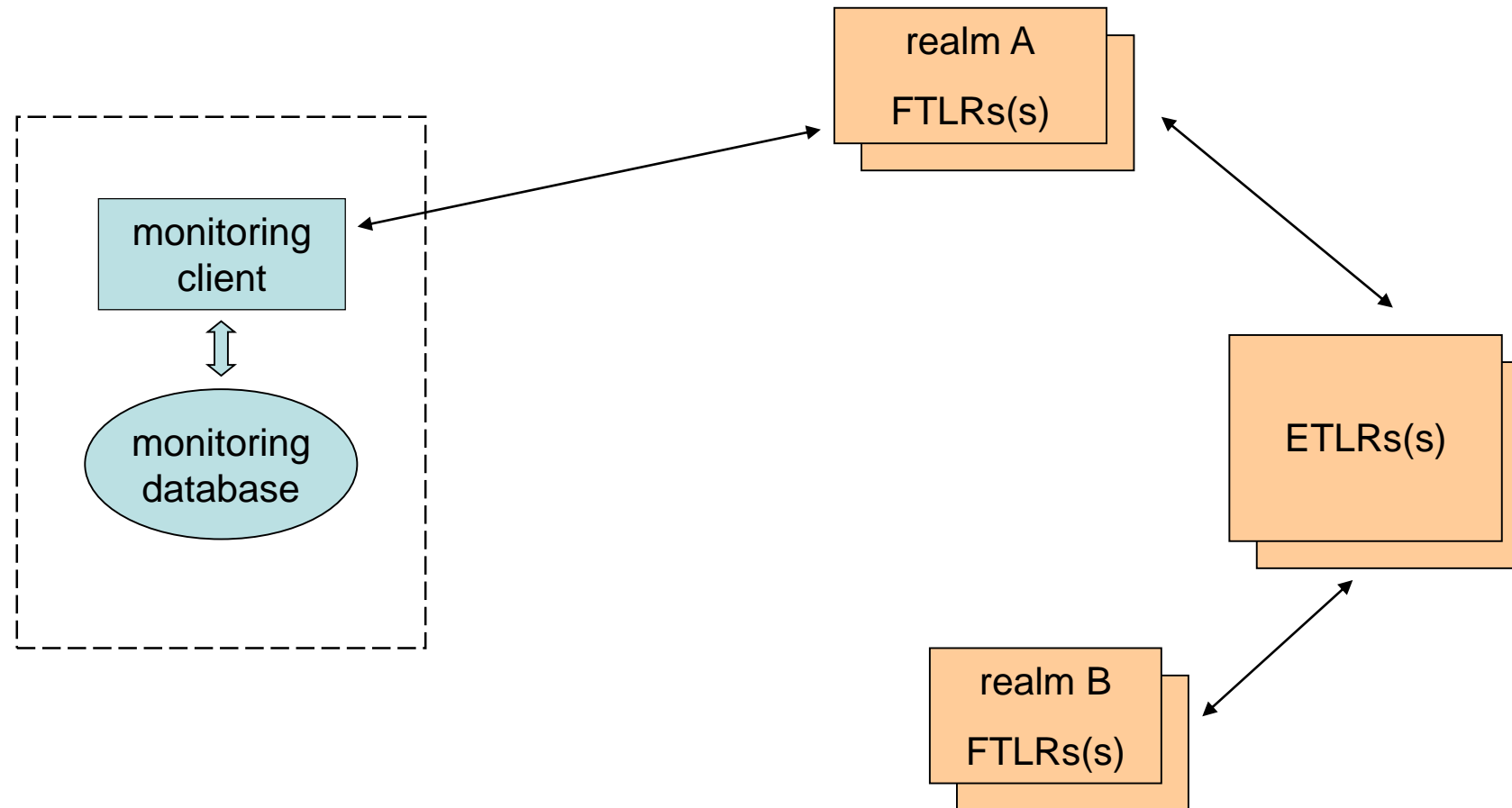
- monitor functionality of the eduroam infrastructure:
 - servers, infrastructure, user experience
- perform both accept and reject logic tests
- ultimate goal is to test real user experience
- challenge: diagnostics tools for end users
- current status:
 - <http://monitor.eduroam.org>
 - monitoring (E)TLRs and NRO Servers (FLRSs)
 - 3 monitoring scenarios (monitoring servers, monitoring infrastructure, testing on demand)
 - **ongoing development**



Basic Monitoring Concept



Monitoring Scenario (an example)



eduroam Diagnostics (development)

- Idea: make use of all already existing diagnostics tools (currently only available to authorised personnel) and synthesise a simple answer to end user queries
- Proof of Concept available
 - Integrates most (not currently all) such existing diagnostics points
 - Already delivers useful results
- System could generate more fine-grained insights with new diagnostic elements
 - mid-term: hardware devices at hotspots which measure the hotspot's conformance with eduroam specs and functional status in real-time
 - Long-term: code on end-user devices (e.g. inside an eduroam app) which can diagnose connection problems based on in-device state and external diagnostics results
- System should allow establishing contact with the responsible entity to expedite fault resolution

The task: Monitoring Probe

- monitor “last mile” - be as close to the user experience as possible
- build the client (probe) to monitor WLAN/eduroam service location(s):
 - available SSIDs
 - signal strength/quality
 - AuthN and crypto methods used
 - functional eduroam test (authN + perform an action)
 - collect, store & analyze data from probe(s)
 - results → OpenSource
- Ongoing activity: .hr, .no, .uk, ... GEANT/ RIPE ATLAS probes, ...

Monitoring Probe Report – Format Specification

- 4 information blocks:
 - reportOrigin
 - about the probe, time stamp
 - environment
 - location, WiFi environment
 - connectivity
 - eduroam authentication and connectivity check
 - performance
 - network performance
- <https://wiki.geant.org/display/gn42jra3/Monitoring+Probe+JSON+Specification>
 - comments to development@lists.eduroam.org (or miro@srce.hr)