eduroam Monitoring

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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 Client

IdP RADIUS Server (for monitoring purposes)

RADIUS requests (PAP, EAP etc.)

RADIUS response
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

  • comments to development@lists.eduroam.org (or miro@srce.hr)