Implementing multi-federation and peer-to-peer roaming on the eduroam federation level

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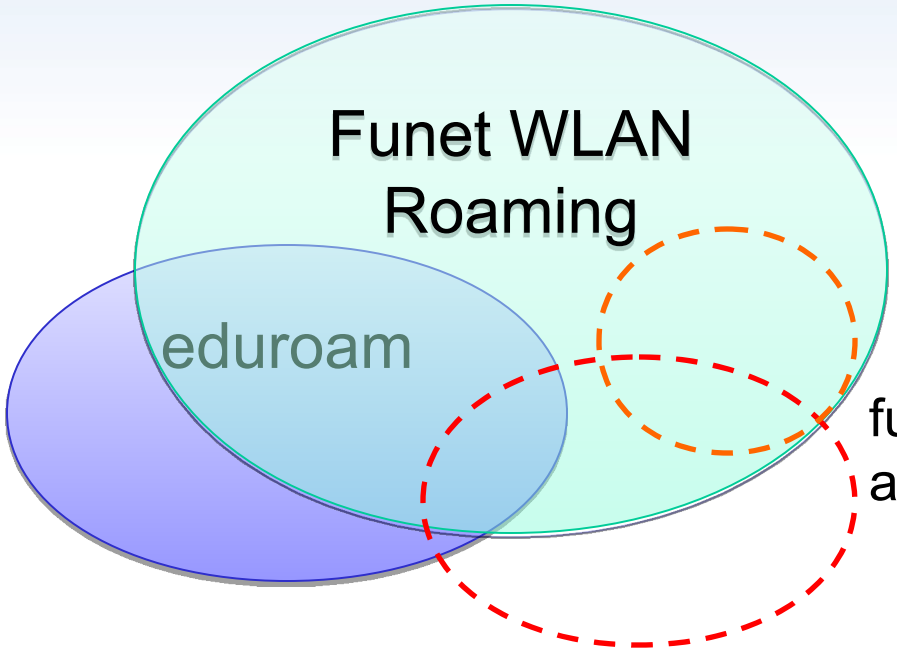
Background


Funet WLAN
Roaming
eduroam
future federations
and subsets?

Background

- All realms, organisations and corresponding servers and clients already in the SQL database.
- Supported eduroam only, eduroam and Funet WLAN Roaming and Funet WLAN Roaming only restrictions for organisation roaming
- The separation and filtering was done with Radiator's pre-handlers.
- More general multiple federation support was seen useful but was not the key driver for new development.
- Key driver was planned RadSec testing because it required that the test organisations and their configurations could be done dynamically.

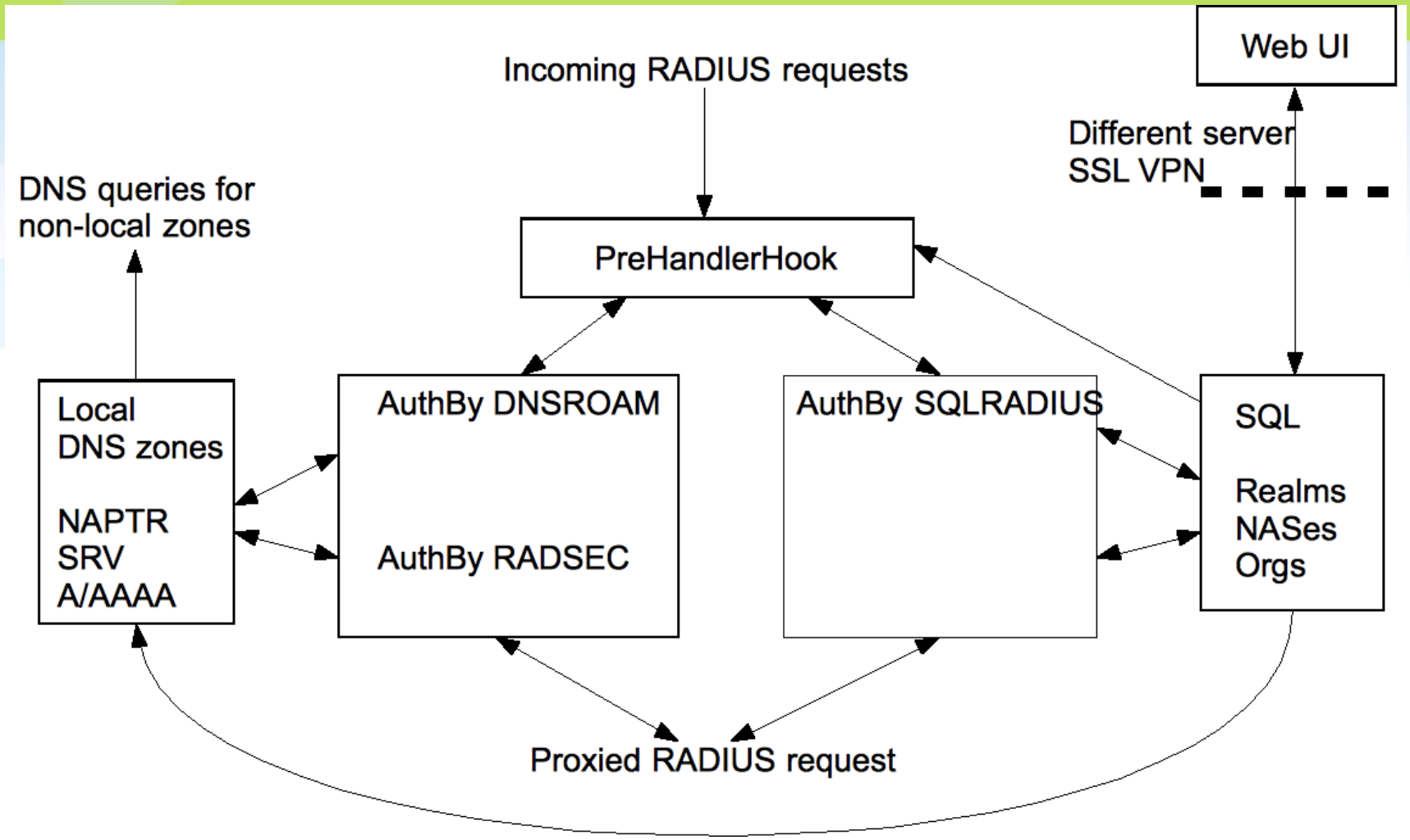
Design targets

- Support for both RADIUS and RadSec as well as proxy functionality between protocols
- IPv6 support for both RADIUS and RadSec, support for proxying requests between IP versions, organisations and federation servers.
- **Dynamic configuration of RADIUS and RadSec client, server and organisation information**
- More general multiple federation support
- Fine grained filtering support for inter-organisation and inter-federation roaming

From workaround to enabling peer-to-peer roaming

- **Dynamic configuration of RADIUS and RadSec client, server and organisation information** created a problem, because Radiator did not support getting RadSec configuration information from SQL database.
- So a workaround solution needed to be designed and developed to preserve the dynamic configuration features.
- Heikki Vatiainen and Sami Keski-Kasari came up with the idea of utilising DNSROAM module, which enables DNS based RADIUS/RadSec server discovery.
- Using DNSROAM module and a combination of private and public DNS lead to a design, which would support RadSec roaming in both hierarchical and peer-to-peer mode.

Architecture



Future directions

- Encouraging organisations to adopt RadSec => do not even have to run Radiator, there exists open source proxy solution radsecproxy from UNINETT
- Able and willing to test DNS based discovery or RadSec in general but in search for partners
- Would really like to see DNS based peer-to-peer roaming replacing hierarchical model and inter-federation roaming between commercial and academic worlds

Questions? More information?

- The full paper is available on the TNC2010 web site.
- Karri Huhtanen is available here at the conference for more discussion, other authors can be contacted for example by email.