ELIXIR Beacon Network

ELIXIR All Hands 2019

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The background

- ELIXIR Beacon is GA4GH driver project and in ELIXIR we started new 3-years implementation project in the beginning of 2019

- One of the main objectives of that project is build ELIXIR Beacon Network and establish a basis to operate that as a service

- Last summer we published the first draft of <u>Beacon Network specification</u> and now we have first implementation ready
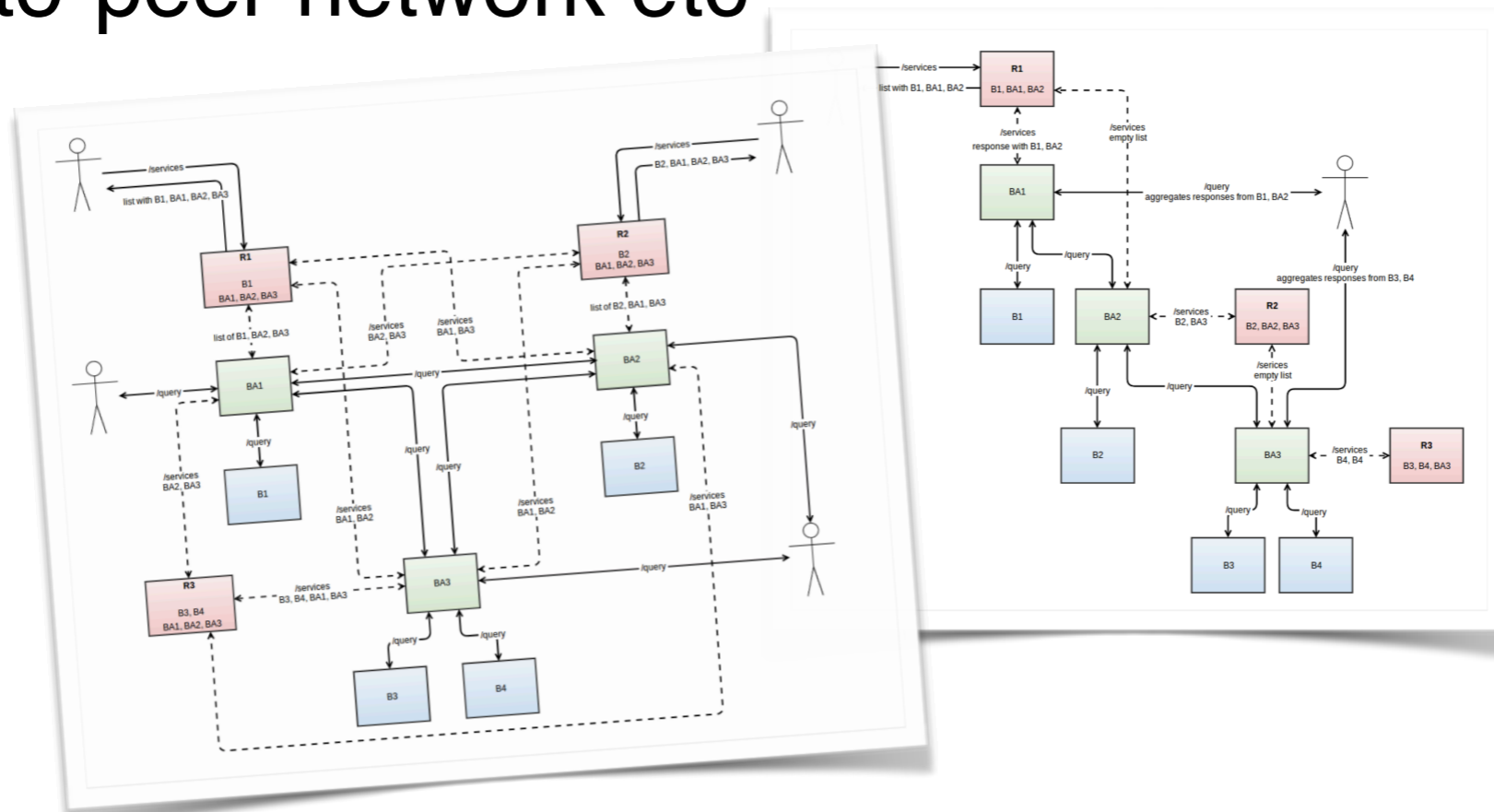
Why ELIXIR Beacon Network

- We want to ease data discoverability in Europe and in ELIXIR Core Data Resources

- Provide seamless integration into existing services (e.g. handover to EGA) and leverage ELIXIR Infrastructure services, like ELIXIR AAI

- We are working on two parallel tracks:

  - Increasing the size by expanding the Network with European Beacons

  - Improving quality by bringing data from EGA to the Network

Network design

- The Network architecture is divided into three separate components: Registry, Aggregator and Beacon(s)

- The design supports different network topologies: open and closed networks, hierarchical networks, peer-to-peer network etc

The specification

- Beacon Network design <u>document</u> and OpenAPI <u>specification</u>

- The <u>implemented endpoints</u>:

- Also full support for three access tiers with ELIXIR AAI (open, registered and controlled)

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teemukataja commented on Jan 16 • edited ▾

Endpoints that have been implemented according to the specification drafted from the design document.

Common (Aggregator and Registry)

- ☑ **GET** /servicetypes
- ☑ **GET** /info
- ☑ **POST** /services
- ☑ **GET** /services
- ☑ **GET** /services/{id}
- ☑ **PUT** /services/{id}
- ☑ **DELETE** /services/{id}
- ☐ **GET** /networks

Registry-specific

- ☐ **POST** /networks
- ☐ **POST** /networks/{networkId}
- ☐ **GET** /networks/{networkId}
- ☐ **PUT** /networks/{networkId}
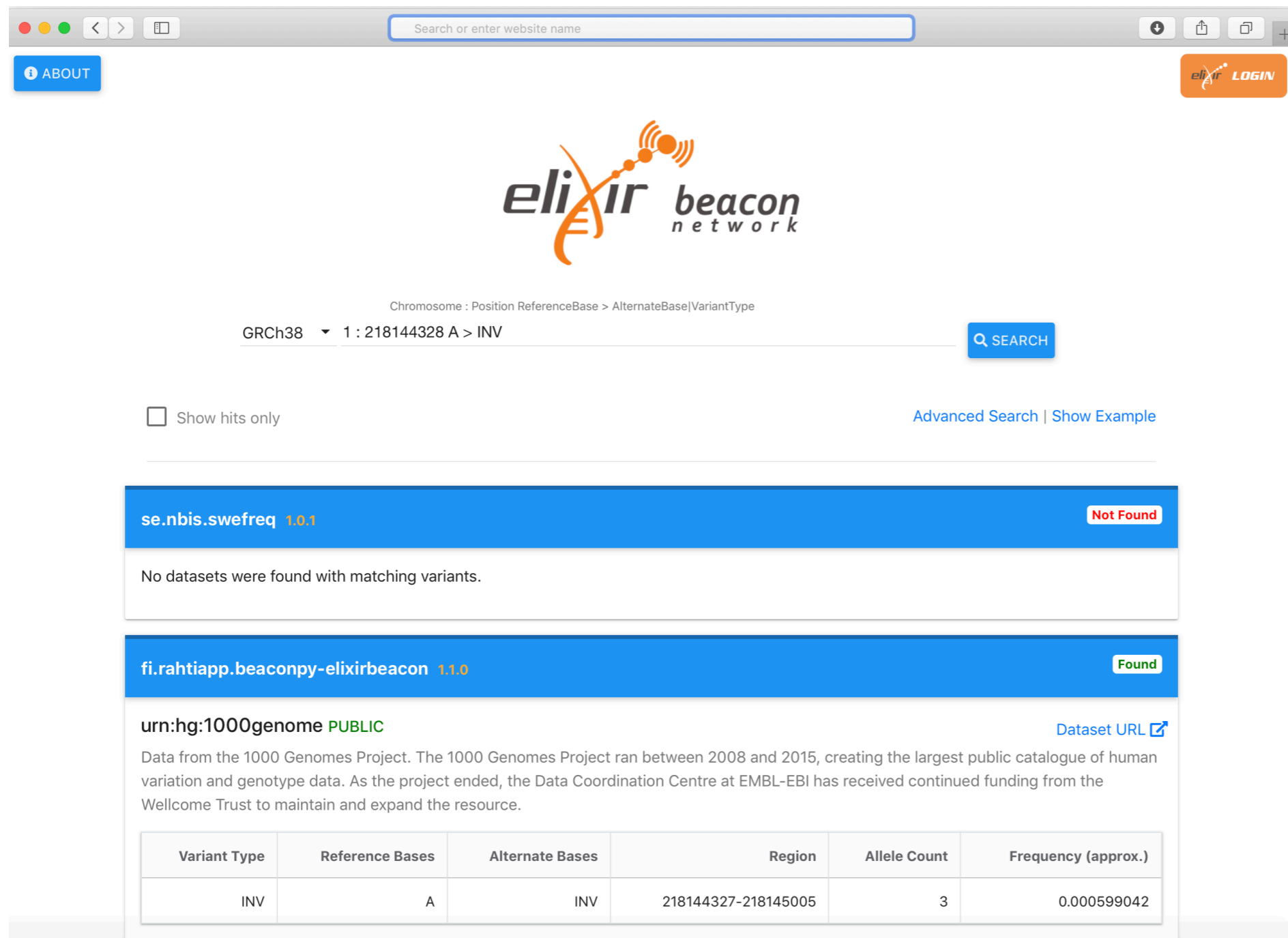- ☐ **DELETE** /networks/{networkId}

Aggregator-specific

- ☑ **GET** /query *(relay to Beacon)*
- ☑ **DELETE** /beacons *(invalidate cached beacons)*

Beacon-specific

- ☑ **GET** / *(info endpoint)*
- ☑ **GET** /query
- ☑ **POST** /query

The implementation

- Live in https://beacon-ui-beacon.rahtiapp.fi

Demo time

Operating as a service

- The long-term goal is to operate ELIXIR Beacon Network as a service

- For this we need to to:

    - Document processes (e.g. how to join to the Network)

    - Define metadata requirements for for individual Beacons (e.g. metada in info endpoints)

    - Define security requirements

    - Establish monitoring and helpdesk operations

    - Implement KPIs (defined in previous IS)

    - Estimate operational costs

- Timeline for http://beacon-network.elixir-europe.org?