Global REN Harmonised Mapping Initiative:

User Stories [DRAFT v0.5]

Authors: Global REN Harmonised Mapping Initiative — Ryan Davies, Tom Fryer, et al.  
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# Introduction

The Global Research and Education Network Mapping Initiative’s initial objective is to define a schema for the communication of network data. This can then be used as a source of NREN data for various map visualisation implementations. To ensure that the schema is sufficiently complete, compatible, and convenient for all foreseen uses, we are compiling a list of features currently offered by existing map implementations, and for near-future visualisation goals.

These features are described as user stories. They are not meant to be comprehensive descriptions of the feature, nor are they prescriptive in terms of implementation. However, full coverage of existing and planned features is desired.

Once this list has been generally accepted by the community, we will derive data schema requirements from it. It is likely that the initial schema will satisfy a large subset of the features described herein, noting that foreseeable extension to encompass all identified features will be well-considered.

This document is being submitted to the Global Network Architecture’s Technical Working Group for comment.

# Definitions

Map Viewer: NREN user, NREN administrator/provider, prospective or current NREN funder, member of the public.

Node: NREN connected institution, POP, or Internet Exchange; from all participating NRENs.

# User Stories

## Nodes

As a Map Viewer, I wish to see a list of Nodes, represented graphically on a zoomable, geographic map, with, optionally, labels.

## Links

As a Map Viewer, I wish to see the intra- and inter-NREN links (physical or logical) on the map and, optionally, labels.

## More Information

As a Map Viewer, I wish to hover over a Site or a link and see more information about that item. (Specifics about what information to present shall be left to each visualisation implementation of the map.) I also wish to be able to click on the item for additional information in an extended pane. (Again, specifics left to implementation.)

## Link Disambiguation

As a Map Viewer, I wish to clearly see and distinguish between all of the links between the same two Nodes, when there is more than one.

## Node Ownership

As a Map Viewer, I wish to identify to which RREN/NREN any given Node belongs, and also, by inference, the partner at each end of a link.

## Link Ownership

As a Map Viewer, I wish to see who owns, maintains, provides, and funds each link.

## Link Capacity

As a Map Viewer, I wish to see the capacity of each link.

## Link Type

As a Map Viewer, I wish to distinguish between each type of link. Types could include circuits, logical compound links, undersea cables, satellite links, etc.

## NREN/Region Filter

As a Map Viewer, I wish to filter the map view to show only Nodes and links associated with a single NREN, or a single region.

## Inter-NREN Filter

As a Map Viewer, when the above NREN filter is engaged so that only a single NREN’s Nodes and links is being shown, I wish to filter the map view to show only Nodes and links that do not cross to other NRENs. Alternatively, distinguishing those types of links from intra-NREN links is acceptable.

## Infinite Scroll

As a Map Viewer, I wish to scroll freely east or west indefinitely, looping around the map as required.

## Activity Metrics

As a Map Viewer, I wish to see a graph of recent activity over a given link along with its extended information, and potentially also the most current activity level at all times. Activity is a term that includes usage and incidents.

## Node Type Filter

As a Map Viewer, I wish to filter/highlight the list of Nodes shown to a single type/interest. For example, filter to Internet Exchanges / R&E Network Open Exchanges / eduroam. For another example, highlight research centres supporting astronomy. For another example, simply highlight all connected institutions, ignoring links.

## Link Type Filter

As a Map Viewer, I wish to filter/highlight the list of Links shown to a single category. Categories are flexibly defined. For example, I wish to see only undersea links. For another example, I wish to see only links owned/operated by a RAN (sub-NREN network) within my NREN.

## Default Centring

As a map visualisation administrator, I wish to configure where the map is centred by default, and also the default zoom level.

## Link Waypoints

As a map source data provider (usually on behalf of an NREN or RREN), I wish to be able to define a custom compound line for each link, consisting of segments between intermediate waypoints. This is to allow increased disambiguation, a geographically-accurate path for the link, or an intentionally non-geographically-accurate logical layout.

## Logos/Branding

As an NREN administrator, I wish to be able to provide relevant branding elements, e.g. logos, for map elements.

## Language

As a Map Viewer from participating NRENs’ countries, I wish to see the main map features in my native language. As a map source data provider, I wish to provide data in all languages served by my NREN, and also any additional languages I deem appropriate. As a map visualization administrator, I wish to request that all data be available in all languages in which I intend to publish.

## Access

As a map source data provider, I want to have federated access to a central database where all data is stored, enabling access for editing and map creation purposes. Also, I want to be able to define who is entitled to enter data for my network.

## Embedding

As a service operator, I want to be able to embed map views into service visualisation and overlay with service visualisation information. This will allow network performance, network utilisation, and service quality visualisation to be shown geographically.