E-hälsomyndigheten

Sweden @ FHIR Fagforum 36

Rebecka Carls & Mattias Colliander

2026-09-15

What's new

E-Health Agency

- FHIR – services & IGs
- National terminology server

HL7 Sweden

- Status update
- Nordic terminology server

Who?

Rebecka Carls

- The E-Health Agency: interoperability analyst
- HL7 Sweden: Technical Coordination Team lead

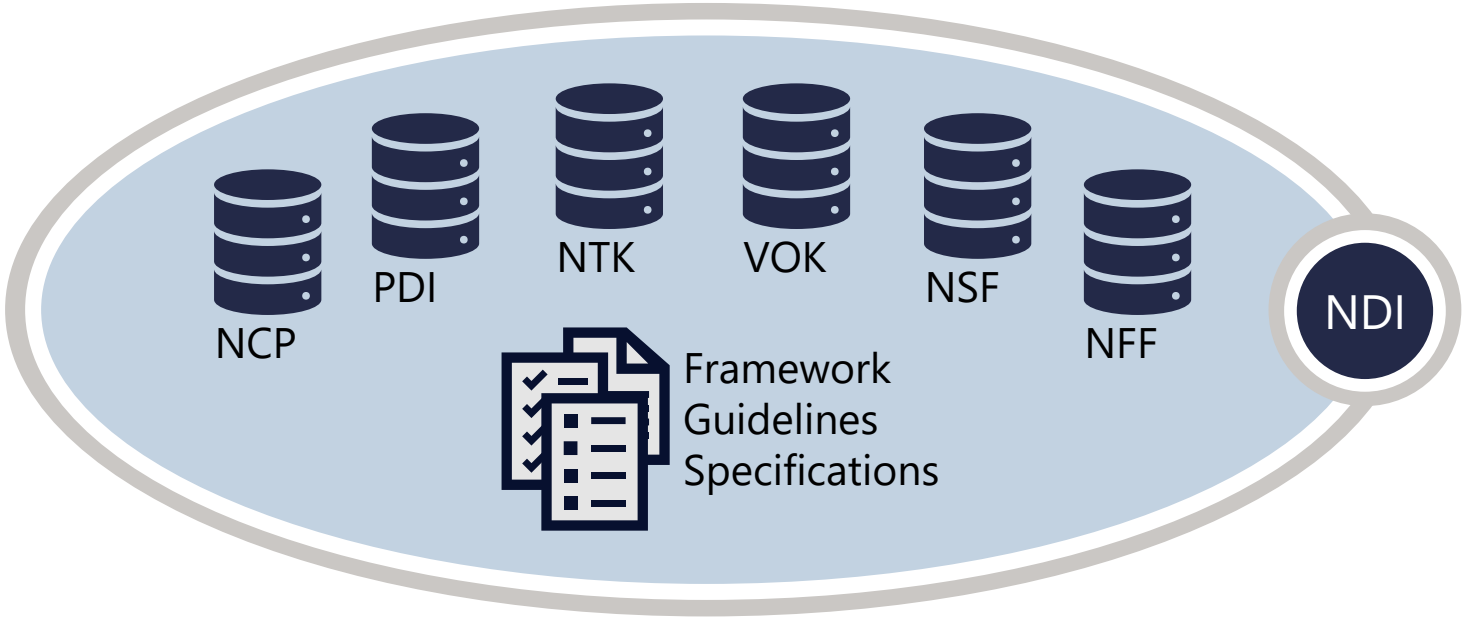
Mattias Colliander

- The E-Health Agency: architect
- HL7 Sweden: chair of the board

Fundamental principles for the National Digital Infrastructure

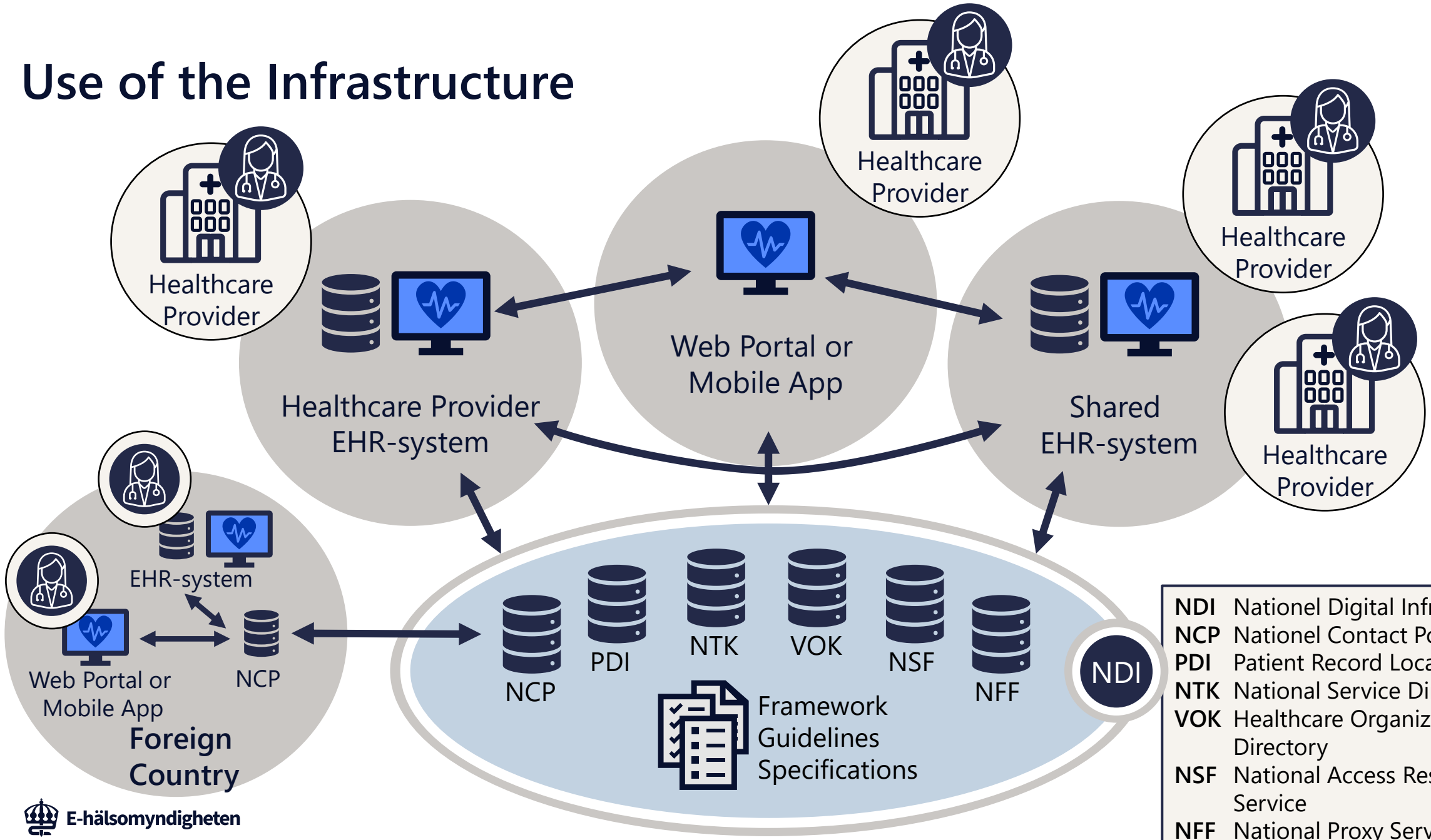
- **Data are locally managed** – patient data should remain with the original healthcare provider
- **Direct exchange of clinical data** – information should be shared securely and efficiently between healthcare providers

National Digital Infrastructure for healthcare



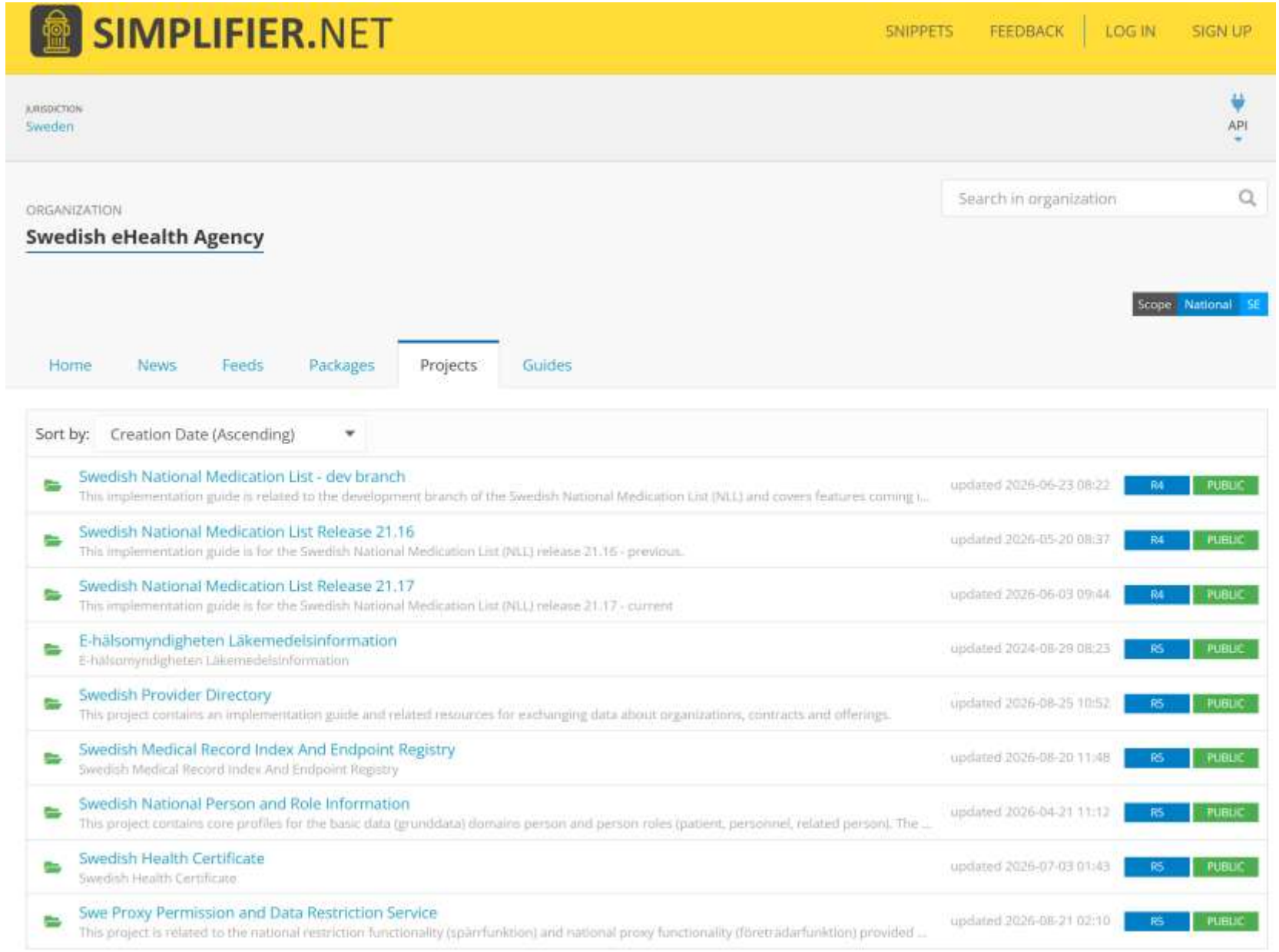
NDI Nationell Digital Infrastructure
NCP Nationell Contact Point
PDI Patient Record Locator Service
NTK National Service Directory
VOK Healthcare Organization Directory
NSF National Access Restriction Service
NFF National Proxy Service

Use of the Infrastructure



NDI	Nationel Digital Infrastructure
NCP	Nationel Contact Point
PDI	Patient Record Locator Service
NTK	National Service Directory
VOK	Healthcare Organization Directory
NSF	National Access Restriction Service
NFF	National Proxy Service

E-hälsomyndigheten


SIMPLIFIER.NET
SNIPPETS
FEEDBACK
LOG IN
SIGN UP
JURISDICTION
Sweden
API
ORGANIZATION
Swedish eHealth Agency
Search in organization
Scope National SE
Home
News
Feeds
Packages
Projects
Guides
Sort by: Creation Date (Ascending)
Swedish National Medication List - dev branch
This implementation guide is related to the development branch of the Swedish National Medication List (NLL) and covers features coming i...
updated 2026-06-23 08:22
R4
PUBLIC
Swedish National Medication List Release 21.16
This implementation guide is for the Swedish National Medication List (NLL) release 21.16 - previous.
updated 2026-05-20 08:37
R4
PUBLIC
Swedish National Medication List Release 21.17
This implementation guide is for the Swedish National Medication List (NLL) release 21.17 - current
updated 2026-06-03 09:44
R4
PUBLIC
E-hälsomyndigheten Läkemedelsinformation
E-hälsomyndigheten Läkemedelsinformation
updated 2024-08-29 08:23
R5
PUBLIC
Swedish Provider Directory
This project contains an implementation guide and related resources for exchanging data about organizations, contracts and offerings.
updated 2026-08-25 10:52
R5
PUBLIC
Swedish Medical Record Index And Endpoint Registry
Swedish Medical Record Index And Endpoint Registry
updated 2026-08-20 11:48
R5
PUBLIC
Swedish National Person and Role Information
This project contains core profiles for the basic data (grunddata) domains person and person roles (patient, personnel, related person). The ...
updated 2026-04-21 11:12
R5
PUBLIC
Swedish Health Certificate
Swedish Health Certificate
updated 2026-07-03 01:43
R5
PUBLIC
Swe Proxy Permission and Data Restriction Service
This project is related to the national restriction functionality (spärrfunktion) and national proxy functionality (företrädarfunktion) provided ...
updated 2026-08-21 02:10
R5
PUBLIC

2. Profile

Overview | Detailed Descriptions | XML | JSON

EndpointEr (Endpoint)	C			Endpoint
extension	C		0..*	*Extension*
associatedServer	S C		0..1	Extension(Complex)
identifier	Σ C		0..*	Identifier
status	S Σ ?!		1..1	code Binding
connectionType	S Σ		1..*	*CodeableConcept*
(All Slices)				
securityMethod	S Σ		0..1	CodeableConcept Binding
protocol	S Σ		0..1	CodeableConcept Binding
name	S Σ C		1..1	string
description	Σ		0..1	string
environmentType	Σ		0..*	CodeableConcept Binding
managingOrganization	Σ C		0..1	Reference(Organization)
contact	C		0..*	ContactPoint
period	Σ C		0..1	Period
payload	S		0..*	BackboneElement
extension	C		1..*	*Extension*
apiSpecification	S C		1..1	Extension(canonical(APISpecificationEr))
type	Σ		0..*	CodeableConcept
mimeType	Σ		0..*	code Binding
address	S Σ		1..1	url
header			0..*	string

2. Profile

Overview | Detailed Descriptions | XML | JSON

OrganizationEr (Organization)	C			Organization
identifier	S Σ C		1..1	*Identifier*
active	Σ ?!		0..1	boolean
type	S Σ		0..1	CodeableConcept Binding
name	Σ C		0..1	string
alias			0..*	string
description	Σ		0..1	markdown
contact	C		0..*	ExtendedContactDetail
partOf	Σ C		0..1	Reference(Organization)
endpoint	S C		0..*	Reference(EndpointEr)
qualification			0..*	BackboneElement

2. Profile

Overview | Detailed Descriptions | XML | JSON

APISpecificationEr (ActorDefinition)	C			ActorDefinition
url	S Σ C		1..1	url
identifier	Σ C		0..*	Identifier
version	S Σ		1..1	string
versionAlgorithm[x]	Σ		0..1	Binding
name	S Σ C		1..1	string
title	S Σ		1..1	string
status	S Σ ?!		1..1	code Binding Fixed Value
experimental	Σ		0..1	boolean
date	Σ		0..1	dateTime
publisher	S Σ		0..1	string
contact	Σ		0..*	ContactDetail
description	S		0..1	markdown
useContext	S Σ		1..*	*UsageContext*
jurisdiction	Σ		0..*	CodeableConcept Binding
purpose			0..1	markdown
copyright			0..1	markdown
copyrightLabel			0..1	string
type	S Σ		1..1	code Binding Fixed Value
documentation			0..1	markdown
reference	S		1..1	url
capabilities			0..1	canonical(CapabilityStatement)
derivedFrom			0..*	canonical(ActorDefinition)

implementation of this guide. As of now it should only be viewed as support for planning implementation.

E-hälsomyndigheten

Swedish Medical Record Index And Endpoint Registry

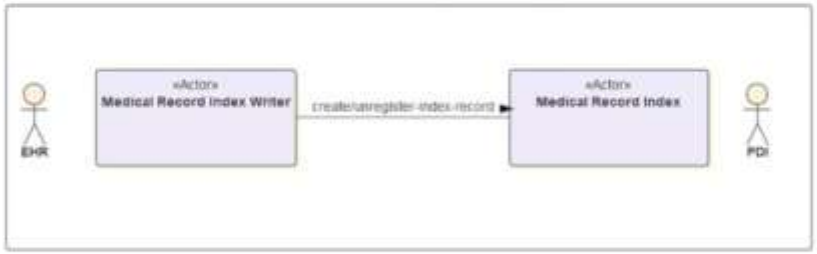
Home | Actors and Capabilities | Profiles | System Operations | Guidance | ValueSets | Extensions | Artifact Index

Actors and Capabilities

This section describes the interoperability domains covered in this guide as well as the included actors and capabilities of each domain. transactions diagram, a summary of the involved actors as welll as detailed descriptions of each transaction. In addition to text descript capabilities are also structured on the resources ActorDefinition and CapabilityStatement on referred subpages.

1. Medical record indexing

This section defines the actors and transactions covered in this implementation guide. The figure below shows the actors involved in me transactions between them.



1.1. Descriptions of actors

Actor name	Description	Realization ex
Medical Record Index	Registry for storing indices of medical records of patients spread out in different systems at different care providers.	PDI (patientda eHealth Agen
Medical Record Index Writer	System responsible for the registration and unregistration of medical record indices.	EHR system u

For further details on each actor and what capabilities they support, see sub pages Medical Record Index and Medical Record Index Wr

⚠ **OBS: DRAFT.** This guide is not an authorized publication; it is the continuous build for version 0.1.0, meaning that it is subject to change. Therefore, do not start implementation of this guide. As of now it should only be viewed as support for planning implementation.

E-hälsomyndigheten

Swedish Medical Record Index And Endpoint Registry

Home | Actors and Capabilities | Profiles | System Operations | Guidance | ValueSets | Extensions | Artifact Index

On this page

Introduction
Usage
Examples

Operation Definition: Create Index Record

1. Introduction

Creates an index record with a healthcare provider and patient.

See Unregister Index Record for documentation on how to unregister an index record of a healthcare provider and a patient. If an index record that has been unregistered is to be registered again, it has to be created as a new one using this operation.

This operation changes content.

2. Usage

2.1. Invocations

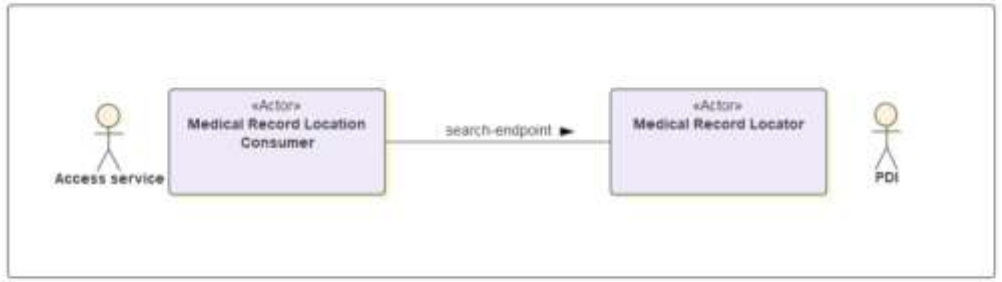
`POST [base]/$create-index-record`

2.2. Parameters (In)

Name	Cardinality	Type	Documentation
patient	1..1	Identifier (system and value)	Patient identifier
healthcareProvider	1..1	Identifier (system and value)	Healthcare provider identifier
availabilityTime	1..1	instant	When patient data was first made available by the healthcare provider. An instant must be specified at least to the second and include time zone offset, for example 2015-02-07T13:28:17.239+02:00

3. Medical record locating

This section defines the actors and transactions covered within Medical record locating. The figure below shows the actors involved and the relevant transactions between them.



3.1. Descriptions of actors

Actor name	Description
Medical Record Locator	System that sup patient.
Medical Record Location Consumer	System that is i records

For further details on each actor and what capabilities t

3.2. Transactions

3.2.1. Locate records

In order to fetch health information about a patient, a m medical record locator. The request requires specifying

This transaction is made possible through the Search En

Operation Definition: Search Endpoint

1. Introduction

Search for active Endpoints where healthcare providers, which a patient has been registered at, make patient data available.

This operation does NOT change content.

2. Usage

2.1. Invocations

`POST [base]/$search-endpoint`

2.2. Parameters (In)

Name	Cardinality	Type	Documentation
patient	1..1	Identifier	Patient identifier, with system and value
apiSpecification	0..*	uri	Canonical ID of API Specification which the Endpoint implements

2.2.1. Valid patient identifiers

- Personal identity number (sv: personnummer)
  - system: http://electronichealth.se/identifier/personnummer
  - value format: 12 digits without hyphen, eg 198001032385
- Coordination number (sv: samordningsnummer)
  - system: http://electronichealth.se/identifier/samordningsnummer
  - value format: 12 digits without hyphen, eg 201903682399

2.3. Return Values (Out)

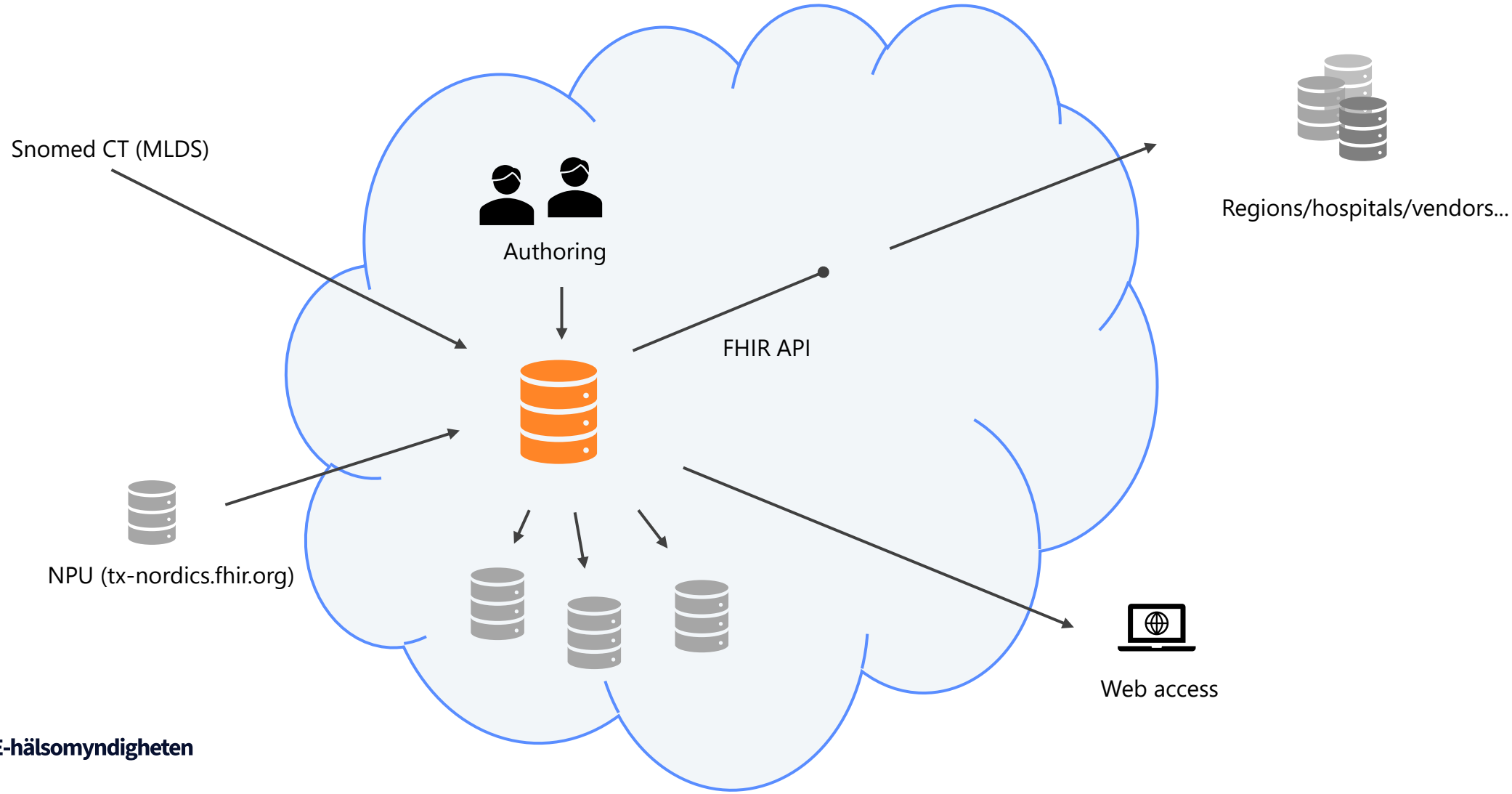
Name	Cardinality	Type	Documentation
return	1..1	Bundle	Bundle of Endpoints that match the search criteria, together with the Organizations that make available the patient data at the endpoints. The Endpoints are referenced to from the Organizations using the Organization.endpoint element. If no Endpoints match the search criteria, the Bundle will be empty.


```
{
  "resourceType": "Bundle",
  "id": "102a4565-ff8c-489c-9ce0-392e56451126",
  "type": "searchset",
  "total": 2,
  "link": [
    {
      "relation": "self",
      "url": "[base]/$search-endpoint"
    }
  ],
  "entry": [
    {
      "fullUrl": "[base]/Endpoint/27a58668-ca2f-4333-9777-26a406944edd",
      "resource": {
        "resourceType": "Endpoint",
        "id": "27a58668-ca2f-4333-9777-26a406944edd",
        "meta": {
          "profile": [
            "http://electronichealth.se/fhir/NDI/StructureDefinition/endpoint-er"
          ]
        },
        "status": "active",
        "connectionType": [
          {
            "coding": [
              {
                "system": "http://terminology.hl7.org/CodeSystem/endpoint-connection-type",
                "code": "hl7-fhir-rest"
              }
            ]
          }
        ],
        "name": "Journalsystem 1",
        "payload": [
          {
            "extension": [
              {
                "url": "http://electronichealth.se/fhir/NDI/StructureDefinition/endpoint-payload-actor-definition-er",
                "valueCanonical": "http://electronichealth.se/ntk/ActorDefinition/Utbildningsmiljo/exempel-vaccinationer-1"
              }
            ]
          }
        ],
        "address": "https://journalsystem1.exempel/fhir"
      }
    },
    {
      "fullUrl": "[base]/Organization/fb968068-aeaa-4795-9624-8664b74e64bc",
      "resource": {
        "resourceType": "Organization",
        "id": "fb968068-aeaa-4795-9624-8664b74e64bc",
        "meta": {
          "profile": [
            "http://electronichealth.se/fhir/NDI/StructureDefinition/organization-er"
          ]
        },
        "identifier": [
```

National Terminology Server

- Snow Owl / Snow Ray (from B2I Healthcare, now IQVIA)
- Cloud hosted
- FHIR Terminology API
- Authoring environment

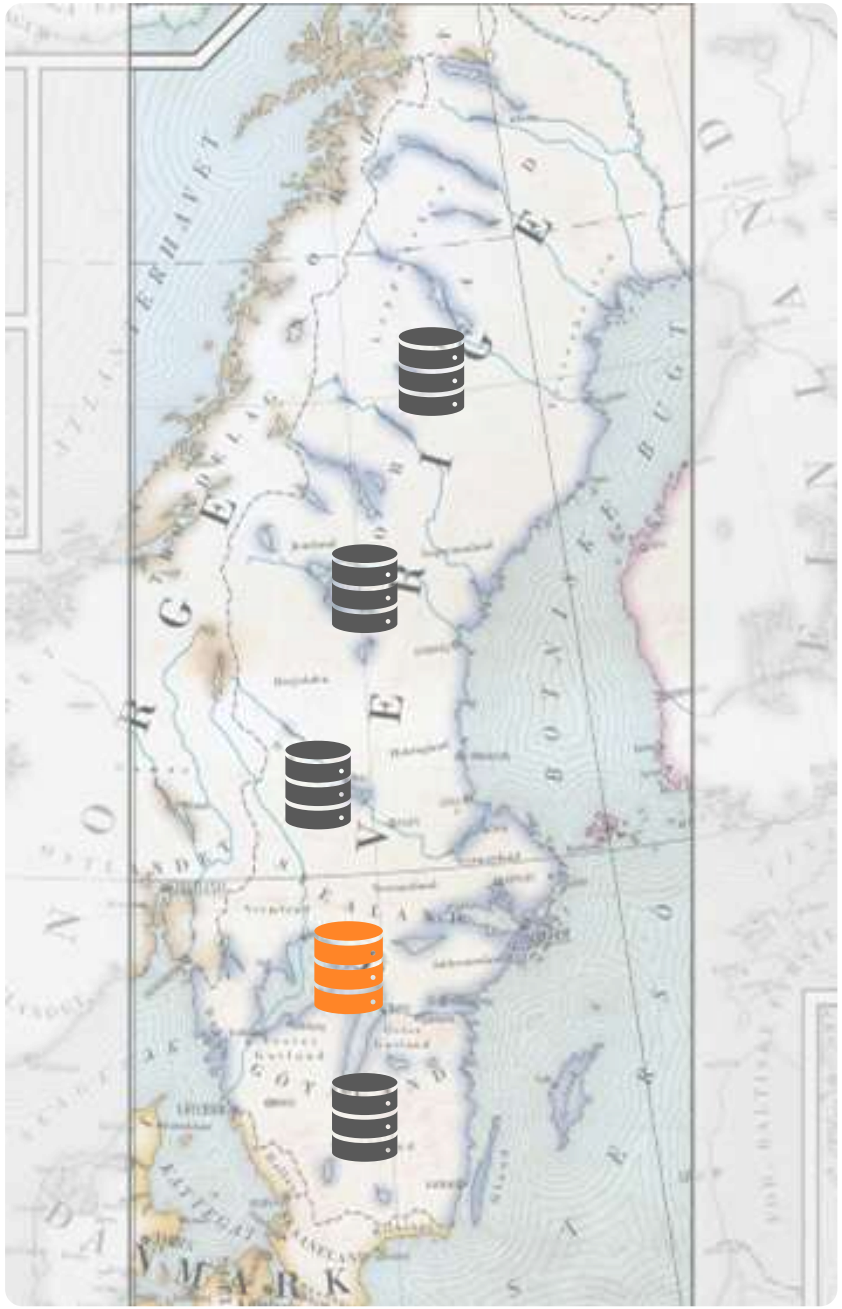
Local environment



National ecosystem

- The more terminology servers the better!
- Different way to make syncing/federation happen technically
- ”Source of truth” – at different levels

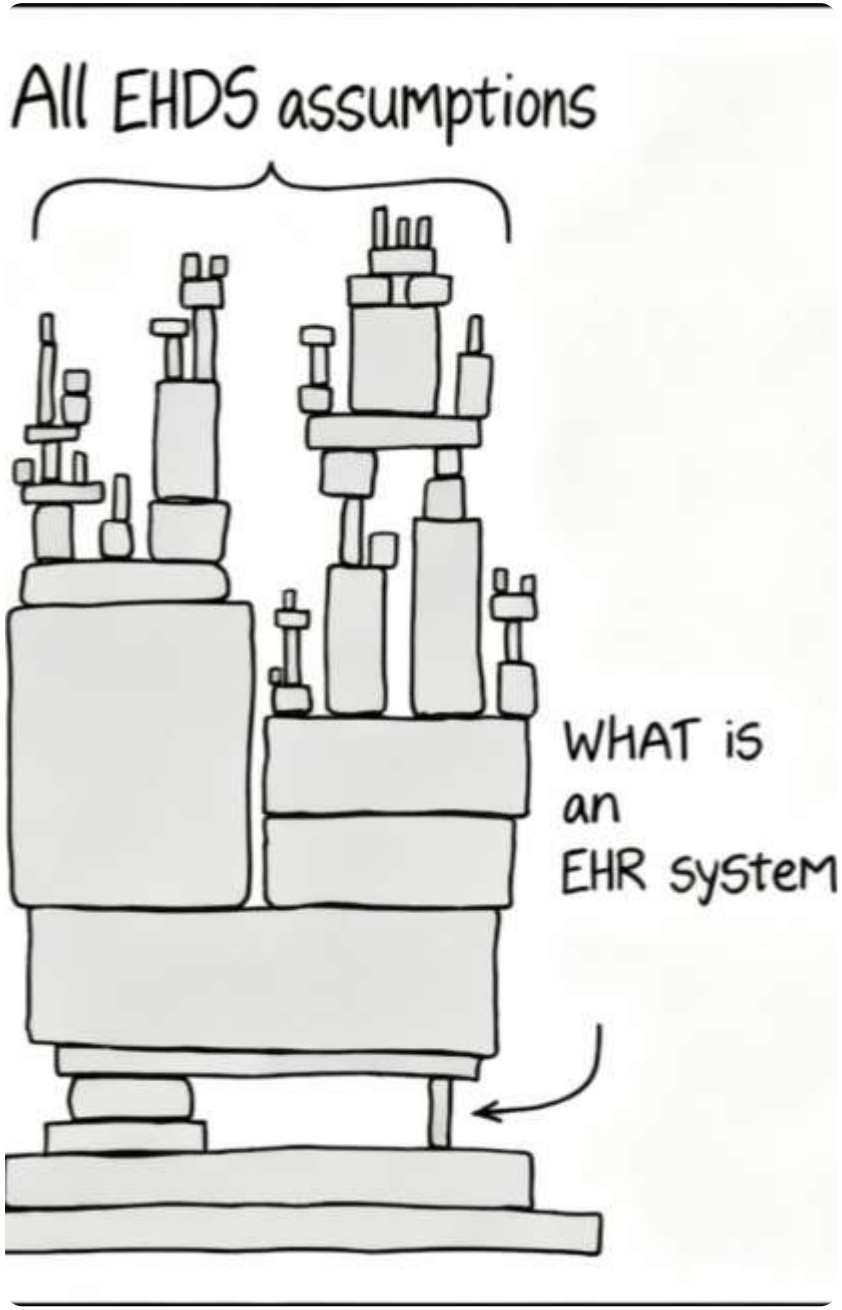
- MyHealth@EU – EHDS terminology management 😎



HL7 Sweden

- Base profiles for R5 (and more base profiles)
- FHIR Community Process

- Nordic terminology server



tx-nordics.fhir.org

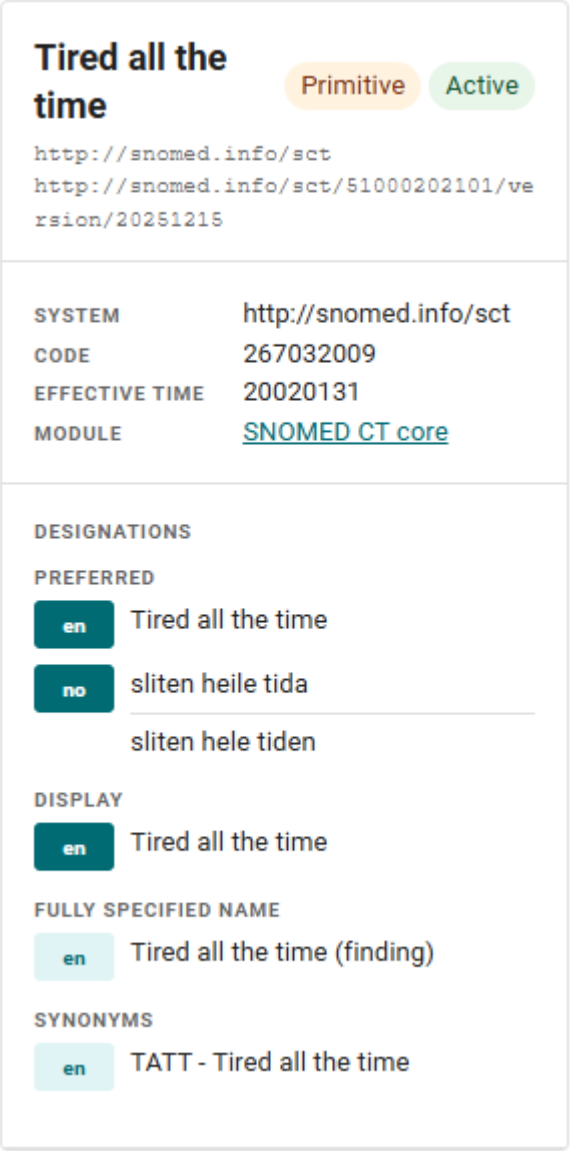
Browse content at:

https://ontoserver.csiro.au/shrimp/launch.html?iss=https://tx-nordics.fhir.org/fhir/r4

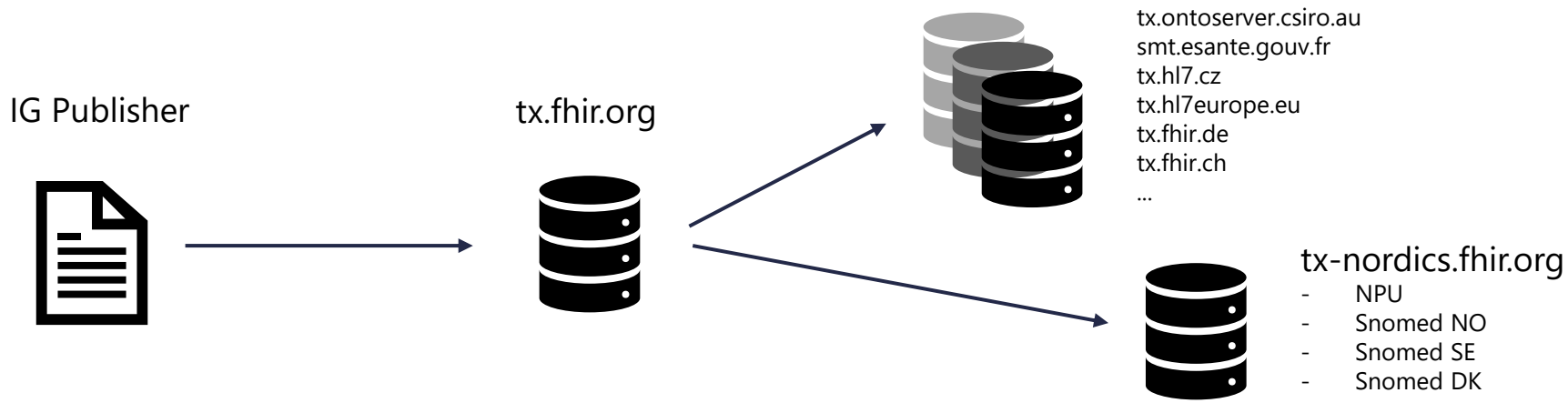
New Shrimp UI!

Base URL for API use:

https://tx-nordics.fhir.org/fhir/r4



FHIR tx ecosystem



Now supports per-language term servers:

JUL 23

Grahame Grieve ⚒ 02:56

this will be operational when the Validator and the Publisher is next released: it will be possible to register particular servers for particular languages of particular code systems.

E-hälsomyndigheten

Thanks for listening!

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