

HEALTHCARE PLATFORM SERVICES

FRAMEWORK TO CREATE CONTENT

TERMINOLOGY SERVER

UNLOCK THE VALUE OF HEALTHCARE DATA

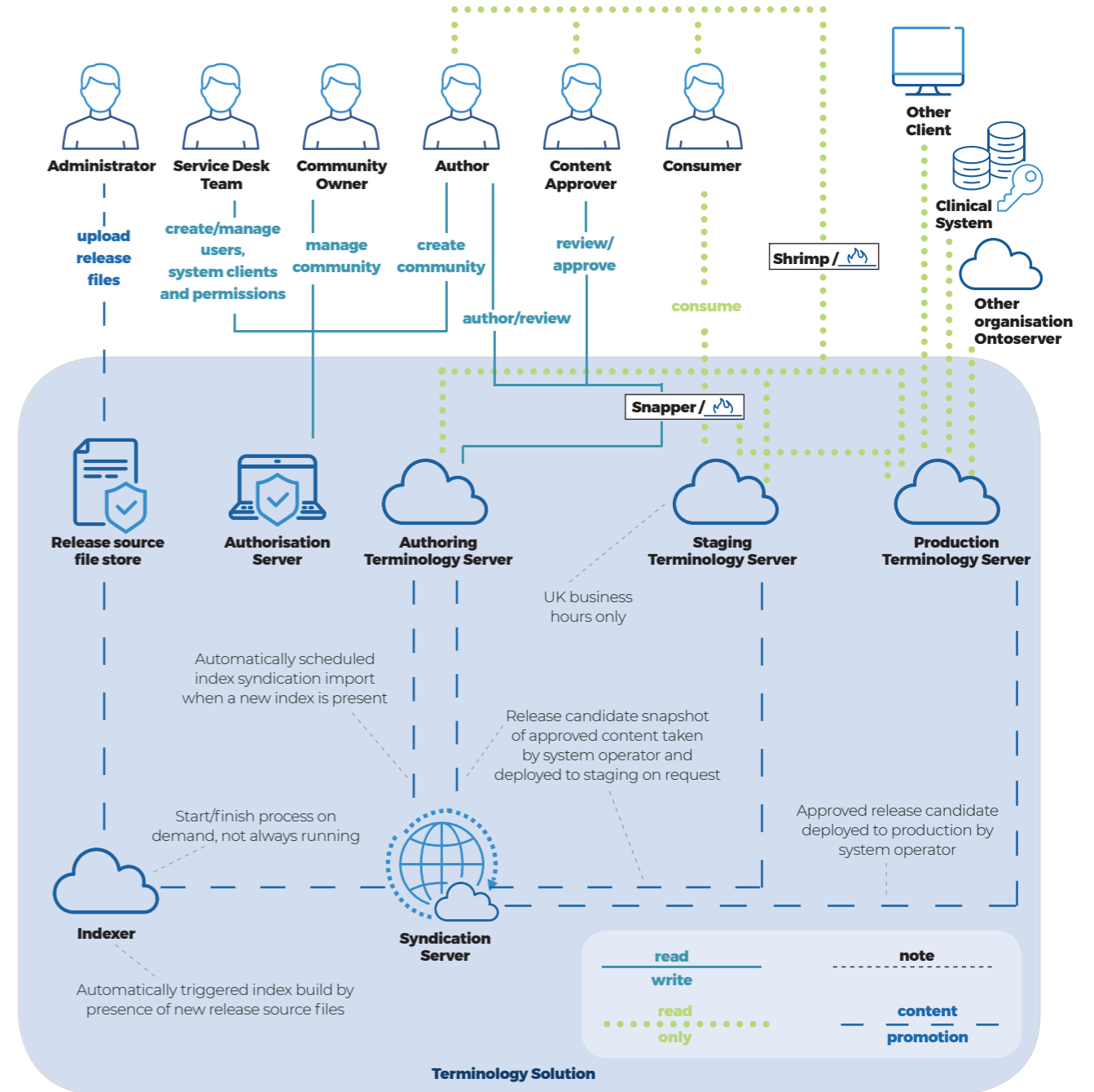
Healthcare is a data rich industry. Unfortunately, this data is often locked in siloed systems within local organisations that cannot easily be shared across the wider health and care system. One of the key barriers to sharing this data are differences in the codes and terminologies used by organisations to record key clinical data about their patients.

The Terminology Server solution is designed to drive wider and more rapid adoption of standard ontologies, such as SnomedCT by reducing the burden of adoption and maintenance. Top-down approaches to standards has always met with limited success, so this solution supports both a bottom up and top-down approach.

ENABLING RAPID ADOPTION OF STANDARD CLINICAL TERMINOLOGIES

Dedalus' Terminology Server, provided in partnership with NHS Digital and Australia's CSIRO, supports the mapping of multiple local, national and international code sets including, for example SNOMED-CT. The solution provides a range of tools to interrogate, map, author, validate and publish code sets and to syndicate content across the healthcare ecosystem. In addition, it provides a range of FHIR APIs to enable highly performant type ahead search capability of these code sets.

Figure 1. Shows a full solution diagram of the solution though individual customers may only take certain components depending on their need.



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TERMINOLOGY SERVER ADDRESSES FIVE KEY NEEDS

Simplify the use of clinical terminology and other CodeSystems by addressing the key challenges faced by implementers.

01

Encourage vendors, health care organisations, researchers etc. to adopt terminology products and services in their solutions.

02

Enable a “one-stop shop” for nationally specified CodeSystems, and enable enterprises to easily access these national code sets and manage their own, locally defined, code sets.

03

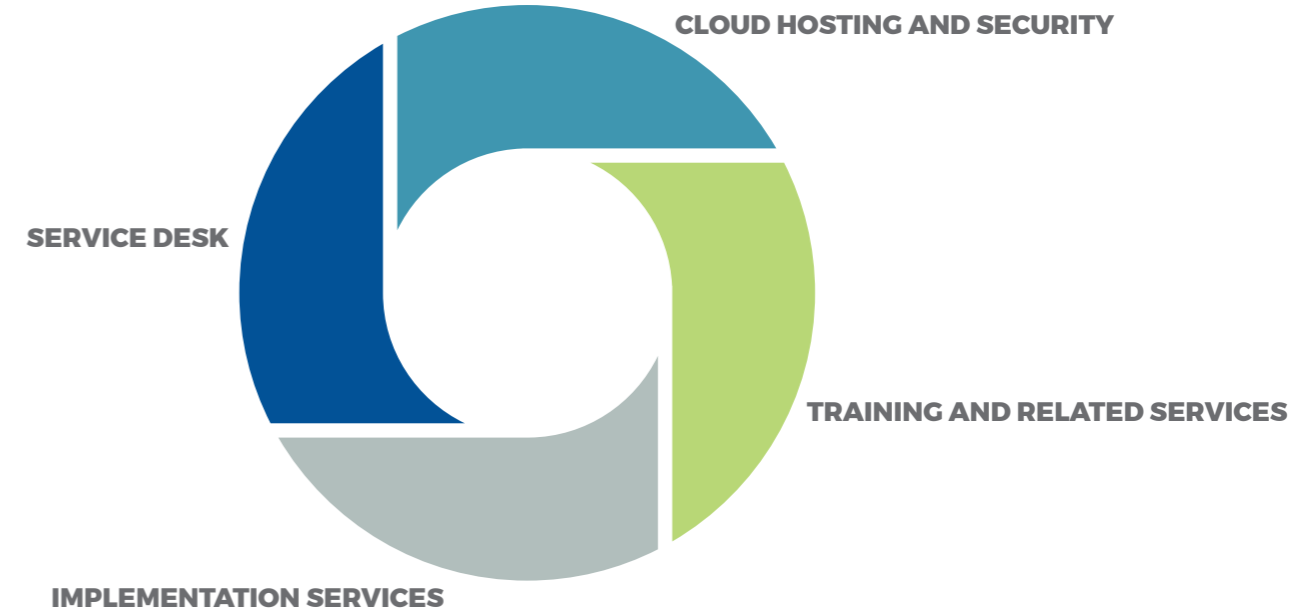
Improve collaboration between producers and consumers of terminology products and services- through an eco-system approach.

04

Realise the benefits of adoption of terminologies and classifications - seamless interoperability, enhanced reporting, advanced analytics etc.

05

CORE SERVICE OFFERING



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SOLUTION COMPONENTS

- **Ontoserver:** The world-leading clinical terminology server implementing FHIR terminology services and supporting syndication-based content distribution.
- **Snapper Author:** An app for authoring FHIR terminology resources and publishing them to a FHIR terminology server.
- **Snapper Map:** An app for authoring maps from legacy terminology to standards-based terminologies. (available, but not a contracted part of the NHS solution).
- **Ontocloak:** An authorisation server for controlling access to Ontoserver and other related services.
- **Atomio:** A stand-alone syndication service for managing content distribution.
- **Shrimp:** A widely used tool for browsing SNOMED CT, LOINC and other FHIR CodeSystems, powered by Ontoserver (freely available).
- **FHIR Terminology Transforms:** A set of open-source tools to transform CodeSystems to FHIR e.g., from OWL and CLAML (freely available).



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USE CASES SUPPORTED

Authoring, maintenance and distribution

- I want to make national content readily available by the FHIR APIs and Syndication Service.
- I want to author and maintain CodeSystems, ValueSets and Concept Maps.
- I want to keep up to date with national CodeSystems and maintain local content.
- I want to collaborate with the national service or other healthcare organisations to develop and publish content for others to use.
- I want to readily adopt SNOMED CT and keep up to date with national releases, but I don't want to have to understand RF2.

Smart data entry and performant runtime use

- I want to support performant smart search of SNOMED CT or other CodeSystems in my clinical information system.
- I want to support advanced use of SNOMED CT for decision support, subsumption etc.

Information modelling and specification development

- I want to bind terminology and ValueSets to data models and specifications.
- I want to validate the terminology content against the specifications.
- I want to validate that the FHIR resources are compliant.

Interoperability/electronic health records/secure messaging

- I want to validate or translate content.
- I want to validate that FHIR profiles are compliant.

Analytics

- I want to use terminology in advanced ways in my analytics queries- subsumption.
- I want to translate content on load or on demand as part of my analytics service.

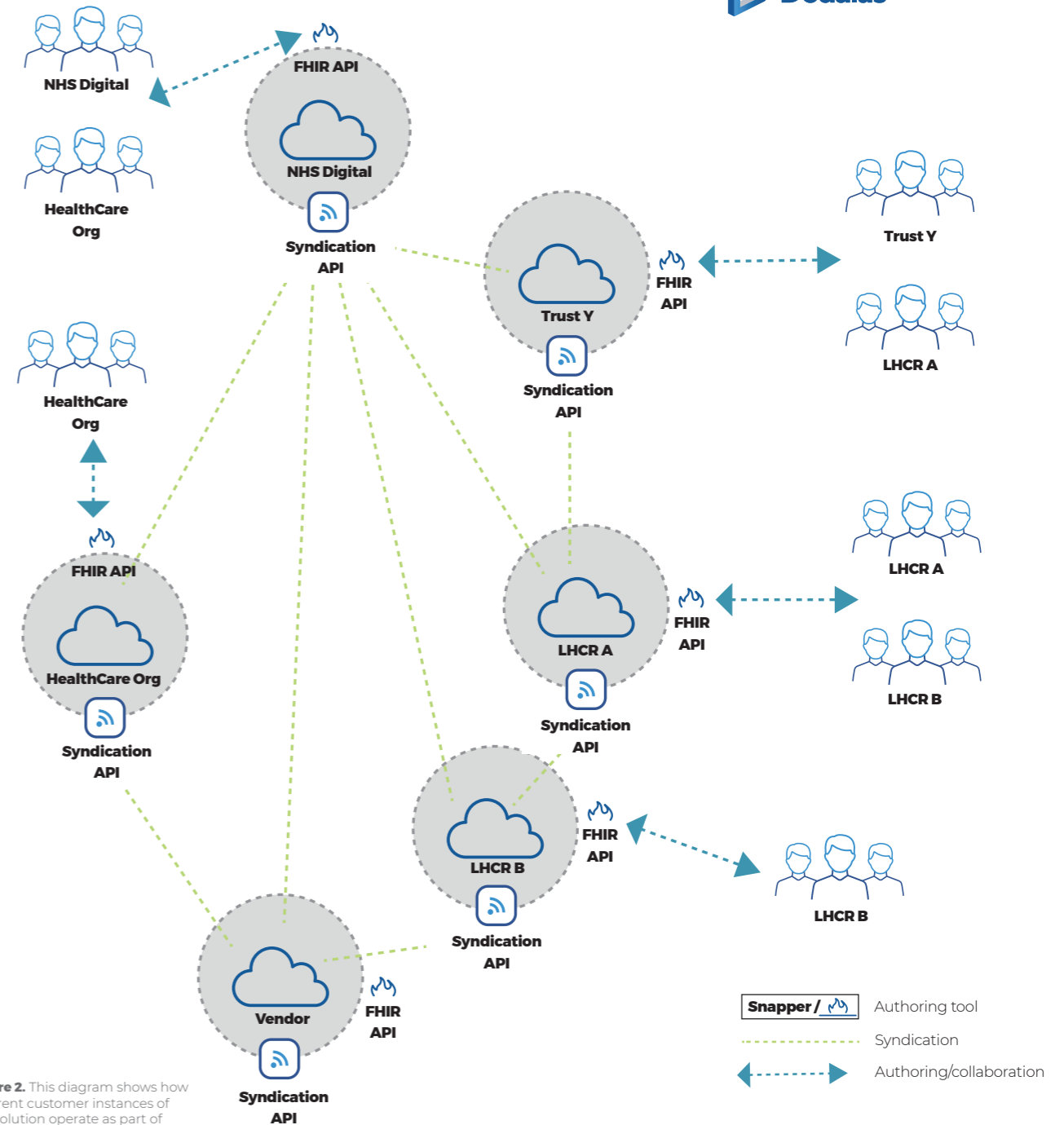


Figure 2. This diagram shows how different customer instances of the solution operate as part of the supported wider national ecosystem.

KEY BENEFITS

BENEFITS FOR CLINICIANS

- Better UI/data entry, improved implementation of terminologies.
- Able to get more involved in development of ValueSets, CodeSystems through the community ecosystem approach.
- Faster, more timely access to more high-quality data - data analytics, seamless exchange of information, enhanced decision support.

BENEFITS FOR HEALTH CARE ORGANISATIONS, RESEARCH INSTITUTES, STANDARDS DEVELOPMENT ORGANISATIONS

- Faster more meaningful adoption of terminologies and classifications to meet mandatory requirements.
- Local autonomy and governance over terminology management, can syndicate what you want from national or other terminology servers.
- Tools to enable the management of all content in one place, syndicate to national CodeSystems, ValueSets etc.
- Tools to enable content creation and content use.
- Ability to participate as part of the ecosystem, work collaboratively with other organisations participating as part of the ecosystem.
- Pathway for more advanced use of terminologies- interoperability, advanced analytics etc.

BENEFITS FOR APPLICATION VENDORS/DEVELOPERS

- Familiar development environment and technologies.
- Lowers the entry bar – faster more meaningful adoption.
- Enable vendors to put development effort towards key features of their products.
- Enables a better data entry/UI/search experience for customers.
- Enables more frequent content updates.
- Pathway for more advanced use of terminology.
- Reduced education effort.
- Decouple implementers from native terminology release formats like RF2 and internal concept models.



STRENGTHS

Dedalus is the sole provider of this solution across the UK in partnership with NHS Digital and CSIRO. However, this solution is very replicable across all national geographies. Our solution is unique in being native FHIR rather than an existing solution with an FHIR veneer applied.



Dedalus

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About Dedalus

Dedalus is the leading healthcare and diagnostic software provider in Europe and one of the largest in the world. With its innovative framework of comprehensive and process-oriented solutions, Dedalus enables a revolutionary digital transformation of country-wide Healthcare Systems fully supporting the patient digital journey. Dedalus serves more than 6,100 private and public hospitals across 40 countries, through more than 5,500 highly specialized resources, of which 2000 are dedicated to R&D activities. We aim to help caregivers and healthcare professionals to deliver better care to the communities they serve and for this reason we are very proud of doing a special job, working with healthcare organisations to improve healthcare outcomes for patients.

Life flows through our software.

For more information, visit www.dedalus.com