openEHR platform product

Request for information

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Version: 1.32

Region Östergötland

Content

1 Introduction

1.1 Strategy Region Östergötland

Within the IT and MT (Medical Technology) organization of Region Östergötland is an ongoing strategic initiative which aims to establish a platform for digital services (Region Östergötland digitalization platform - RÖD). From a technical perspective it is an API based platform with the main purpose of modernizing access to and interaction with digital services and information within Region Östergötland.

From a strategic viewpoint these are the main technical capability demands on the digitalization platform:

- Based on modern technology and open standards.
- Accessible via Internet, i.e. highly customizable security.
- Benefits to all the different responsibilities and functional areas of Region Östergötland. Healthcare is the main but not only responsibility/area of Region Östergötland (other responsibilities are regional development public transport, culture etc).
- Supporting the core technical responsibilities of integration and identity and access management.
- Exposing information about the platform through a Developer Portal.
- Include management tools for management of API's
- Storing data and information:
  - o Structured information (databases) including support of openEHR based data. (This part of the platform is the focus of this RFI)
  - o Unstructured and semistructured information like images and documents (file stores/VNA) with support of IHE XDS.

1.2 Purpose of this RFI

This request for information (RFI) is the first step towards establishing technical capability of storing, handling and management of openEHR based information in a technical solution as a part of Region Östergötland digitalization platform.

Based on the answers to this RFI Region Östergötland will call selected responding companies to meetings, preferably but not necessarily physically in Linköping, Sweden, during the Q2 2018.

The intention for Region Östergötland is to implement an openEHR back-end platform Q2-3 2018 (test, development and QA) and then in Q4 2018 use it in production see 1.3.

1.3 Initial use case

The initial use case is to use the platform within the GOLI(a)T project. The project goal is to implement a standardized process, decision support and IT system for surgery in Region Östergötland, primarily at the University Hospital in Linköping and the Vrinnevi Hospital in Norrköping. The surgery related process is divided in to several steps

- information gathering needed in order to make a decision whether or not surgery should be done (many diagnose-group-specific templates with EHR links/citations and collections of AQL-query based summaries)
- decision making and documentation of decisions
- detailed planning and scheduling (many procedure specific templates)
- surgery & documentation
- Postoperative process & documentation

Many of the diagnose- and procedure-specific parts will be defined using openEHR. Several non-EHR functions in the process will use other systems.

1.4   Procurement

Region Östergötland as a public tax funded authority and health care provider procurements are regulated under Swedish Public Procurement Act[1].

1.5   Secrecy

Region Östergötland prefers transparency in dialog with other organizations, academia, authorities and companies. If you provide information that you consider not to be made available to third parties, you should clearly mark what part of the information you wish to be confidential.

1.6   Response to this RFI

Responding companies should send their answers in English or Swedish to the system TendSign or bernadett.brink@regionostergotland.se by the 15th March 2018. The subject line of the response should be: RFI 2018-63 openEHR

Questions can be sent to the system TendSign or bernadett.brink@regionostergotland.se

2   Facts about Region Östergötland

Region Östergötland:

- **Is a public healthcare provider in the county of Östergötland situated about 250 km southwest of Stockholm, Sweden.**

- **Runs 3 hospitals (in Linköping, a University hospital, Norrköping and in Motala), 42 local open care centers and 40 dental care centers.**

- **Is responsible for advanced cancer treatment in the "Southeast healthcare region" and has national specialist burn treatment and psychiatry responsibilities.**

- **Has a budget of about 15 billion SEK/year, of which 70% goes to healthcare and employs about 12.500 persons.**

- **The main EHR is COSMIC from Cambio Healthcare Systems AB.**

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[1] http://www.konkurrensverket.se/globalassets/english/publications-and-decisions/swedish-public-procurement-act.pdf

3 Company information

3.1 General		Answer:
3.1.1	Company name	
3.1.2	Company main office location	
3.1.3	Company location in Sweden (cities)	
3.1.4	Number of employees (total)	
3.1.5	Number of employees in Sweden	
3.1.6	Web address to company product site	

3.2 Contact		Answer:
3.2.1	Name of sales contact	
3.2.2	E-mail of sales contact	
3.2.3	Phone number of sales contact	
3.2.4	Name of technical contact	
3.2.5	E-mail of technical contact	
3.2.6	Phone number of technical contact	

3.3 Partner		Answer:
3.3.1	Does the company have any sales partners in Sweden? (Y (names)/N)	

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4 Product information

4.1 General		Answer:
4.1.1	Name of product?	
4.1.2	Current version of product?	
4.1.3	Number/size of installations?	
4.1.4	Describe the product update strategy (ex. number of major/minor update/year)	

4.2 Support		Answer:
4.2.1	Availability of support? (24/7, 8/5 or other)	
4.2.3	Availability of on-site installation support? (Free or billed)	
4.2.4	Availability of Health (best practice) checks?	

4.3 Licensing		Answer:
4.3.1	Describe the license model for the product (CPU, user, other)	
4.3.2	Does the license model have options for setting up development and QA-environments (not for real patient care) that differs from production environment licenses?	
4.3.3	Describe support agreement alternatives for the product	

4.4 Procurement & pricing		Answer:
4.4.1	Is the product offered through Swedish public sector framework agreements ("Kammarollegiet" procurement contract) (E.g. via an existing Swedish partner)	
4.4.2	If possible, please provide approximate price examples for some scenarios. Are there alternative price models regarding initial and recurring	Examples of interesting scenarios: • Full EHR for a Swedish healthcare region with a population of 500 000. • Using the product for storage, querying and form based input for surgery related applications at two hospitals in such a region with a population of 500 000.

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	costs?	
4.4.3	How does your business model provide compensation if promised functions (e.g. like described in 5.1.7) would be specified in a contract but would not available in time as promised?	(Example: no license fee until new version provided etc.)

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5 Functional requirements

5.1 Basic framework		Answer:
5.1.1	What parts of the the openEHR Reference Model Specification are fully implemented, and according what version of the specification?	Example response categories (OK to revise/detail further): • EHR • Demographic • Common • Data Structures • Data Types • Support • Integration • EHR Extract
5.1.2	What parts of the the openEHR REST API Specification are fully implemented? What formats (e.g. JSON and XML) are supported? Are any other (non standard) REST APIs implemented?	Example response categories (ok to revise/detail further): • EHR • Query • Definitions • CDS • LINK (draft version[2])
5.1.3	Is the openEHR Archetype Query Language specification (at least version 1.0, Trial Draft) fully implemented? Are there any additional capabilities, e.g. full text search, FOLDER-based filtering etc?	
5.1.4	How is validation of EHR content done based on RM, archetpes and templates by the system? What types and versions of template-mechansims are used for validation?	Example: Operational templates version 2.0 (OPT2) are uploaded to... and used by... when...
5.1.5	Is GDL (Guideline Definition Language) (at least version 1.0, TRIAL DRAFT) supported? Are any other clinical decision support mechanisms available?	
5.1.6	What parts of the new "Task Planning Model Specification" are implemented?	
5.1.7	What parts in the 5.1.x questions above that are not implemented right now will be available in September 2018?	
5.1.8	Describe available terminology service usage/integrations. Is the terminology service addressable from AQL queries? Is there a FHIR Terminology Service interface?	

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[2] https://github.com/openEHR/specifications-ITS/blob/master/REST_API/link.apib

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5.2 Tests & performance		Answer:
5.2.1	Please provide information and results from AQL query performance tests done for the product. (Have you for example run any of the "ORBDA" example tests?)	
5.2.2	Please provide information regarding other performance tests done or normal loads in significant real installations.	
5.2.3	The test cases/scripts in chapter 6 ("Conformance Schedule") of the "openEHR EHR Platform Conformance" document[3] are not finished, but when looking at the list of test descriptions, are there any of the listed capabilites your system has not yet implemented in some api-accessible form?	

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[3] https://www.openehr.org/releases/CNF/latest/docs/openehr_platform_conformance/openehr_platform_conformance.html#_conformance_schedule

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5.3 Tooling & configuration		Answer:
5.3.1	Does the product contain an application development environment that enables applications, registries etc. to be built on the repository using openEHR data. Please describe.	Example answers: • The product provides client libraries to support the development of software against the system (supporting Javascript and .NET) • Automated generation of constraint checks within forms on the client side
5.3.2	Is there a graphical drag and drop form generator (or similar functionality) available that makes it easy to create HTML5-based data entry forms (including client side validation and basic constraint checking) based on openEHR templates.	
5.3.3	Is there a function to render compositions as human-readable documents (resolving at/id-codes and hiding "technical" attributes)	
5.3.4	Is an easy to use (e.g. drag-and-drop?) query editor available to create AQL queries based on Archetypes and Templates?	
5.3.5	Are functions like domains or namespaces available to achieve a logical separation of data between different care organisations using a physically shared server instance?	

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6 Non-functional requirements

6.1 Infrastructure		Answer:
6.1.1	List supported OS	
6.1.2	Support for cluster configuration (describe)	
6.1.3	List supported DBMS	
6.1.4	Support of management packs for Microsoft System Center	
6.1.5	Describe minimum hardware requirements for a test installation	
6.1.6	Limitations on using virtualization (hardware/IaaS)?	

6.2 Security		Answer:
6.2.1	Support of role based authorization? Describe (default/typical) roles	
6.2.2	Support of authentication tickets issued by an Identity Provider (e,g, SAML)?	
6.2.3	Support of logging; access and change?	

6.3 Training		Answer:
6.3.1	Availability of course or on-line training for administrators? Describe	
6.3.2	Availability of course or on-line training for technicians? Describe	
6.3.3	Availability of course or on-line training for users? Describe	

6.4 Usage		Answer:
6.4.1	Is the number of registered users limited, if so what is the limit?	
6.4.2	Is the number of simultaneous users limited, if so what is the limit?	
6.4.3	Is the number of managed assets limited, if so what is the limit?	
6.4.4	Does the license model allow usage for research as well as caregiving?	
6.4.5	Does the software	

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	product provide client libraries to support the development of software against the system, if so in what program languages?	

6.5 Management		**Answer:**
6.5.1	Is it possible to export system configuration between different instances of the installation? If so how?	
6.5.2	Is it possible to run multiple instances of the installation on the same network without conflicts? If so how?	
6.5.3	Is it possible to run different versions of the same system simultaneously within the same instance?	
6.5.4	Does the software allow soft launches of new versions?	

6.6 Integrations		**Answer:**
6.6.1	Does the software product have an interface to support import/export of HL7v2 messages?	
6.6.2	Does the software product have an interface to support import/export of HL7 FHIR messages?	
6.6.3	Does the system support automated extraction of required IHE XDS.b data from openEHR compositions?	
6.6.4	Does the system support extraction, mapping and storage of required DICOM metadata from KOS Objects to openEHR compositions	
6.6.5	Describe other integration support features of the platform.	

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