



# Tätigkeitsbericht Kooperationen Projekte Expand/STORK Juli bis Dezember 2015 (final report)

(Universitätsspital Genf HUG; Fachhochschule Westschweiz Genf HES-SO)

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# 1. Technischer Bereich: HUG (S. Spahni)

## 1.1 Main activities

The main activities performed during the second half of 2015 can be split into three domains:

- EXPAND – WP5 and specifications maintenance shop, steering board;
- STORK – use cases with Austria;
- OpenNCP – governance, new developments and follow-up.

### EXPAND

Work on EXPAND is primarily related to Work package 5 (several maintenance shops - mainly assets identification, OpenNCP, specifications). We are also participating to the Steering board teleconferences every month. Most of the work is however performed directly in relation with the OpenNCP maintenance shop.

The Swiss NCP was also part of the EXPANDathon in Lisbon, December 9 – 11, 2015 in order to validate the latest OpenNCP release (release 2.4.0).

### STORK

Apart from the coordination with Austria, the work performed on STORK was related to two work items:

- Review of possible strategies for implementing delegation scenarios;
- Feasibility study for connecting a second IdP to the Swiss STORK PEPS.

### OpenNCP

During this period most of the time was devoted to the stabilization of the final OpenNCP release (OpenNCP version 2.4.0 tested in Lisbon's EXPANDathon). The key features of this release are:

- First steps towards implementation of SMP (Service Metadata Publisher), which will replace the former central services for the synchronisation of configuration elements;
- Integration of eID as implemented by eSENS project;
- Full implementation of non-repudiation (enhanced traces, database storage);
- Enhancement of the documentation, especially the installation manual;
- Test of a newly developed procedure for automatizing the installation of the OpenNCP.

Activities around the OpenNCP required many teleconferences, each subject having its own work path. Note that the governance of the OpenNCP remained unchanged until end of 2015:

#### STEERING BOARD

- EXPAND: Licínio Kustra Mano (WP5 Technical Maintenance Shop responsible)
- Project Assistant: Rui Alves (EXPAND)
- DG-SANTÉ: Markus.Kalliola

#### TECHNICAL BOARD

- Kostas Karkaletsis
- Stéphane Spahni

- Heiko Zimmermann

#### DEVELOPMENT BOARD (all willing to)

- eSENS (project contact point): Licínio Kustra Mano
- Trillium Bridge (project contact point): Alexander Berler
- Stork (project contact point): Isabel Cruz
- Industry Representative: to be defined

## 1.2 Problems encountered

### STORK

As described in the feasibility report in annex, delegation could have been implemented without important changes either in OpenNCP or in MonDossierMedical.ch. However a delegation component was necessary on the STORK PEPS side. While it appeared that such a component has been developed within STORK project, its availability was not clear. The end of STORK project (mid-November) prevented us to investigate more on this subject and implementation of delegation was finally left aside.

Regarding the possibility to link a second IdP to the Swiss STORK PEPS, a possibility does exist with the Geneva's IdD for eAdministration. However the team in charge of this IdP was quite reluctant to invest any time on such a project until the national strategy on eID is clarified and the future role of the STORK PEPS within the national strategy established. Former unsuccessful common initiatives are still in memory and the team wants to avoid investing in projects that have no clear future.

### OpenNCP

While it was awaited that the Austrian team would fund the necessary extensions of the OpenNCP-STORK plugin (selection of the country of origin) and the Patient Access Component (use of the country of origin of the logged in patient), this never occurred. Full implementation of the patient and HP identification and authentication through STORK scenarios was therefore not realised.

Preparation of the EXPANDathon took a significant amount of time, due in particular to the late release of the updated components. The final release (2.4.0-RC1) was delivered one week before the EXPANDathon but patches were released until the 4<sup>th</sup> of December. All pre-connectathon tests were therefore not realised due to time and technical constraints.

## 1.3 Meetings

The main meetings and teleconferences during the reported period are:

### EXPAND

- Workpackage 5: 6 teleconferences
- Steering board: 3 teleconferences
- Maintenance shops: 5 teleconferences
- 3 days EXPANDathon in Lisbon (December 9-11, 2015)

### OpenNCP

- > 25 teleconferences (general follow-up, governance, eID, central services, SMP, manual)

### STORK

- 5 teleconferences

## 1.4 Lessons learned for „eHealth Suisse“

The role of IHE has been reinforced during the past year: IHE Services is now maintaining not only the test tools but also the specifications of the eHealth National Contact Point and of the key documents that are the Patient Summary, ePrescription and eDispensation. This also confirms what was proposed by the Antilope project, which clearly recommended to use IHE Pharmacy for in-country ePrescription and eDispensation while epSOS/EXPAND ePrescription and eDispensation was recommended for cross-border communication. This is fully in line with the strategy being enforced in the key running projects.

Keeping an up to date National Contact Point requires some manpower. The exact amount depends then on the type of investment / contribution one wants to provide. The table below gives an estimation of the required manpower for the various activities:

- Maintaining and running an NCP: 2 person days / month
- Installing a stable release (including local validating): 5 person days
- Participating to a projectathon: 15-20 person days (2 persons should participate to a projectathon)
- Active participation to the OpenNCP governance: 1 – 2 person days / week
- Evolutive maintenance of the Patient Summary: 10 – 15 days / year (2 releases / year)

## 1.5 Lessons learned for Switzerland

Cooperation among the core groups of epSOS/EXPAND and eSENS worked fine as all involved people did their best to support the whole community. However with the introduction of CEF, the “project” based approach reaches its limits and some professionalization of the work is necessary. Good contacts between people and willingness will not be enough from beginning of 2016: it is crucial to become part of the eHealth Network subgroup if we want to be part of the global infrastructure for eHealth. Our work is well recognized by several countries which will for sure support us in staying part of the “game: Italy, Portugal, Austria, Luxembourg, Germany and Greece to mention the principal ones. This support is the result of our strong implication in epSOS and EXPAND during the last 5 years: it would be a shame not to capitalize on it by not doing all what we can to stay in the train...

Several bilateral collaborations are starting for really exploiting the future eHealth NCPs: Luxembourg – Portugal, Portugal – Italy, Italy – Luxembourg, etc. Our important communities of e.g. Italians and Portuguese people could also be very good candidates for such bilateral collaborations.

## 1.6 Next steps

The OpenNCP is becoming the eHealth National Contact Point within CEF infrastructure. In order to be able to maintain our national NCP in the global European infrastructure, it will be necessary to participate to CEF and thus to eHealth Network subgroup. The HUG will continue to participate to the OpenNCP board, which will be composed by the following persons (preliminary membership list):

- Natasha Carl (Public sector, EC)
- Kostas Karkaletsis (Private sector, Gnomon, Greece)
- Massimiliano Masi (Public sector, Austrian BMG)
- Stéphane Spahni (Public sector, HUG, Switzerland)
- Jerome Subiger (Public sector, EC)
- Mustafa Yuksel (Private sector, SRDC)
- Heiko Zimmermann (Public sector, Agence eSante Luxembourg)
- 
- Konstantin Hyppönen (Finland) ?
- XXX (Public sector, SPMS) ?

- XXX (Public sector) ?

The patient summary developed during the epSOS project has to be enhanced with the evolution of the available structured data. This would raise the interest and usefulness of the document. Strategies for combining several Patient Summaries coming from different regional infrastructure but concerning the same patient as well as connecting more than one regional infrastructure to the NCP have to be defined and implemented if Switzerland intends to participate to the pan-European eHealth Infrastructure. By the way such strategies will also be useful in the context of linking regional infrastructures together.

## 1.7 Manpower

The workload in man-months devoted to the main topics by the HUG team is the following:

<b>Task</b>	<b>Days</b>	<b>CHF</b>
EXPAND Maintenance Shops (WP5, OpenNCP)	6	3'000.-
OpenNCP Community	18	9'000.-
Implementation and STORK discussions	3	1'500.-
EXPANDathon Preparation	15	7'500.-
EXPANDathon	4	2'000.-
Coordination	4	2'000.-
<b>TOTAL</b>	<b>47</b>	<b>25'000.-</b>
HUG Contribution	12	7'500.-
FOPH Contribution	35	17'500.-

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*Geneva, January 4, 2015*

## 2. Semantischer Bereich: HES-SO (L. Mottin, P. Ruch)

### 2.1 Main issues

WP5 aimed at a continuous maintaining of epSOS/Expand terminological assets. One of the objective was therefore to evolve the MVC. The upgrade from versions 1.8 to 2.0 triggered the refactoring of both the transcoding and translation tables. Finally, the Swiss local services and the local LTR (OpenNCP) were updated accordingly.

#### 2.1.1 Background

During summer of 2015, we checked the revisions of the terminologies used for each Value Set of the epSOS MVC. This work served as the basis to provide a new up-to-date MVC. Then, its translation was performed and controlled with a semi-automatized system with the support of a clinical expert (MD).

#### 2.1.2 Work performed

The main action items performed by HES-SO in the EXPAND/STORK projects were the following.

1. Participation in the conception of the MVC 2.0

Between July and October, the MVC was built and curated. Four drafts were generated before reaching stable version. Modifications affected most of the value sets (cf. WP5\_EXPAND\_SemanticMSH\_MVC\_2\_0\_Report\_0\_3 document);

2. Creation of MTTC 2.0 (translation), MTC 2.0 (transcoding), and semantic validation

Accurate translation and validation of new and updated terms from MVC 2.0 was performed by Anaïs Mottaz, MD. Similar tasks was performed on Swiss-specific terminologies in the transcoding tables.

3. Deployment of the three “2.0” components

The MVC, MTTC and MTC database files were prepared to be used by the NCP (HUG). While the MTC was updated using the dedicated services, developed during epSOS, the MVC and MTTC were updated directly in the OpenNCP's LTR using ETL scripts (SQL).

4. Participation of the three-days final event in Lisbon

Luc Mottin supported Stefan Spahni during the Expandathon in Lisbon for all semantic-related developments. Networking with CEF stakeholders was also performed by Luc Mottin.

## 2.2 Lessons learned for „eHealth Suisse“

The evolution of the different terminological resources requires a continuous maintaining. ATC, EDQM, and the ICD10 resources were the sources of the main modifications for both transcoding and translation. For sake of quality, the French translation of the ICD-10 version of the MVC is thus used instead of the French translation available for the ICD-10 GM.

The current update of the MVC is project-driven (epSOS I, epSOS II, Expand), which means that the maintaining tasks are triggered by a particular project's workplan, e.g. a particular milestone or a particular deadline such as the Expandathon in Lisbon. Such an irregular and ad hoc update is the source of

an important synchronization effort. Indeed the work needed to recover the various changes across all value sets (45) is relatively high while a continuous update would make the work both easier and more tractable.

## 2.3 Lessons learned for Switzerland

### Diagnosis descriptors

The ICD10-GM is updated every two years by the BAG while it is updated every year by the WHO. The epSOS MVC is based on the latter, while the HUG codes are aligned on the ICD-10-GM such a situation may occasionally create inconsistencies in both the transcoding and the translation tables.

### Central services

HealthTerm, the official epSOS and Expand terminological server, was not available. The expected bulk upload functionalities, already anticipated during epSOS, have not been delivered in Expand. Several factors may explain such a situation such as the business model of Carecom (based on consulting licenses) and the software design of the product, which was not designed as a terminological servers but merely as a terminological authoring, translation and workflow validation tool. Any future solutions should comply with CTS standards.

The Swiss terminological updates were however made possible thanks to the highly decentralized architecture maintained at the HES-SO. However such an approach was made manageable because the OpenNCP and Semantic team work closely together and because a unique NCP was tested. Beyond Expand, a more scalable solution could be explored.

### Short project duration

A 12/18 months project poses several challenges as it does not allow for sufficient planning. We thus were almost managing the project on a day by day basis without clear agenda.

## 2.4 Next steps

### 1. Uploading MTTC on HealthTerm

Marcello Melgara proposed, before Christmas holidays, to test the bulk upload of the Italian MTTC, which assumes the complete upload of MVC 2.0. If achieved during 2016, we may support the process and test the bulk upload of the Swiss MTTC.

### 2. Maintaining terminologies within CEF

Several EU call for projects are planned in 2016 to support the OpenNCP developments but apparently no similar calls are scheduled for the semantic aspects.

## 2.5 Manpower

The workload in man-months devoted to the main topics by the HES-SO team is the following. LM, PR and AM stands respectively for Luc Mottin, Patrick Ruch and Anaïs Mottaz.

<b>Task</b>	<b>Days</b>	<b>CHF</b>
EXPAND Tconf : WP5 maintenance shop (3 LM + 1 PR) + SB TC (1.5) + Semantic shop and MVC2.0 (1.5) + special TC Final Event (0.5) + Lisbon meeting (2)	8.5	
Update to MVC 2.0 + Translation + Transcoding (10 LM + 7 AM)	17	
Deployment of MVC 2.0 + MTC 2.0 + MTTC 2.0	7	
Monitoring on HealthTerm	1	
<b>Total</b>	<b>33.5</b>	
Split as follows:		
<b>e-Health Swiss</b>	<b>26</b>	
<b>HES-SO/HEG Geneva</b>	<b>7.5</b>	

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Geneva, January 5, 2016*