



Deployment of a *Data and Service Center for the Humanities* satellite: Prototype at the University of Lausanne

Background of the DaSCH satellite deployment in the University of Lausanne

The current deployment of a local satellite of the *Data and Service Center for the Humanities* at the University of Lausanne follows the involvement of the Direction of the university and of three faculties (Lettres, Sciences Sociales et Politiques, Théologie et Sciences des Religions) during the [early stages of the project \(2013-2015\)](#).

From 2016 onwards, the creation of a DaSCH satellite at Unil was part of a general endeavour to provide researchers in humanities and social sciences with a support infrastructure for the digital components of their research practices (PlaTec ou “plateforme technique du LaDHUL”). Due to a lack of resources, the service grid infrastructure provided by PlaTec relies mostly on the implementation of tools developed within the DaSCH framework ([Knora](#), [Salsah](#)) and the support and consulting services closely related. As such, the University of Lausanne can be considered as a prototype of a DaSCH satellite. Hopefully, the deployment of further satellites may benefit from the experience undertaken at the University of Lausanne.

Human resources

Three combinations have been tested so far for the composition of the team:

(1) 1 FTE hybrid profile, with a PhD in humanities, a solid experience with databases and data modelling, responsible for researchers’ support in data modelling and working in close relation to the DaSCH-Basel.

Drawback: the satellite lacks autonomy in IT skills (e.g. data import scripts), which tends to make the teamwork with DaSCH-Basel more complex and increases the amount of work for the DaSCH-Basel.

(2) 1 FTE hybrid profile (see above) + 0,5 FTE software developer (PhD), in charge of data import.

This composition has not been tested long enough, but the limited IT work time makes it unlikely to fulfil the tasks devoted to a DaSCH satellite, even if the number of projects supported is limited.

(3) 1 FTE hybrid profile (see above) + 1 FTE software developer (Master), in charge of

- (a) data import and cleaning,
- (b) first assessment of research projects’ digital needs,
- (c) administration of servers,
- (d) debugging,
- (e) development of lacking features,
- (f) development of web interface or development specifications for external service providers.

Drawback: in this early production stage, the amount of work for the software developer is high. Consequently, task (e) is limited to critical features for Unil users and (f) is set aside for the moment. Given the fact the IT infrastructure of the satellite rests on a single software developer, he must be flexible, multi-tasker and have a good capacity to adapt.

- The current situation in Lausanne is **(3)**. In this current stage, the hybrid profile is in charge of
- (g) coordination and prioritization of developments (according to users requirements) with the DaSCH-Basel team,
 - (h) project monitoring with the research teams,
 - (i) research teams support for data modelling,
 - (j) data modelling (ontologies) and testing,
 - (k) research teams training (tools pick up),
 - (l) coordination of digital assessment and consulting for the mounting of new projects, supervision of development specifications for external service providers.

In the near future, to comply with the news requirements of the SNFS,

- (m) research data management supervision is likely to be added to these tasks (support and guidance of new projects for *Data Management Plans DMPs*).

Infrastructure

The involvement of three faculties within the pilot-phase of the project resulted in a *cross-faculty* DaSCH satellite. This cross-faculty status, as well as an involvement within a national project, has been a significant criterion of assessment for the demands submitted by the DaSCH satellite to the Centre informatique (Ci) of the University of Lausanne, in charge of the allocation of hardware resources. Following the DaSCH-Basel recommendations and thanks to the Ci support, the DaSCH satellite relies on the following infrastructure.

Hardware

Production environment	
Virtual machine	2 v-cores, 10G RAM, 20G Disk
Network-attached storage	2T
Pre-production environment	
Virtual machine	10G RAM, 20G Disk
Network-attached storage	0.5T
Media server	
Virtual machine	2 v-cores, 8G RAM, 20G Disk
Network-attached storage	5T

Software

Even though Knora can rely on free RDF triplestores such as [Fuseki](#), the choice was made to buy a [GraphDB-Standard Edition](#) license for the production environment so that the configuration of the satellite is as close as possible to the DaSCH-Basel. Besides, a consistent implementation between the two sites has proven to facilitate support, debugging and cross-site team communication.

The GraphDB-SE license package includes production, pre-production and development environments with an annual maintenance plan:

Item	Core	Units
GraphDB-SE Academic Production License	4	1
GraphDB-SE Academic PreProduction License	4	1
GraphDB Academic Development License	-	2
GraphDB Annual Maintenance Plan	-	1

Funding

As stated above, as a cross-faculty service provider, the satellite can draw on the Ci infrastructure. As a consequence, human resources cost remains the principal outlay of the satellite.

Human resources

Position	Cost per year (charges included)
1 FTE hybrid profile	CHF 129'000.00
1 FTE software developer	CHF 131'000.00

Infrastructure

The hardware is kindly made available to the DaSCH-satellite by the Ci. Moreover, the GraphDB-SE license with the above-mentioned configuration (charged 8'083.00 CHF including VAT) was also covered by the Ci (but this decision is re-evaluated on an annual basis).

Other costs

Other costs include travel expenses to Basel and accommodation, for coordination purposes and face-to-face meetings on a regular basis (approximately once every 2 months).

Cooperation, responsibilities and division of labour between the satellite and DaSCH-Basel

The collaboration between the satellite and DaSCH-Basel is based on the principle that the satellite is completely autonomous regarding the way research projects are accepted and taken care of (see tasks (a) to (m) above). But, as a satellite, DaSCH-Lausanne has to ensure that the projects supported comply with the DaSCH policy: promote open research data, rely on standards whenever possible, conform to file format recommendations, etc.

As the IT-resources currently available for the satellite are not sufficient to insure its complete autonomy in the development of new features, each project with special IT needs is discussed with DaSCH-Basel. Provided that these special needs, if covered, would benefit to a wider community of users in humanities, IT development is prioritized and scheduled with DaSCH-Basel. IT tasks are then distributed between the satellite and the DaSCH-Basel, depending on available resources. On a daily basis, communication on IT matters relies mainly on a collaborative software development platform ([GitHub](#)) and on a dedicated mailing list.

The expression and relay of the users' peculiar needs in Lausanne to DaSCH-Basel is critical. Global features and functionalities to meet the needs of the broad communities of users (e.g. geo-data support, web interface usability, advanced research functionalities) are discussed and debated in face-to-face meetings. The satellite, under the arbitration of the director of the DaSCH, is thus able to affect and contribute (directly or indirectly) to the design of the tools and to the shaping of the service grid provided by the DaSCH.

Brief account on DaSCH-satellite activities

Project support

In the current configuration, the DaSCH-satellite at Unil:

- has assessed 13 projects since march 2016;
- actively supports 7 projects at various stages of development;
- has supervised 4 research project in data modelling;
- has accompanied 2 new projects in their submission phase (assessment of data management and digital needs);
- has put 2 projects in 'pending' status, given the fact that they do not have urgent needs in their research practices (e.g. post-mortem status or existing database).

While maintaining a rather low profile given the pre-production phase both the DaSCH-Basel and the DaSCH satellite were going through, support claims were regularly expressed by research teams. Now that we are entering a production phase and become more confident in our ability to deal with the various services a DaSCH satellite should provide, we plan to promote more widely our activities and service grid. This, along with the new SFNS expectations for DMPs in the next project funding campaign, will probably result in the current human resources of the satellite to be overwhelmed.

Accompanying measures for the set-up of a satellite

In addition to a dedicated [web site](#) with a [custom and detailed support form](#), contacts are currently being taken with research consultants of each faculty involved in order to promote our services and share responsibilities and workload, especially regarding the support of projects in mounting phases. Together with other stakeholders, the DaSCH satellite is also involved in the commission in charge of the preparation of a **research data policy paper and implementation strategy** for the university.

Université de Lausanne – Plateforme technique du LaDHUL

Géopolis 5612 | Quartier UNIL-Mouline | 1015 Lausanne
+41 (0)21 692 37 03 | email: platec-ladhul@unil.ch.

Data and Service Center for the Humanities

Bernoullistrasse 32 | 4056 Basel
+41 (0)61 207 38 36 | email: info@dasch.swiss

Lausanne, 12 mai 2017