

## Afrapportering på data management pilot projekt

Afrapporteringsdato	12/1/2018 (January 1st)	Afrapportering #	3
Projekt navn	NSAS - National Science App Store		
Projekt start	1/10/2016	Projekt slut	30/6/2018

### Realiserede resultater/leverancer ultimo 2017

The project is running according to the revised plan presented in the status report dated 16/5/2017. We have implemented a prototype for a new scalable storage system, capable of handling sensitive data (GDPR compliant), based on CEPH, iRods and ELK. We are developing a new web-based application which provides the interface to the system which will allow users to access/discover/interact with their data, which includes an "App store" and the ability transfer data to and launch application for workflow analyses on Abacus2.0. The current status for deliverables is the following (in parentheses a list of open-source technologies used):

- May 2017: Hiring developers team / Setting up of development system.
- June-July 2017: acquisition of new hardware.
- Aug-Sept 2017: scalable object storage system (CEPH,iRods,ELK) and debug
- Sept-Oct 2017: auditing system (custom iRods plugin, ELK); system monitoring (prometheus, grafana) and debug.
- Oct 2017: data transfer to/from Abacus2.0 and application execution in containers on Abacus2.0 (Singularity).
- Nov 2017: definition of "app" format based on containers (Singularity, JSON); APIs to handle "apps" in the system.
- Oct-Dec 2017: design and implementation of web-based application for user interaction. We have a working implementation that allows to: authenticate users (WAYF); browse/upload/download data; access the App store; launch an application on Abacus2.0 for data analysis (Singularity) with automatic data transfer to/from the computing platform; notification system; a simple dashboard for an overview of user activities.

A simple but realistic proof-of-concept app was used to test the system. Three out of five of the original milestones for the project have been reached ("Basic app" container & "App Store", "Apps interface to Abacus 2.0", "Proof-of-concept Apps – each app is a milestone for this project"); a fourth one is well underway ("Basic app" container & "App Store").

### Forventede resultater/leverancer medio 2018

- The user interaction components will be further developed and debugged. Specifically we will integrate in the user interface the ability to share data collections, add user metadata and search. With our partner the SDU library we will choose an appropriate library interface and integrate it into the system. Ideally, we would like to provide a "live" research data catalogue.
- The remaining proof-of-concept applications will be developed in collaboration with our partners. The applications will be integrated into the new system and tested. This will complete the two milestones "Proof-of-concept Apps – each app is a milestone for this project" and "Basic app" container & "App Store".

All our code is maintained in a github repository which will be made public at the end of the project. At the end of the project we expect to have a fully working prototype for an institutional research data system, which is GDPR compliant and scalable, and which integrates advanced data analysis at the DeiC national HPC center, SDU and library functionalities.

### Konstaterede eller forventede afvigelser i forhold til de planlagte leverancer

Her ønskes ingen lange forklaringer.

With respect to the revised plan agreed in the previous report dated 16/5/2017, and as already reported there, it is unclear if the new system will be integrated with Zenodo. While this is still a possibility, the SDU library expressed the wish to also be able to publish data collections stored locally at SDU.

### Forbrugt bevilling

Bruges hele bevillingen?

We have 2 FTE funded by this grant working full time as originally planned, from May 1<sup>st</sup> 2017 until the end of the grant. This accounts for 28Months of FTE (in the budget we had 27.6 Months). Some of the allocated travel money (~20k dkk) has also been already spent (kick-off meeting, iRods user group meeting) and more meetings with the partners are planned in 2018. Therefore we expect to be able to use the whole allocated grant.