



SNIC National Storage

iRODS User Group Meeting 2017



Swedish National Infrastructure for Computing

Dejan Vitlacil KTH-PDC (SNIC)
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On behalf of the SNIC Storage Group

About

The Swedish National Infrastructure for Computing (SNIC) is a national research infrastructure that provides resources and user support for **large scale computation** and **data storage**.

The infrastructure shall meet the needs of researchers from many scientific disciplines and from many institutes for higher education and many research institutes.

The resources provided by SNIC are made available through **open procedures** such that the best Swedish research is supported and new research is facilitated.

SNAC - Swedish National Allocations Committee - allocates SNIC resources.



About



The SNIC infrastructure is funded by the Swedish Research Council (Vetenskapsrådet) and the partners. SNIC is organized as a long-term project (2012-2016/2018), with its own Board.

SNIC includes six partners. The partners (and their compute centres) in SNIC are Chalmers (**C3SE**), KTH (**PDC**), LiU (**NSC**), LU (**Lunarc**), UmU (**HPC2N**) and UU (**UPPMAX**). The centres provide resources, services, support and expertise and are (local) contact points for the users.

About

SNIC will be reorganized from 2018 in order to achieve a structure more suited for long term governance and funding.

A consortium of ten Universities will govern SNIC to achieve long term sustainability.

SNIC will be funded by 50 % from the consortium and 50 % from the Swedish Research Council.

Scope

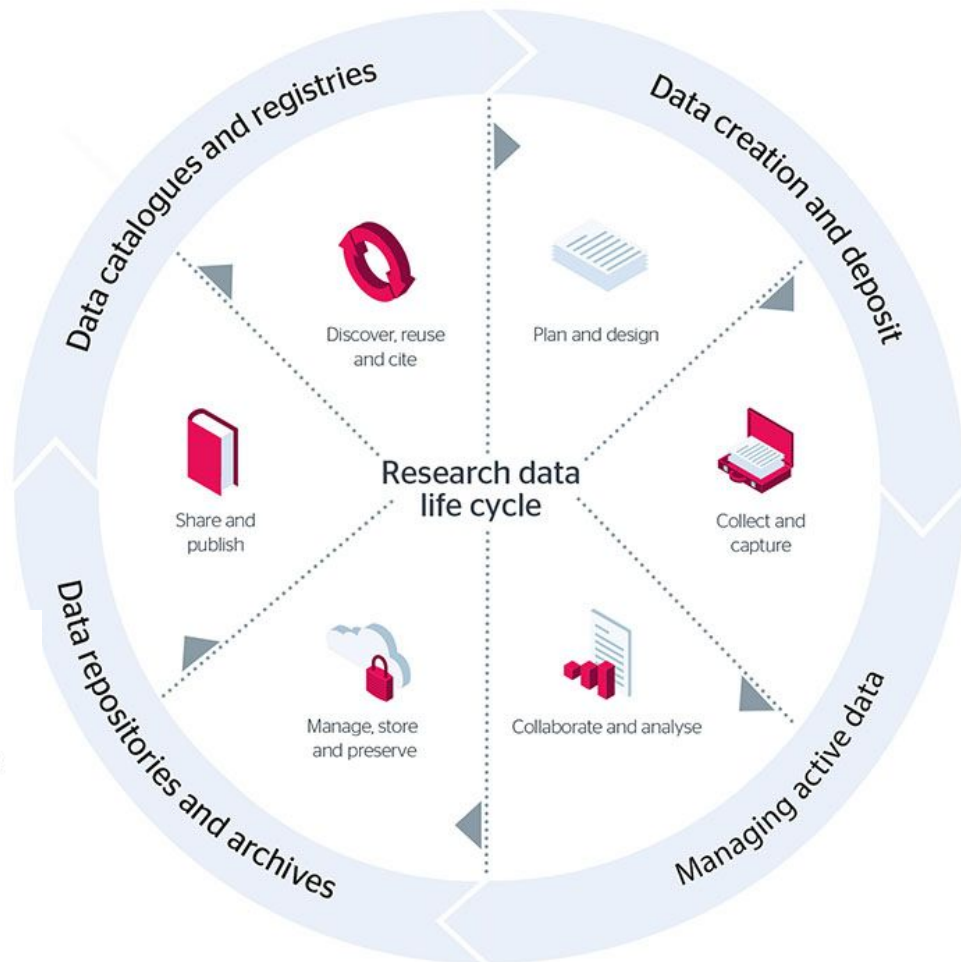
Problematic usage:

- Long term storage
- Secondary copy of active data
- Backup
- ...

- Publications in Nature, with mentioning of SNIC and Swestore

predicted using TMHMM v2.0 (ref. 42); Information of the first three best Pfam (v25.0)⁴³ domains hits by HMMER 3.0 (ref. 44) were included in the table; KO and pathway were predicted by Kyoto Encyclopedia of Genes and Genomes Automatic Annotation Server⁴⁵. Raw data from the LC-MS/MS experiment can be found at

http://webdav.swegrid.se/snic/bils/uu_scilife/pub/ in the file Jerlstrom-Hultqvist_etal_Nat_Communications_2013.zip.



Scope

Data Management Planning:

- design research
- plan data management (formats, storage etc)
- plan consent for sharing
- ...

Creating Data:

- locate existing data
- collect data (experiment, observe, measure, simulate, ...)
- capture and create metadata
- ...

Processing and Analysing Data:

- enter data, digitise, transcribe, translate
- check, validate, clean data
- anonymise data where necessary
- describe data
- data enrichment
- manage and store data
- interpret data
- derive data
- produce research outputs
- author publications
- prepare data for preservation
- document analysis and file manipulations
- manage file versions
- ...

Preserving Data:

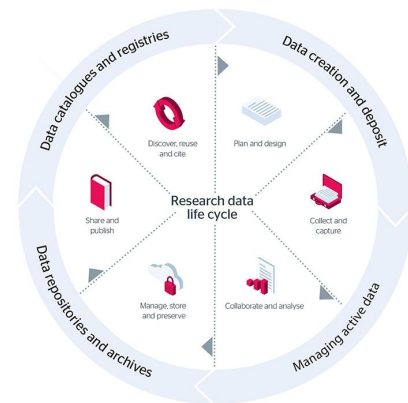
- migrate data to best format
- migrate data to suitable medium
- backup and store data
- create metadata and documentation
- archive data
- ...

Giving Access to Data:

- distribute data
- share data
- control access
- establish copyright
- promote data
- ...

Re-Using Data:

- follow-up research
- new research
- undertake research reviews
- scrutinise findings
- teach and learn
- ...



Research data lifecycle diagram
©Jisc CC BY-NC-ND

Archiving (Preserving Data)

Swedish legal framework:

- Freedom of the Press Act,
- Public Access to Information and Secrecy Act (OSL),
- Personal Data Act (PUL),
- Law on Ethical Review of Research
- Archives Act

Research data is to be regarded as a **public document** since it is stored or was produced at a public authority (University).

First, public documents belong to the public authority and research data is consequently not the **property** of the individual researcher but of the **higher education institution** (which normally is a public authority) where the researchers is employed.

Second, everyone who wishes to has the opportunity to request public documents from an authority, which means that we already have a **passive form of open access**. Research data that includes personal information is protected, however, by legislation regarding secrecy and integrity and any disclosure of such research data may only take place after special review.

Third, the higher education institutions are **responsible for archiving and long-term preservation of research data** produced by researchers employed by them.

For completed research projects

Raw data, such as data/information that you gathered from experiments, interviews and scientific calculations. The following types of records are raw data and could either be preserved or sorted out.

- Pictures or sound recordings
- Surveys
- Calculations and test results
- Statistics
- Protocols from scientific researches

The following records must be preserved:

- Project diaries
- Final reports, publications and articles
- Theses
- ...

It is up to you to decide whether your raw data should be preserved or not. Take the following criteria into consideration when determining the future value of the raw data: future scientific value, historical value or general interest in the data. The research data that will be preserved must be organized in such a way that makes it as easy as possible for others to search within the material. Place the records in labelled archival boxes/files/electronic folders.

Please note that all raw data that will be sorted out must still be kept for at least 10 years after the financial reporting.

Process



- Check for the open calls



Swedish National Infrastructure for Computing

The Swedish National Infrastructure for Computing (SNIC) is a national research infrastructure with a threefold mission:

- provide a balanced and cost-efficient set of resources and user support for large scale computation and data storage
- meet the needs of researchers from all scientific disciplines and from all Swedish universities and university colleges
- make the resources available through open application procedures such that the best Swedish research is supported

SNIC is a distributed infrastructure that is funded in part by the Swedish Research Council ([Vetenskapsrådet](#)) and in part by the Uppsala University.

[Read more about SNIC](#)

Important deadlines:

Call	Upcoming Deadlines	Link
SNIC SMALL Allocations	Continuous	SNIC SMALL
SNIC MEDIUM Allocations	Continuous	SNIC MEDIUM
SNIC LARGE Allocations	The Spring 2017 LARGE call is open. Deadline to apply is: 12 April 2017 at 3 PM.	SNIC LARGE
Swestore SMALL and MEDIUM Allocations	Open for calls.	Swestore
Swestore LARGE Allocations	Not open for calls.	Swestore
PRACE Call for Tier-0 access	There is presently no open call.	PRACE
PRACE Call for Preparatory Access	Continuous. Cut-off date: 9 December 2016, 11.00.	PRACE

Highlighted items, including external information:

- SNIC: Acknowledging the use of SNIC resources in publications. [Read more](#)
- PRACE project allocations with Swedish project leader on Europe's largest HPC (Tier-0) resources. [Read more](#)
- SNIC training events. [Read more](#)
- SeSE: Swedish e-Science Education - courses spring 2017. [Read more](#)



Vetenskapsrådet

- SNIC HPC
- Swestore
- SweGrid

Process



- Check for the open calls
- Register / Login to SUPR

SNIC

SUPR

Start

Rounds

Login

Support

Your are not logged in.

SUPR - SNIC User and Project Repository

SUPR is the SNIC database used to keep track of persons, projects, project proposals and more.

To use SUPR you need to be logged in. If you have been a principal investigator for or member in a recent SNAC project you will be present in the system.

to your existing person.

for your existing person.

for your recently registered person.

if you are not present in the system.

Proposals Rounds

You can view information about proposal rounds without logging in.

List of Current SNIC Projects

You can view a list of current SNIC projects without logging in.

Current SNIC User Agreement

You can view the current SNIC User Agreement without logging in.

Process



- Check for the open calls
- Register / Login to SUPR
- Choose a round

SUPR

Start

Proposals

Rounds

Projects

LiU-2017-00089-5

Groups

pdg-staff
SONC
swestore-admins

Accounts

Personal Information

System

Admin Pages
Logout

Support

Logged in as:
Dejan Vitlacil
(vitiacil@kth.se)

SUPR - Dejan Vitlacil

You are now logged in.

Undecided Proposal

Proposal	PI	Project Title	Round	Centres	Decision Deadline
SNIC 2016/32-13	Sophie Erhardt	Analysing omics in first episode patient...	SNAC Small Swestore 2016	SNIC Storage	

The **Decision Deadline** shown is the requested start date (if filled in). Otherwise, it is the end date of the project this proposal is a continuation of (if not more than 90 days in the past).

Proposals

You have no proposals in preparation or pending committee decision.

To create a new proposal, select the appropriate open round in the table below and follow the instructions on that page.

Rounds

Open for Proposals

Round	Deadline
SNAC Large, Spring 2017	2017-04-12 15:00
SNAC Medium, 2017	—
SNAC Small C3SE, 2017	—
SNAC Small HPC2N, 2017	—
SNAC Small Lunarc, 2017	—
SNAC Small NSC, 2017	—
SNAC Small UPPMAX, 2017	—
SNAC Medium Swestore 2017	—
SNAC Small Swestore 2017	—
DCS 2017	—
SNIC SENS 2017	—
UPPNEX 2017	—
C3SE Local, 2017	—
LiU Local, 2017	—
L-SENS, 2017	—
LU Local, 2017	—
Mosler 2017	—
PDC Industry 2017	—
PDC Local 2017	—
Scilifelab Storage 2017	—
UPPMAX courses 2017	—
UPPMAX Storage 2017	—
SNIC Science Cloud 2017	—

Process



- Check for the open calls
- Register / Login to SUPR
- Choose a round
- Create and submit proposal

SNIC

SUPR

Start

Proposals

Rounds

Projects
LiU-2017-00089-5

Groups
pdc-staff
SONC
swestore-admins

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Support
Logged in as:
Dejan Vitlacil
(vitlacil@kth.se)

Create new Proposal for SNAC Medium Swestore 2017

Checklist

Before creating a new proposal, please consider the points below. Proposals not meeting these requirements cannot be approved.

- You (**Dejan Vitlacil**) must be the principal investigator (PI) for the proposal.
- The proposal must contain all mandatory information.
- The proposal must be submitted before the deadline (**2018-01-01 00:00**).

You may choose to create a proposal from scratch or by cloning information from an earlier proposal.

Alternative 1: Create Proposal from Scratch

To create a proposal from scratch for SNAC Medium Swestore 2017, please start by providing a title for the proposal.

Principal Investigator: Dejan Vitlacil
Round: SNAC Medium Swestore 2017
Project Title: *

Create New Proposal

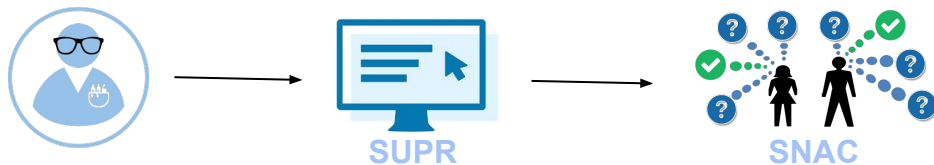
Alternative 2: Create Proposal Based on Earlier Proposal

To create a proposal for SNAC Medium Swestore 2017 by cloning information from an earlier proposal, please choose an earlier proposals to use as a template.

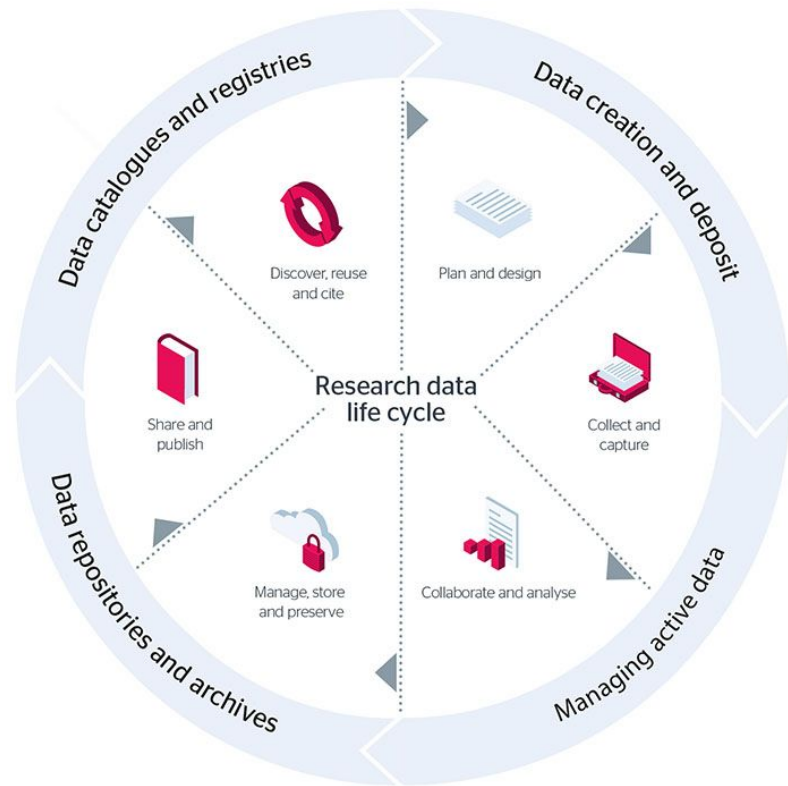
Principal Investigator: Dejan Vitlacil
Round: SNAC Medium Swestore 2017
Proposal to Clone: *

Clone Proposal

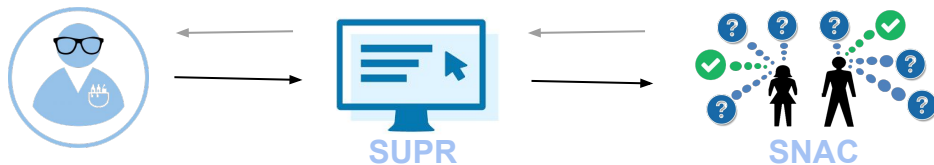
Process



- Check for the open calls
- Register / Login to SUPR
- Choose a round
- Create and submit proposal
- DMP
- Formalise SNAC (WG) role



Process



- Check for the open calls
- Register / Login to SUPR
- Choose a round
- Create and submit proposal
- DMP
- Formalise SNAC (WG) role
- Proposal approved
- User is informed
- Identity Management updated

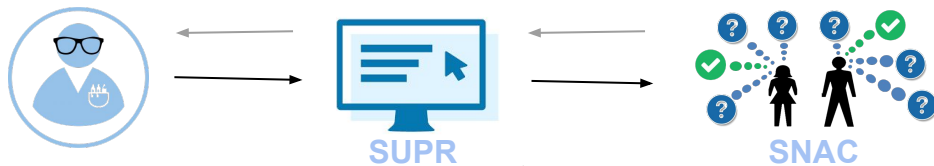


- Grid Certificate
- Password (KRB/PAM)

- 14d for S and M allocation
- L allocation process missing

- Proposal approved
- Confirmation mail about proposal sent
- Change monitoring scripts
 - User
 - SNIC username
 - DN
 - Project
 - Directory (path)
 - E-mail
 - ...
- Swestore information mail
 - Username
 - Project path
 - Temp password
 - Reset password
 - Documentation link
 -

Process

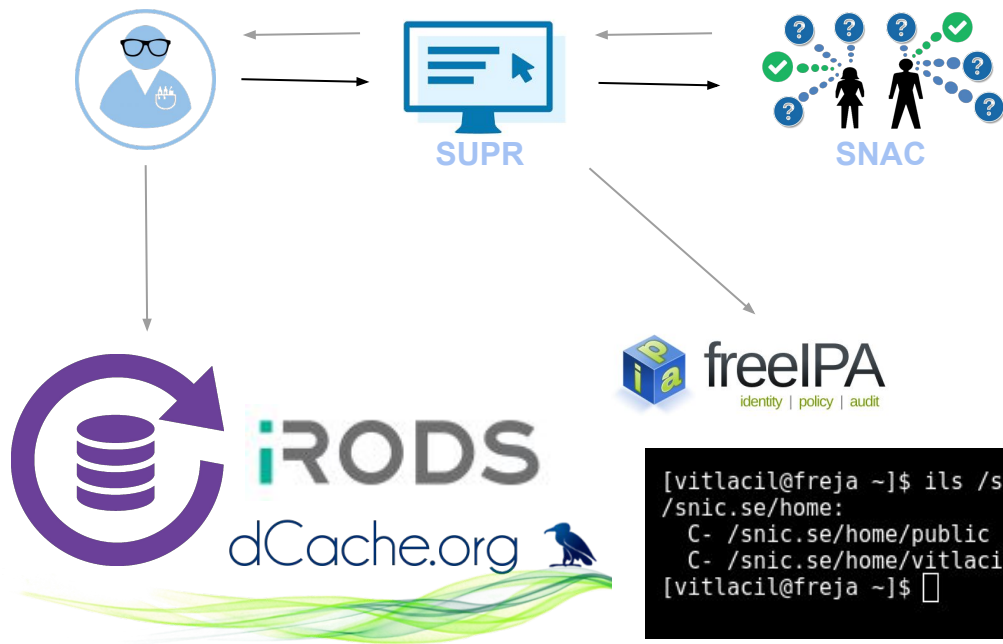


- Check for the open calls
- Register / Login to SUPR
- Choose a round
- Create and submit proposal
- DMP
- Formalise SNAC (WG) role
- Proposal approved
- User is informed
- Identity Management updated
- Change password requested
- Storage resource available



The image shows a screenshot of the SNIC Storage Identity Management interface. The header features the 'SNIC' logo in purple. Below it, the text 'SNIC Storage Identity Management' is displayed. The main section is titled 'Password Reset' and contains a green-bordered box with the message 'Password reset was successful.' Below this, there are four input fields: 'Username' (containing 'vitalci'), 'Current Password', 'New Password', and 'Verify Password'. A blue 'Reset' button is located at the bottom right of the form.

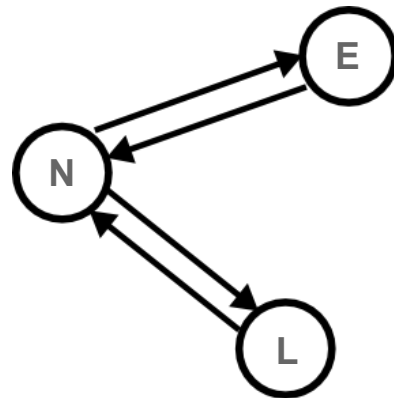
Process



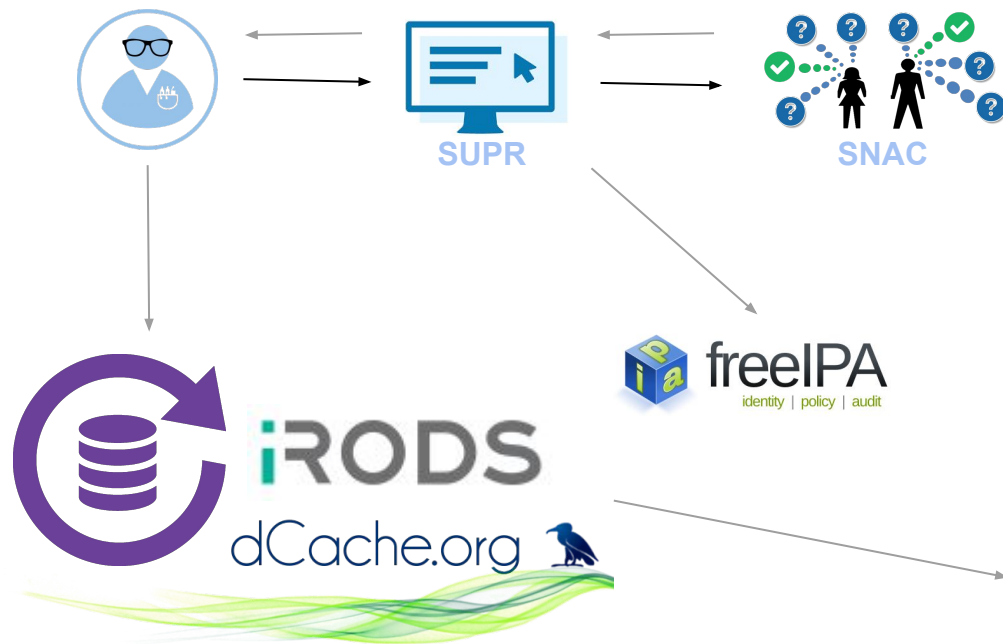
```
[vitlacil@freja ~]$ ils /  
/  
C- /eudat.se  
C- /pdc.kth.se  
C- /snic.se  
[vitlacil@freja ~]$ ils /eudat.se/  
eudat.se:  
C- /eudat.se/home  
C- /eudat.se/projects  
[vitlacil@freja ~]$ ils /pdc.kth.se/  
pdc.kth.se:  
C- /pdc.kth.se/home  
[vitlacil@freja ~]$
```



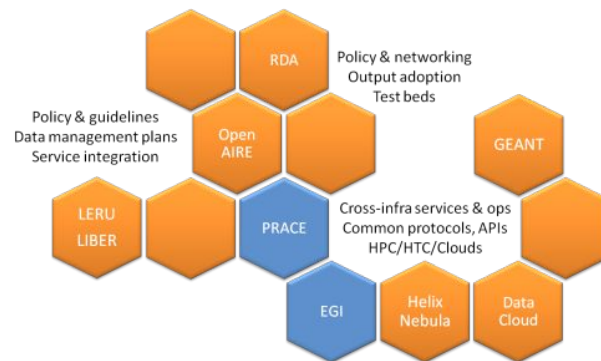
```
[vitlacil@freja ~]$ ils /snic.se/home  
/snic.se/home:  
C- /snic.se/home/public  
C- /snic.se/home/vitlacil  
[vitlacil@freja ~]$
```



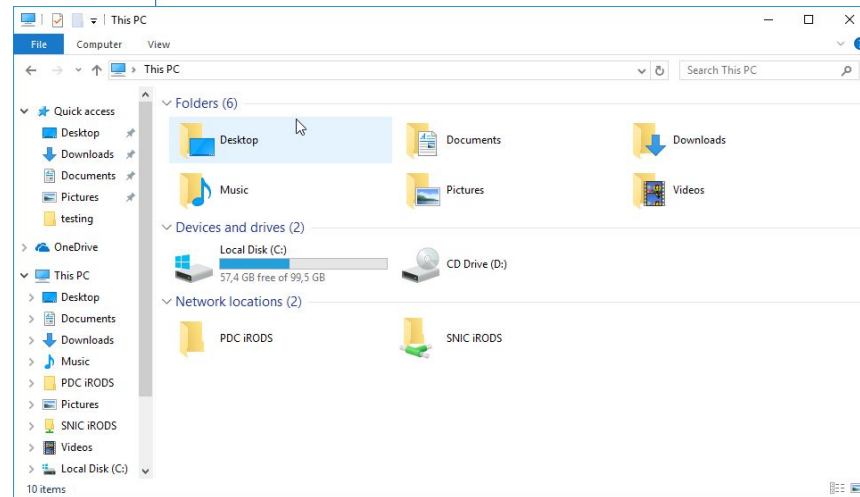
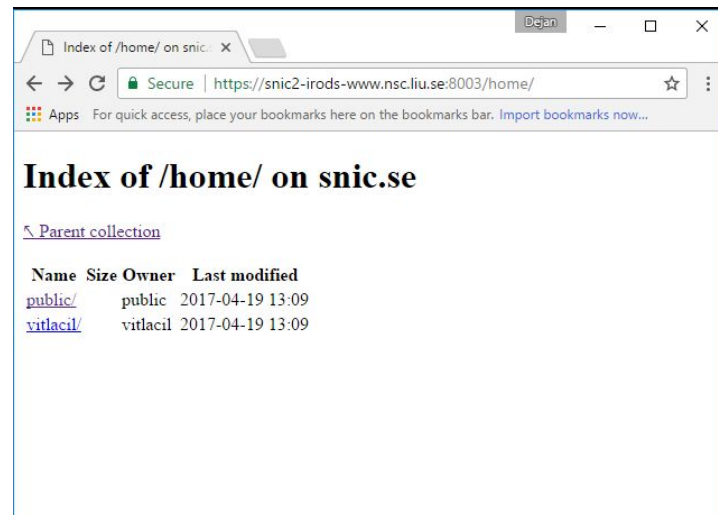
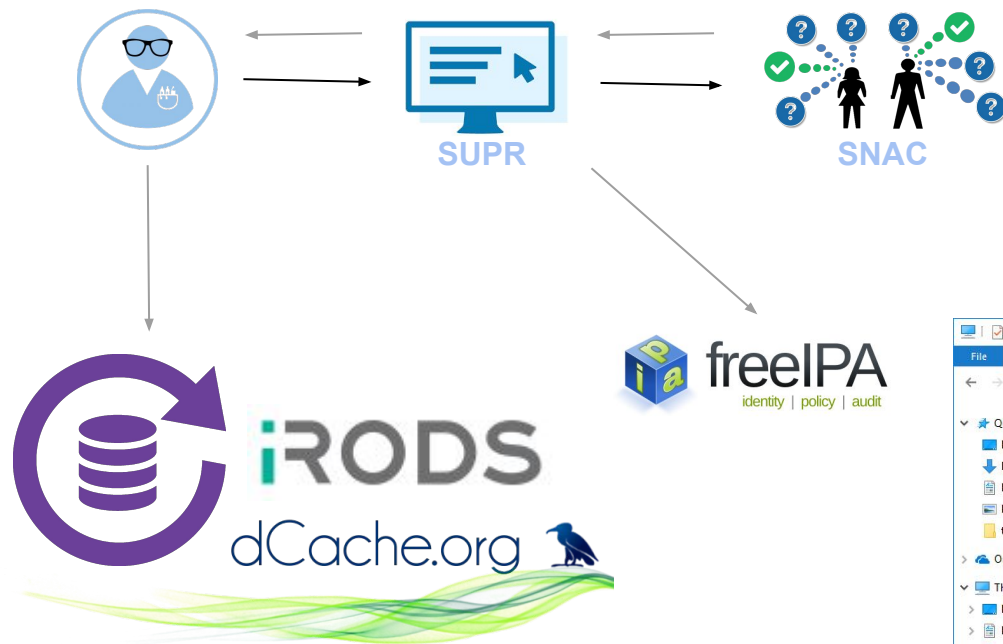
Process



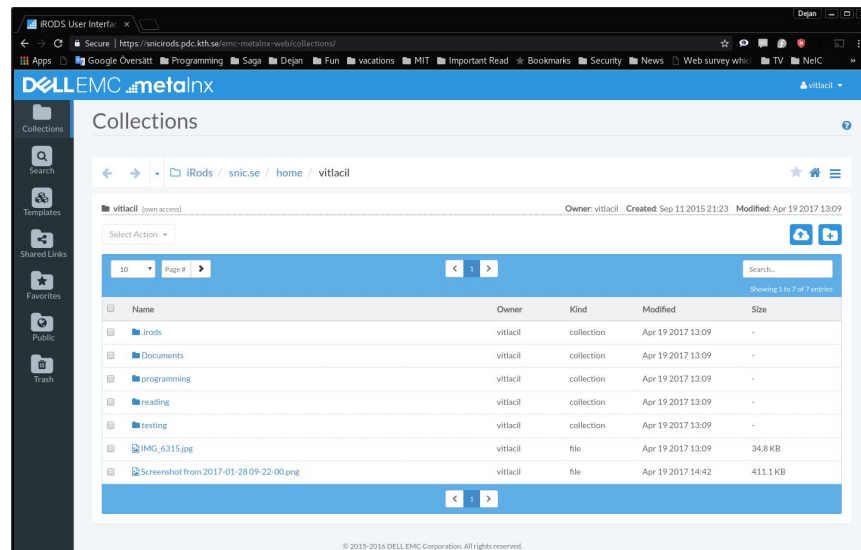
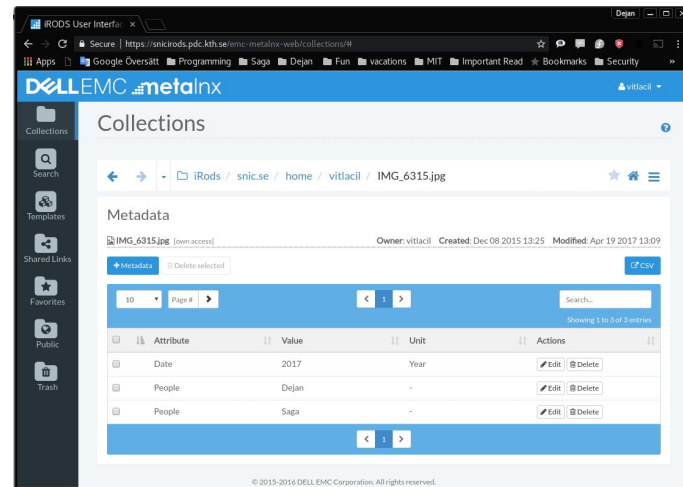
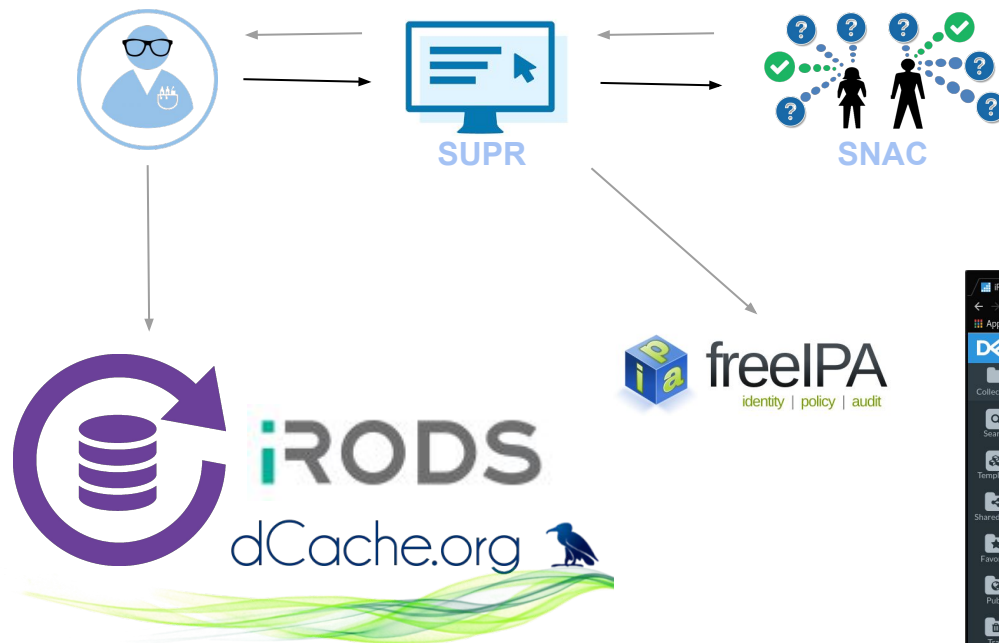
Who's behind the EUDAT CDI?



Process



Process



Process



RT (via support@swestore.se)

Documentation
(Sphinx and GitHub)

Allocation status
(Munin)



GitHub
(configuration files)

IBM Spectrum Protect
(Backup)

Monitoring & Alerting
(Observium, Munin, Ganglia, Nagios)



[Docs](#) » SNIC Swestore Documentation

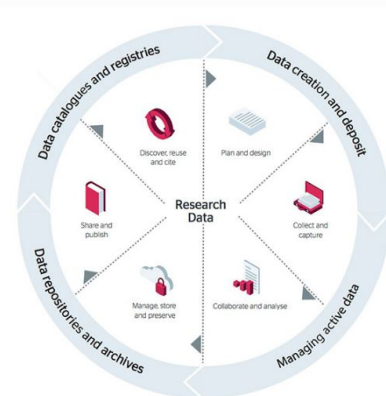
[Edit on GitHub](#)

SNIC Swestore Documentation

About Swestore

Swestore is National Research Data Storage Infrastructure operated by the Swedish National Infrastructure for Computing (SNIC).

The resources provided by Swestore are made available through open procedures such that the best Swedish research is supported and new research is facilitated. The purpose of Swestore allocations, granted by Swedish National Allocations Committee (SNAC), is to provide large scale data storage for "live" or "working" research data, also known as active research data.



SNIC (Storage) Infrastructure

- Swestore dCache

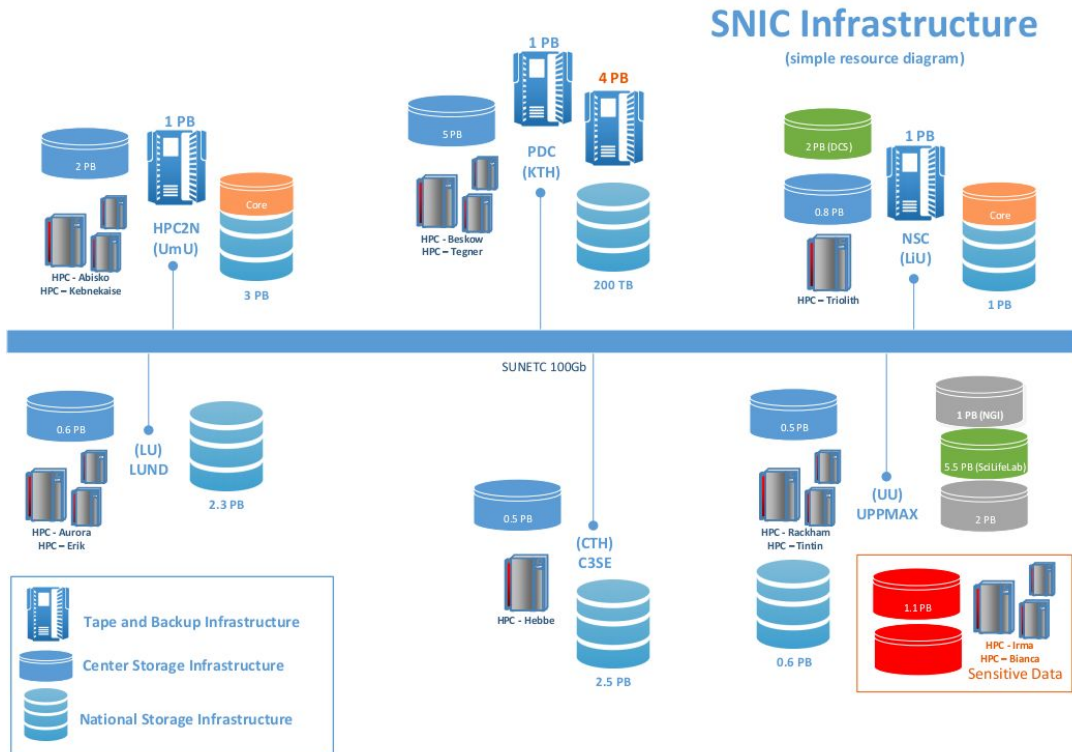
- NSC
- C3SE
- HPC2N
- Lunarc

- Swestore iRODS

- PDC
- NSC

- Backup & Tape Infrastructure

- PDC
- NSC
- HPC2N



SNIC (Storage) Operations

- Swestore dCache
 - NSC
 - C3SE
 - HPC2N
 - Lunarc

- Swestore iRODS
 - PDC
 - NSC

- Backup & Tape Infrastructure
 - PDC
 - NSC
 - HPC2N

Service Coordinator

- SNIC Contact
- System upgrades
- Technology expert
- Investment planning
- System architecture
- Advanced debugging
- Team leader
- Monitoring / Reporting
- Needs deputy
- ...

~

Service Team

- Operator on duty
- User Support
- Documentation
- SysAdmin/Ops
- ...

SNIC Storage

Dejan Vitlacil

All Threads

CHANNELS (13)

- # backup-and-tape
- # center-storage
- # coordination
- # dcache-core
- # dcache-sites
- # eudat
- # general
- # irods-core
- # pdc-irods
- # policy
- # training
- # user-documentation


DIRECT MESSAGES


- slackbot
- Björn Torkelsson
- Ilari Korhonen
- Jens Larsson
- Niklas Edmundsson
- Peter Gille
- Pontus Freyhult


+ Invite people


#irods-core


☆ 11 | 0 | Add a topic


 **Ilari Korhonen** 15:58
no, I like visiting you guys 😊
and I'm hoping to get my transport out of stor


 **Janos Nagy** 16:00
For the Xen guest pygrub, when counting dow
That's /usr/lib64/xen/bin/pygrub, it's a bug. I §
Then, there is systemd. He wants to start sshd


 **Dejan Vitlacil** 16:03
@krishnaveni I forgot name of test SUPR insta


 **Janos Nagy** 16:04
https://bugzilla.redhat.com/show_bug.cgi?id=1


 **Krishnaveni Chitrapu** 16:04
[disposer.c3se.chalmers.se/supr-test](https://bugzilla.redhat.com/show_bug.cgi?id=1)


 **Dejan Vitlacil** 16:04
danke


 **Janos Nagy** 16:04
https://bugzilla.redhat.com/show_bug.cgi?id=1


 **Ilari Korhonen** 16:06
@vitlacil disposer?


 **Janos Nagy** 16:06
Now it works with a workaround, if I change tt

 **Janos Nagy** 16:45
Backups are made, IPA configured with Kerber

 **Jens Larsson** 16:56
I don't know if I'm around next week. I probabl

 **Ilari Korhonen** 17:01
please, don't let me stand between you and yo
if I might visit next week, I was just thinking of

 **Janos Nagy** 17:02
The question is not that why some people go i

 **Ilari Korhonen** 17:02
yes, I agree!

+ Message #irods-core

SNIC (Storage) Activity Plan: 2017

- Swestore dCache
 - NSC
 - C3SE
 - HPC2N
 - Lunarc

- Swestore iRODS
 - PDC
 - NSC

- Backup & Tape Infrastructure
 - PDC
 - NSC
 - HPC2N



Archivematica is a digital preservation system that automates the process of preparing digital objects for ingest into a repository, ingesting them into archival storage and providing access to the archived material.

The system is easy to use, though as it draws heavily on the OAIS Reference Model some familiarity with that model is needed to understand the workflows Archivematica supports.

... and now Ilari Kungliga Korhonen

Scope



SNIC (Storage) Activity Plan: 2017

- Swestore dCache
 - NSC
 - C3SE
 - HPC2N
 - Lunarc

- Swestore iRODS
 - PDC
 - NSC

- Backup & Tape Infrastructure
 - PDC
 - NSC
 - HPC2N

- Upgrade dCache to the latest version, which has many improvements for operational stability and service replication;
- Create an usability workgroup to make Swestore easier to use;
- Create new access methods (suggestions are SFTP and RSYNC);
- Enter more identification methods except user certificates (suggestions are username and password);
- Thorough documentary review;

- Harmonisation of operational procedures and processes;
- Common documentation with dCache;
- Improvement on Monitoring, Alerting and Log Management

- Server SW upgrades;
- Upgrade of Tape Infrastructure (NSC and HPC2N);
- Investigate how off-site copies of backup data will be handled in the future;

SNIC (Storage) People

- Swestore dCache
 - NSC
 - C3SE
 - HPC2N
 - Lunarc

- Swestore iRODS
 - PDC
 - NSC

- Backup & Tape Infrastructure
 - PDC
 - NSC
 - HPC2N

People

- Jens Larsson
- Olof Mohill
- Robert Grabowski
- Alex Contis
- Ilari (Kungliga) Korhonen
- Krishnaveni Chitrapu
- Janos Nagy
- Peter Gille
- Niklas Edmundsson
- Ragnar Sundblad
- Andreas Johansson
- Dejan Vitlacil
- ... and more