Data services

Christine Staiger, SURFsara

Agenda

NEW

1pm - 2.10pm

- Introduction (Christine)
- GUI to archive, Cyberduck and FileZilla (Narges)
- **Coffee break**

2.10pm - 4.10pm

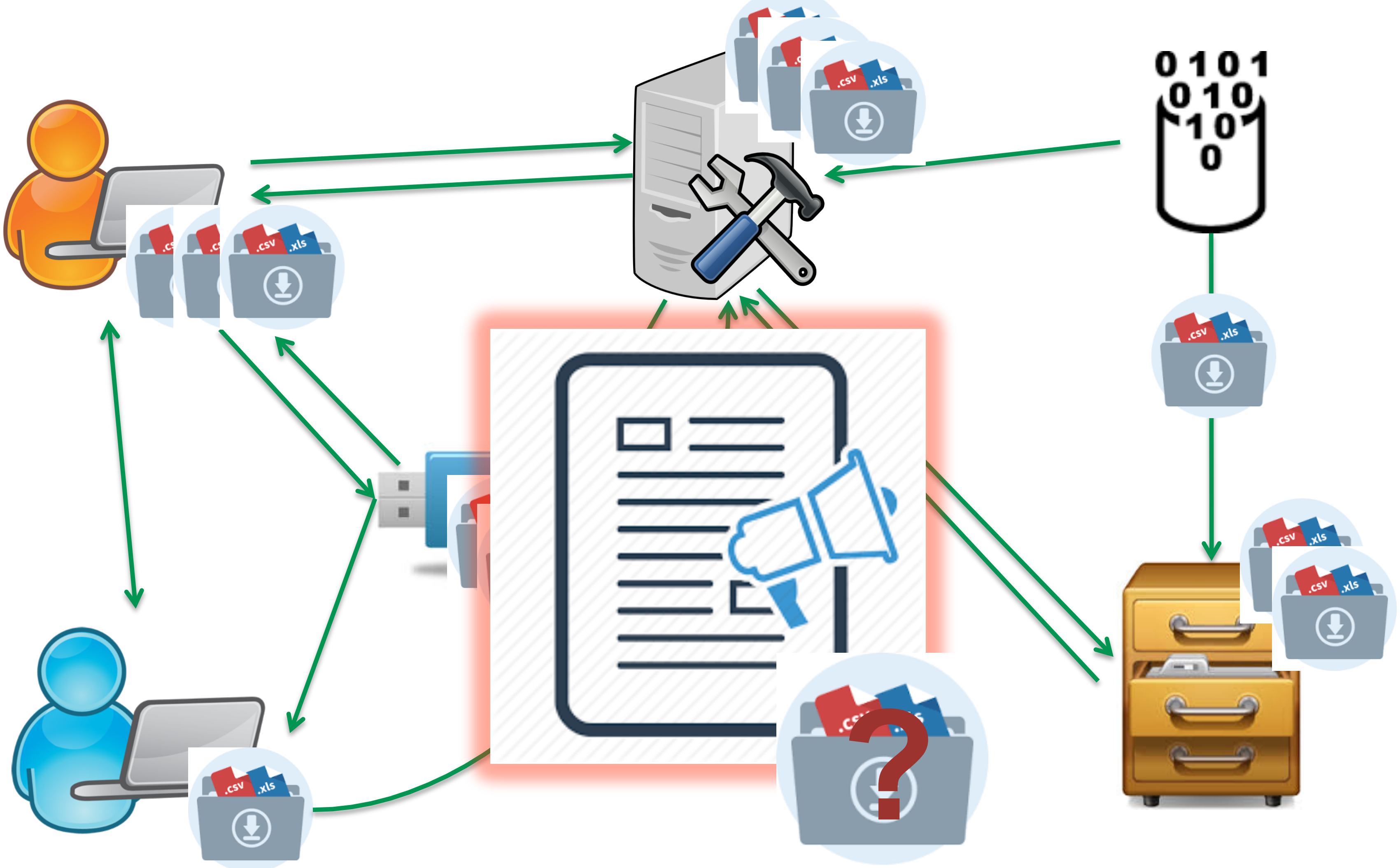
- scp + rsync (Jeroen)
- Tarring data with tar and dmftar (Hans)
- **Coffee break**

4.10pm - 5pm

- Wrap-up (Christine)
- Final Challenge:

  Putting it all together in a python workflow

Data – where is the problem?



Data services in the Netherlands – there are a lot of solutions

ePIC

Persistent Identifiers for eResearch

Data Archiving and Networked Services

DANS

EASY

SURF DRIVE

FILESENDER

4TU.Centre for Research Data

doi

yoda

B2FIND

The Dataverse Project

Handle.Net®

Data ingest service

Archive

SURF SARA

Data Archiving and Networked Services

DANS

NARCIS

BeeHub

Data services at SURFsara

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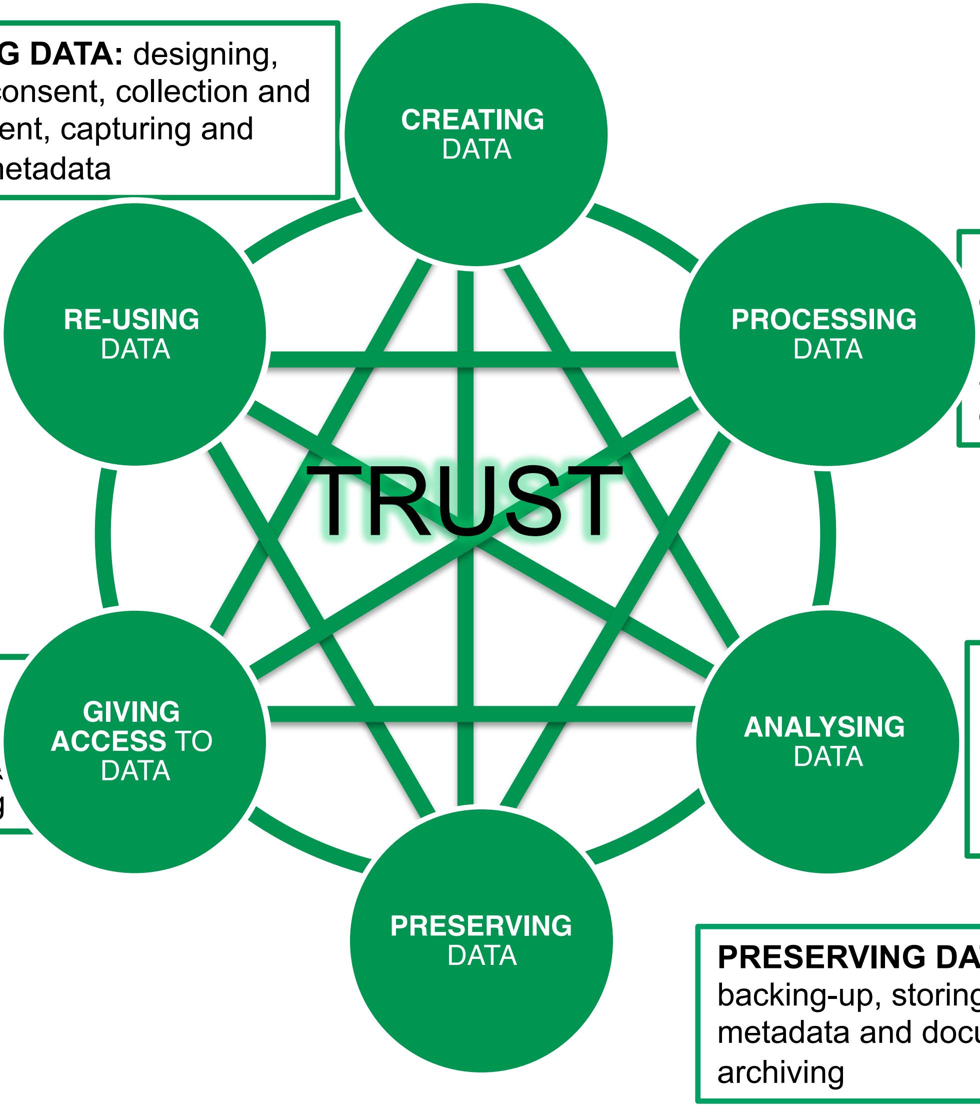
SURF SARA

BeeHub

The data Life cycle



CREATING DATA: designing, planning consent, collection and management, capturing and creating metadata

PROCESSING DATA: entering, transcribing, checking & validating, anonymising and describing

ANALYSING DATA: interpreting, deriving, producing outputs & publishing, preparing for sharing

PRESERVING DATA: migrating, backing-up, storing, creating metadata and documentation, archiving

ACCESS TO DATA: distributing sharing, controlling access, promoting

RE-USING DATA: for follow-ups, new research, research reviews, scrutinising, teaching & learning

The researchers’ needs

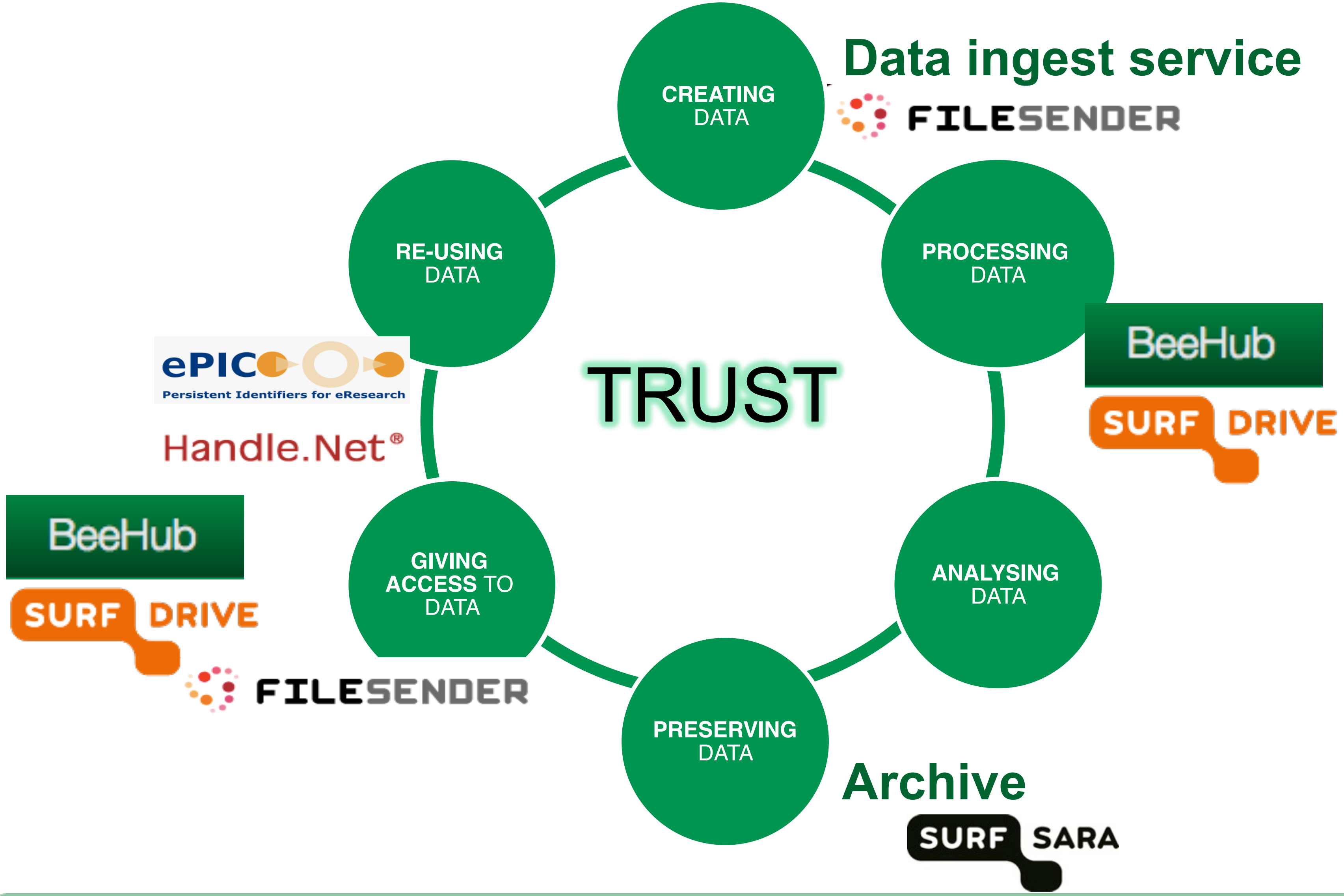
- **Store** data during research
- **Share** data during and after research
- **Archive** data
- **Synchronise** data across different locations

- **Link** publication to processed and raw data
- **Publish** data
- **Find** data and **make data findable** by others

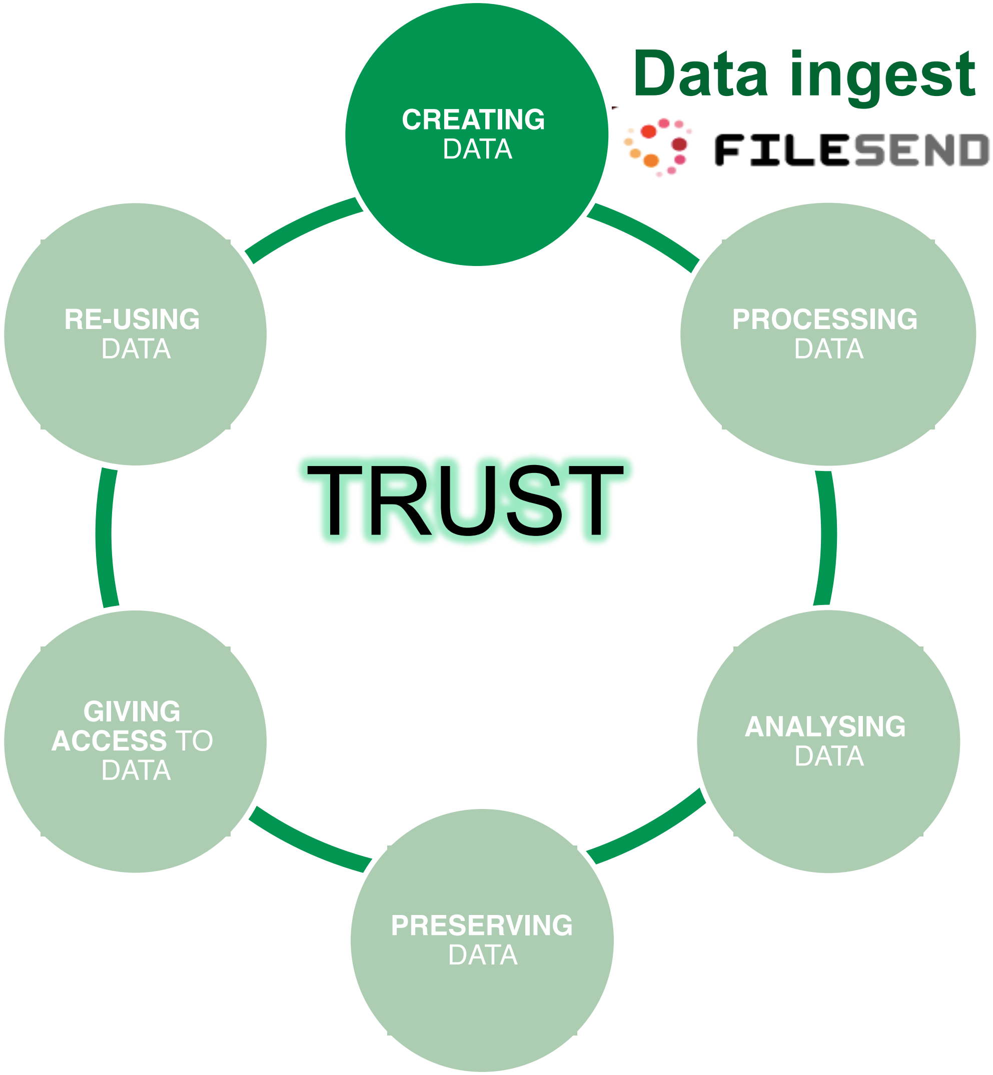
- Data **transfers**
- Data **provenance**: what happened with the data

- …

The data Life cycle



The data Life cycle



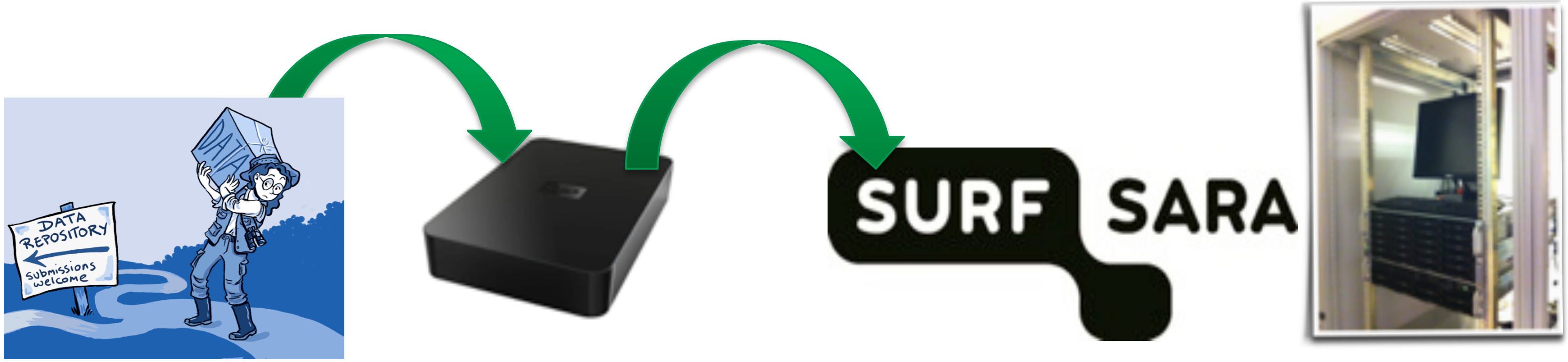
Data ingest service

FILESENDER

Data ingest service

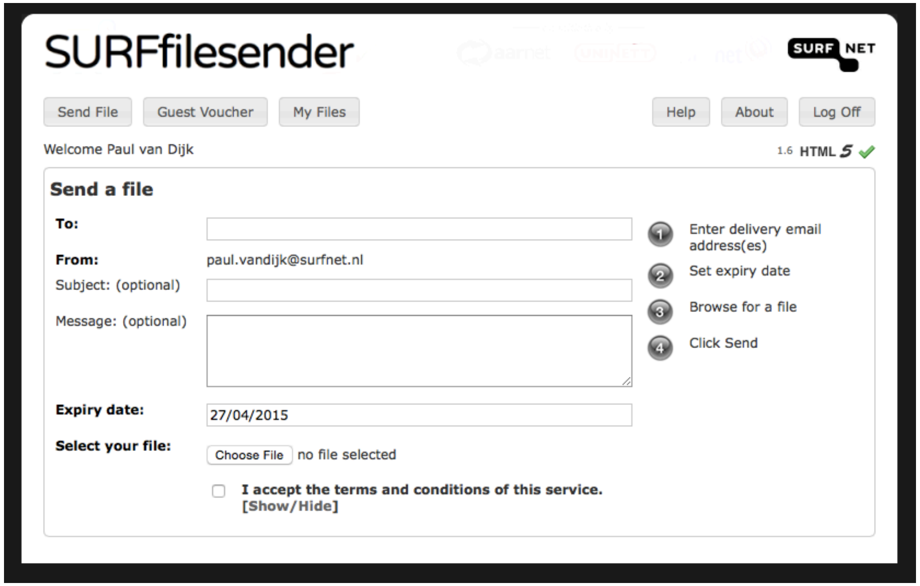
- Data often resides on external storage media, USB sticks, external hard drives
- Slow or no internet connection

- Easy way to upload large data from disk to SURFsara facilities
- Upload data from 45 disks in parallel



FILESENDER

- Trusted community service
- Transferring BIG files from person to person
- File Transport service not File Storage (!)
- Simple interface
- Up to 200GB per file
- Option to apply end-to-end encryption (250MB browser limit)
- Vouchers for guest usage



Welcome Paul van Dijk

Send a file

To:

From: paul.vandijk@surfnet.nl

Subject: (optional)

Message: (optional)

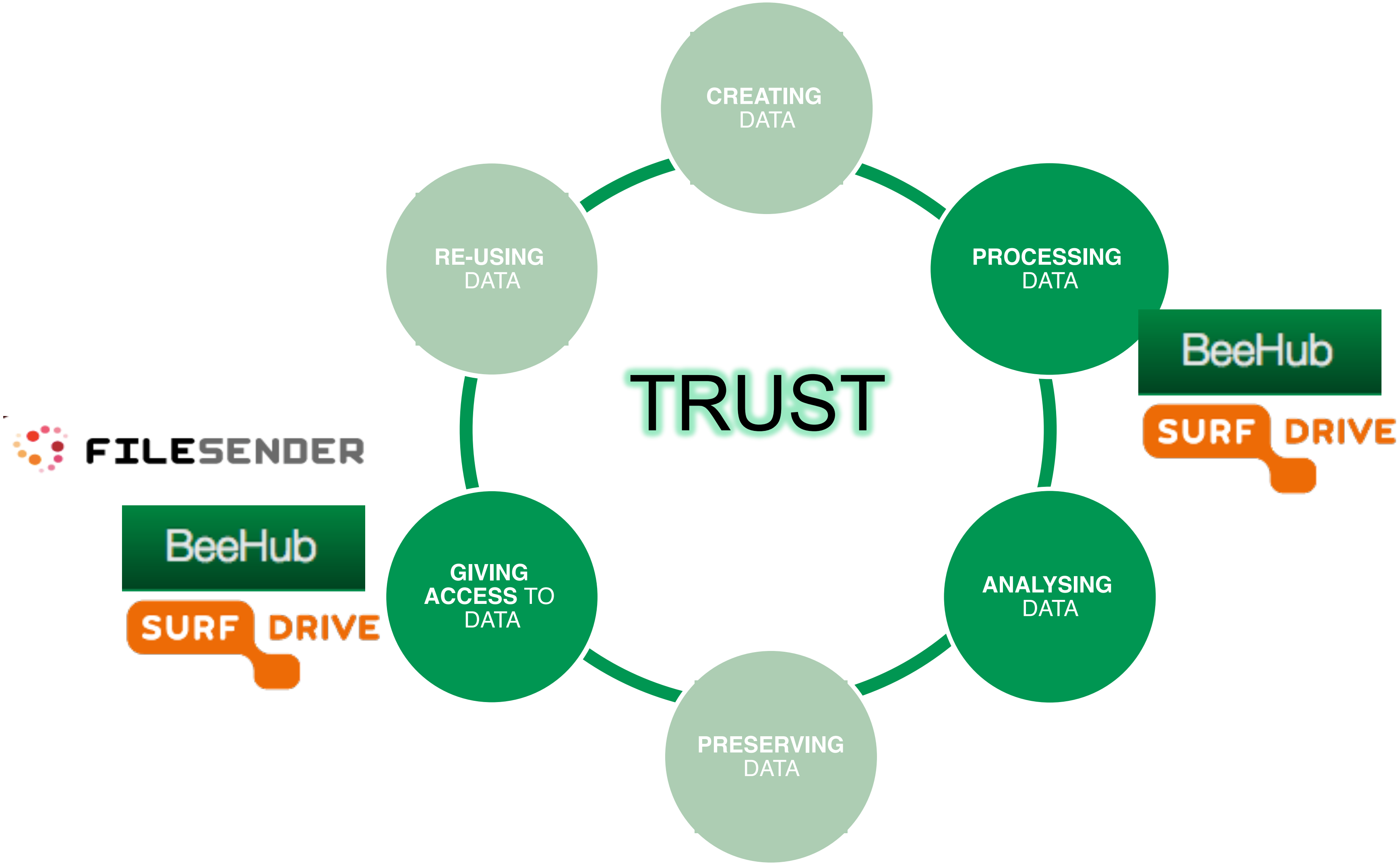
Expiry date: 27/04/2015

Select your file: Choose File no file selected

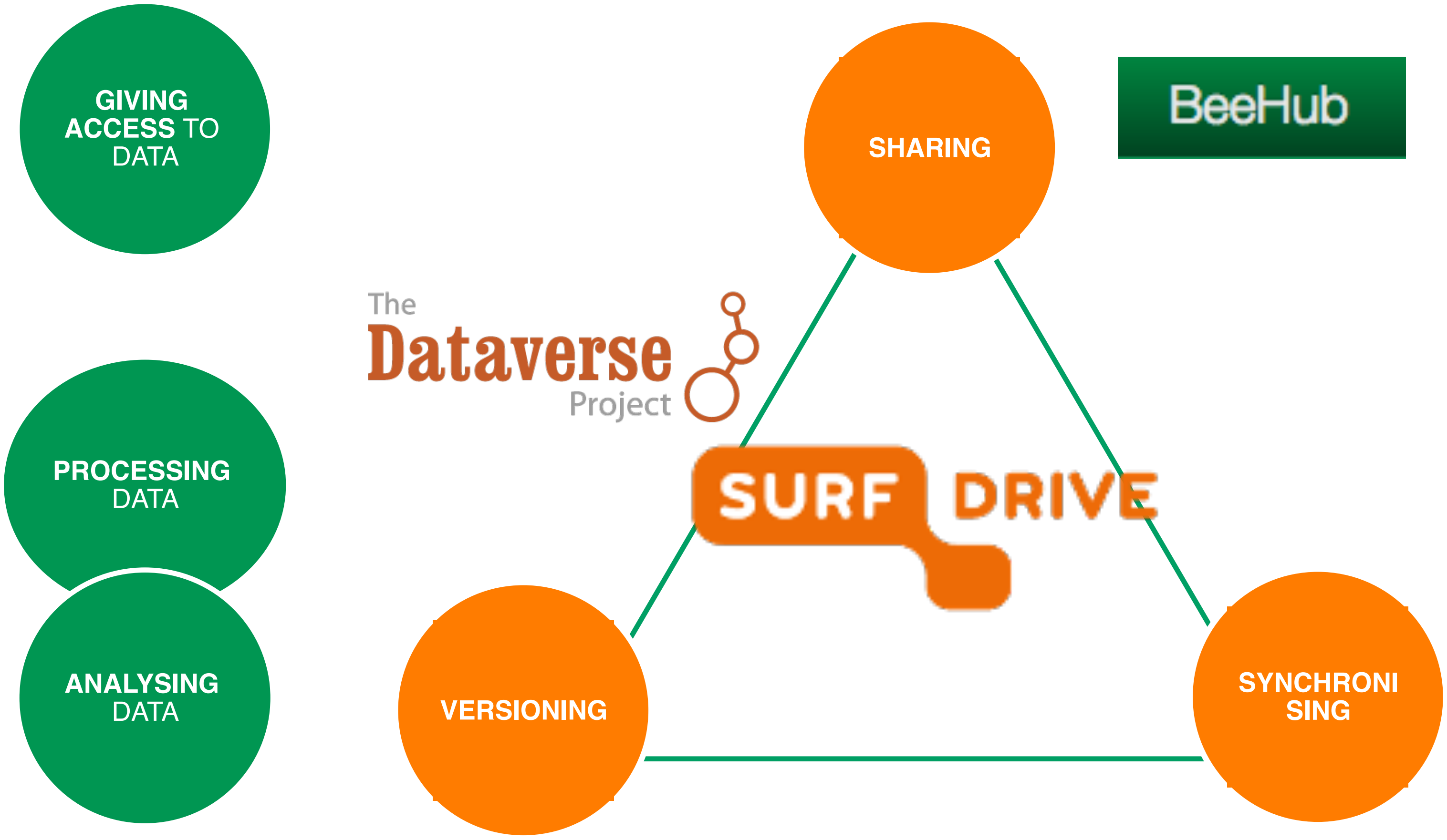
□ **I accept the terms and conditions of this service. [Show/Hide]**

1 Enter delivery email address(es)
2 Set expiry date
3 Browse for a file
4 Click Send

The data Life cycle



Data services – what goes where?



GIVING ACCESS TO DATA

PROCESSING DATA

ANALYSING DATA

SHARING

VERSIONING

SYNCHRONISING

SURFdrive

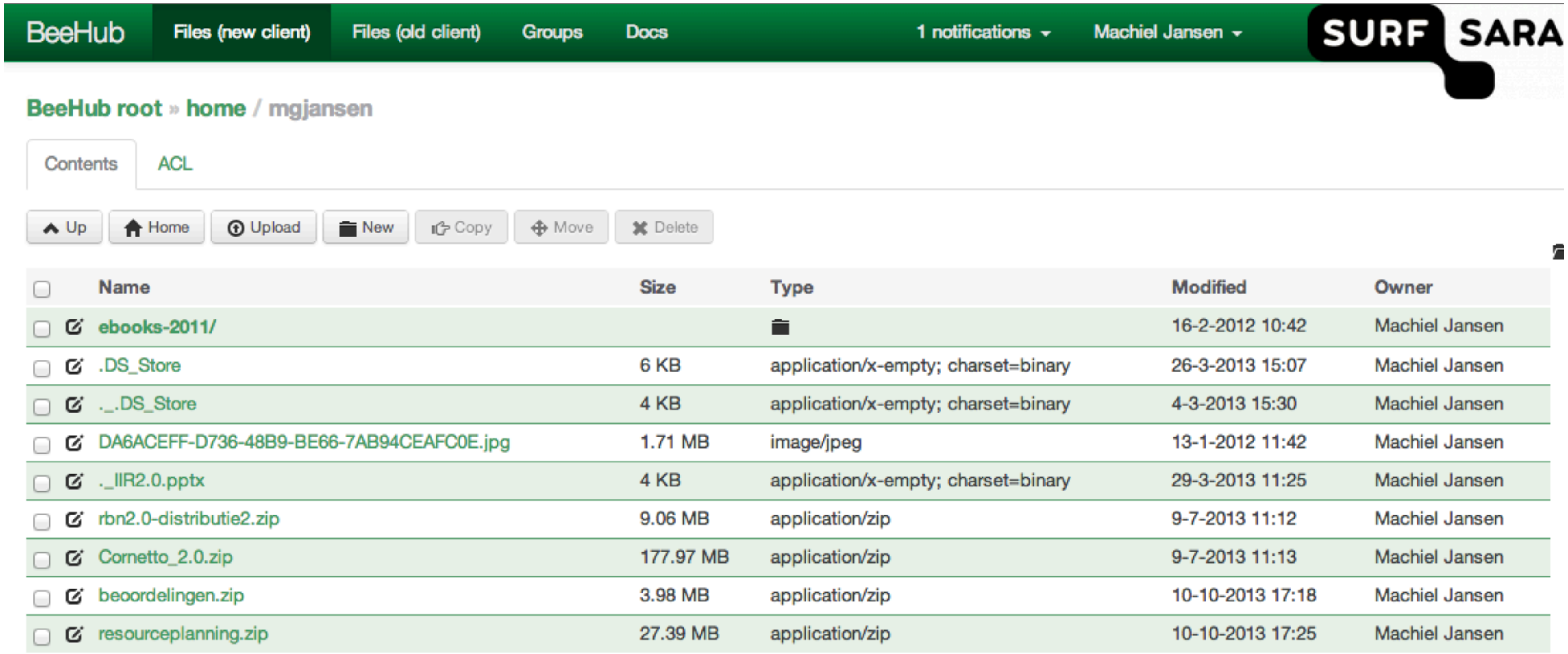
- Trusted community cloud for personal storage
- Sharing smaller data files

- Collaboration between SURFsara, SURFnet and Dutch universities
- Specifications and service determined by end-users (universities)

- 100 GB storage capacity per user
- Based on ownCloud, synchronises with local storage

SURF DRIVE

Beehub



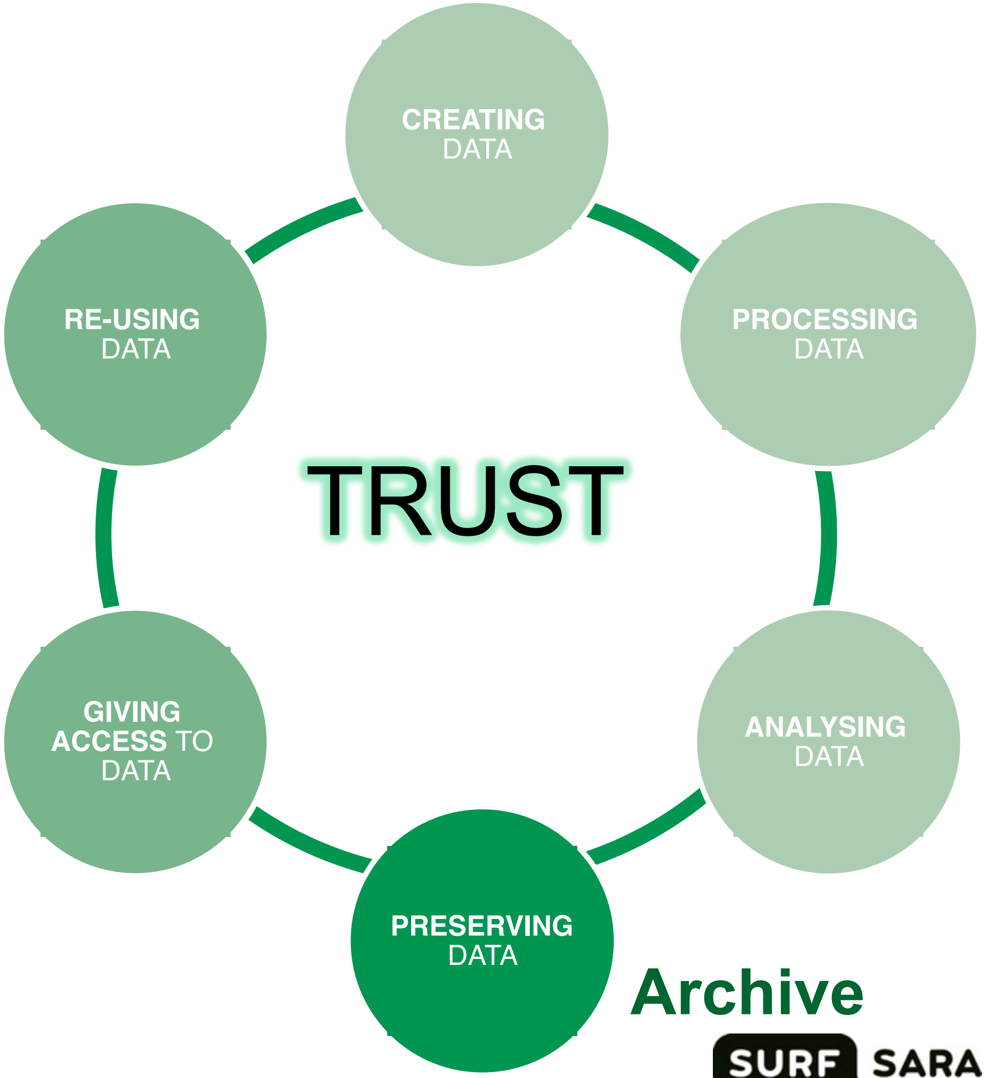
BeeHub root » home / mgjansen

□	Name	Size	Type	Modified	Owner
□	ebooks-2011/			16-2-2012 10:42	Machiel Jansen
□	.DS_Store	6 KB	application/x-empty; charset=binary	26-3-2013 15:07	Machiel Jansen
□	._.DS_Store	4 KB	application/x-empty; charset=binary	4-3-2013 15:30	Machiel Jansen
□	DA6ACEFF-D736-48B9-BE66-7AB94CEAFC0E.jpg	1.71 MB	image/jpeg	13-1-2012 11:42	Machiel Jansen
□	._IIR2.0.pptx	4 KB	application/x-empty; charset=binary	29-3-2013 11:25	Machiel Jansen
□	rbn2.0-distributie2.zip	9.06 MB	application/zip	9-7-2013 11:12	Machiel Jansen
□	Cornetto_2.0.zip	177.97 MB	application/zip	9-7-2013 11:13	Machiel Jansen
□	beoordelingen.zip	3.98 MB	application/zip	10-10-2013 17:18	Machiel Jansen
□	resourceplanning.zip	27.39 MB	application/zip	10-10-2013 17:25	Machiel Jansen

- Sharing large data
- Mountable via webdav (no synchronisation)
- Capacity: 80 TB

- Temporary storage
- 100GB/user
- You can apply for more via SURF e-infrastructure grant

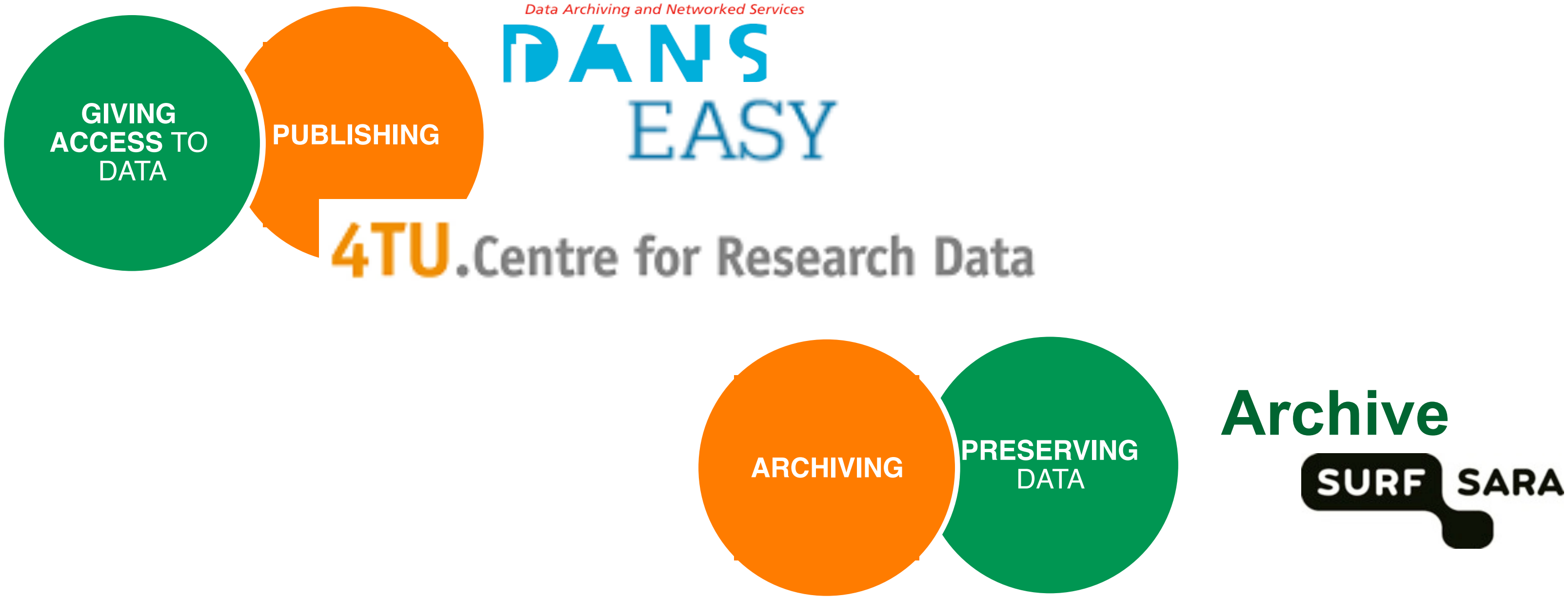
The data Life cycle



Archive

SURF SARA

Data services – what goes where?



GIVING ACCESS TO DATA

PUBLISHING

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DANS

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ARCHIVING

PRESERVING DATA

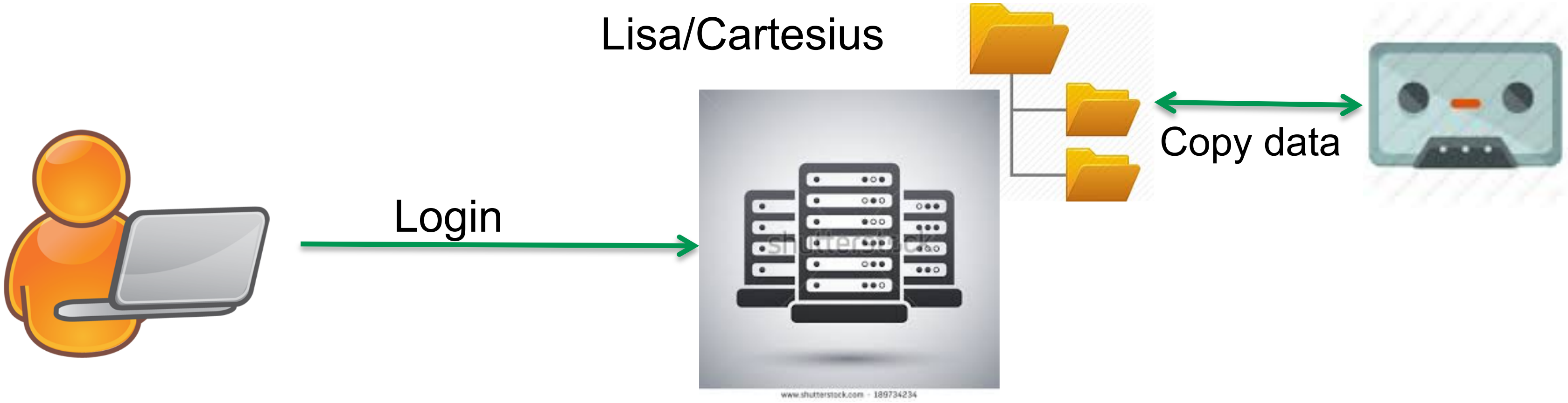
Archive

SURF SARA

The Archive – Long-term storage

- Long-term storage of big data
- Storage medium: Tape
  → high latency

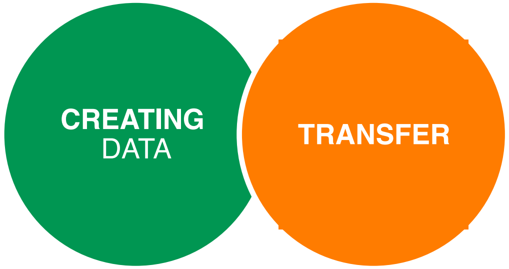
- Powerful transfer protocols:
  - gridfTP
  - rsync
  - scp



- Easy access from HPC services lisa and cartesius via NFS mounts → use archive as yet another directory

- Access: NWO grant or SURF e-infrastructure grant

Data services – what goes where?



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doi

ePIC

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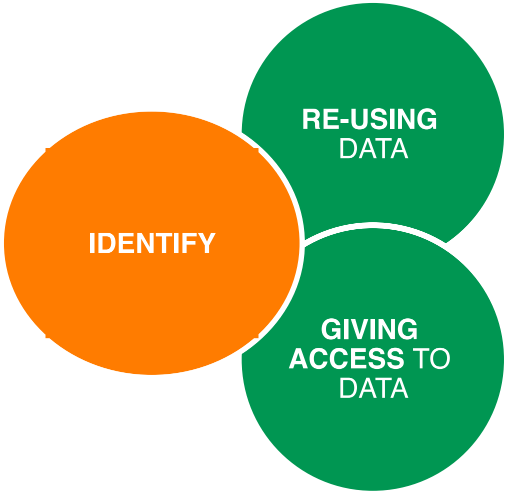
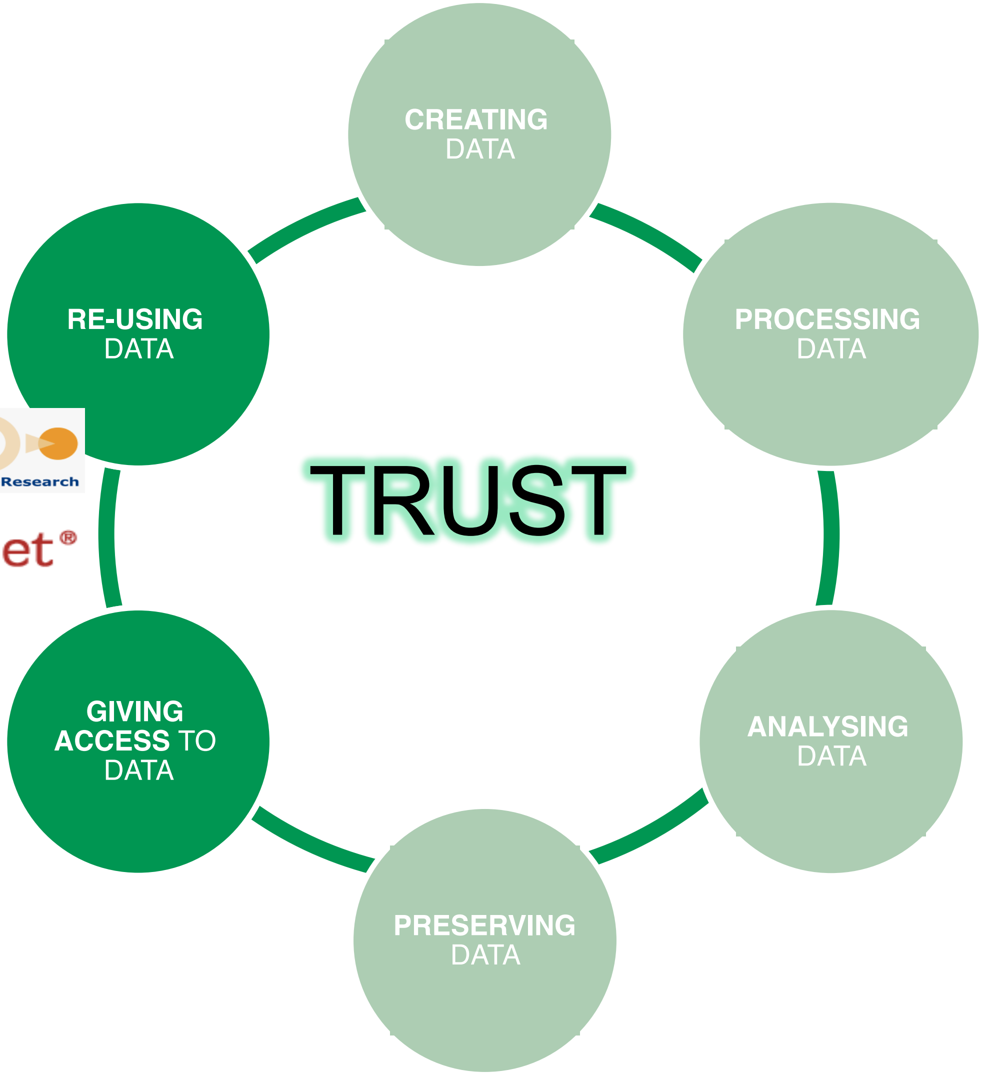


The data Life cycle



ePIC Persistent Identifiers for eResearch

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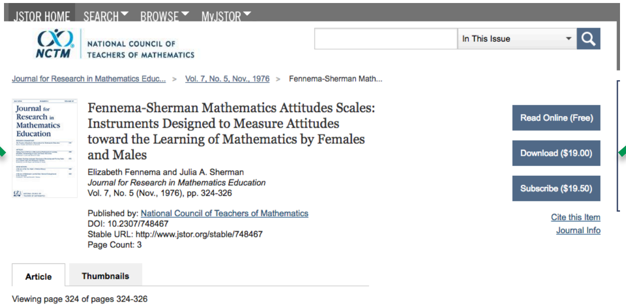
SURF SARA

PIDs

- PIDs (Persistent Identifiers) are
  - Pointers to resources like files, folders, webpages, real world objects
  - Globally unique
  - Resolvable via http

- Example resolvers: https://dx.doi.org/ and http://hdl.handle.net/

10.2307/748467



Journal for Research in Mathematics Educ... > Vol. 7, No. 5, Nov., 1976 > Fennema-Sherman Math...

Journal for Research in Mathematics Education

Fennema-Sherman Mathematics Attitudes Scales: Instruments Designed to Measure Attitudes toward the Learning of Mathematics by Females and Males

Elizabeth Fennema and Julia A. Sherman
Journal for Research in Mathematics Education
Vol. 7, No. 5 (Nov., 1976), pp. 324-326

Published by: National Council of Teachers of Mathematics
DOI: 10.2307/748467
Stable URL: http://www.jstor.org/stable/748467
Page Count: 3

Viewing page 324 of pages 324-326

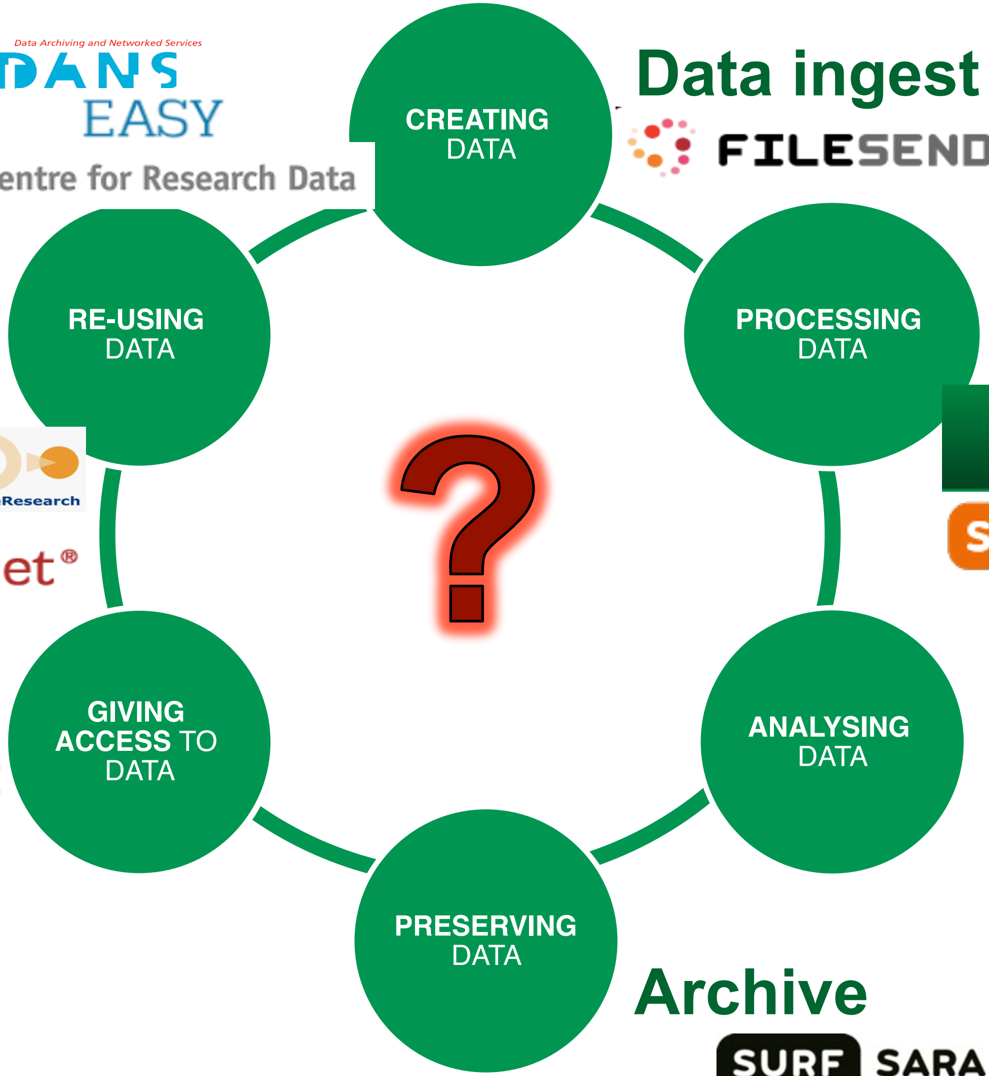
PIDs – Handle, EPIC and DOIs

- Handle
  - Technology to create, store and update PIDs
  - Infrastructure and technology to resolve PIDs
  - Example: https://dx.doi.org/ and http://hdl.handle.net/

- EPIC (European Persistent Identifier Consortium)
  - Maintaining reliable joint PID service for storing
  - Mirroring service, distributed resolving
  - Employing Handle technology

- **http://www.ncdd.nl/pid-wijzer/**

The data Life cycle



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