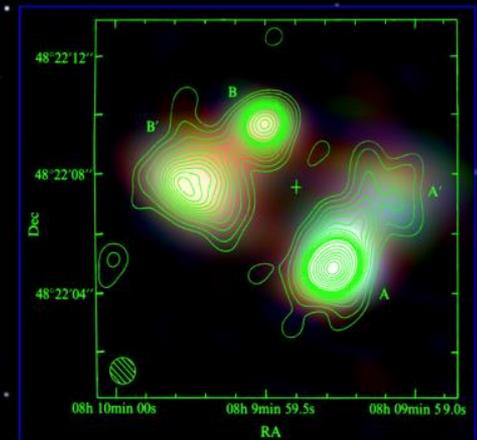
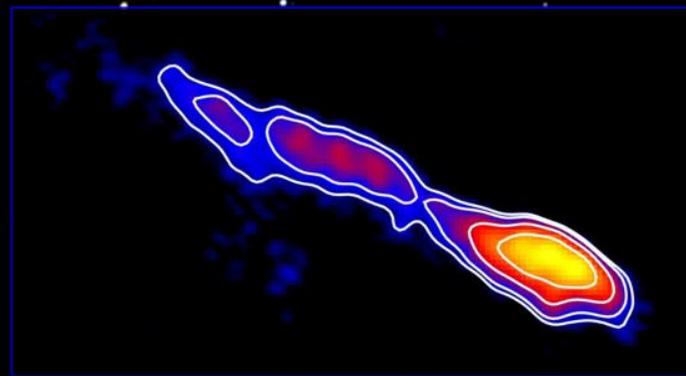
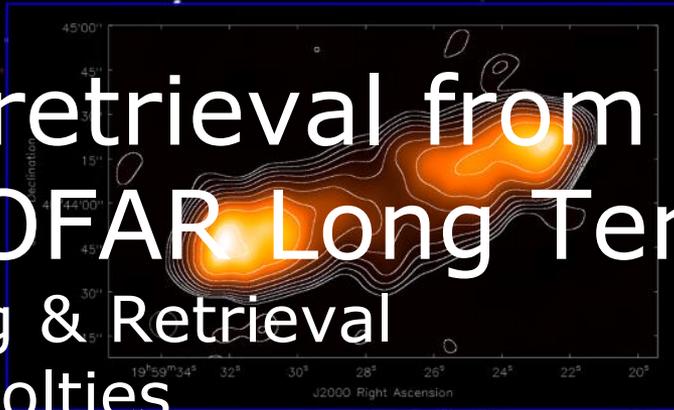


Data retrieval from the LOFAR Long Term Archive II Querying & Retrieval Hanno Holties



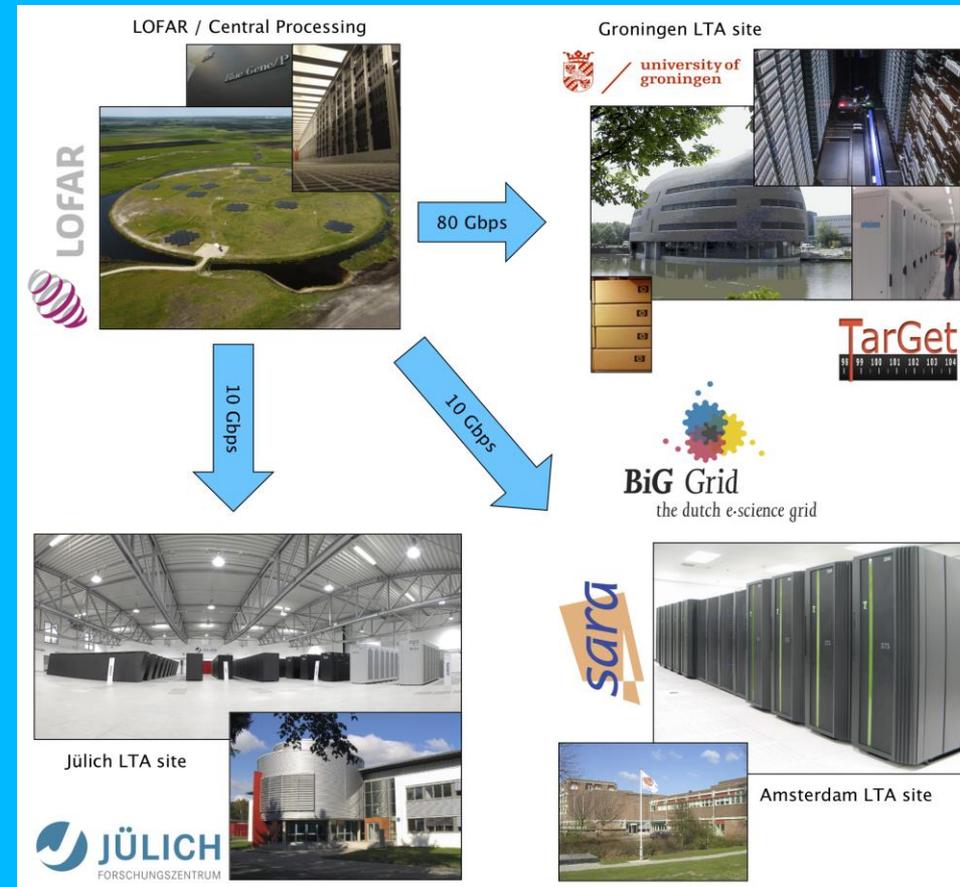
Preparation for this session:



- Download the tutorial document:
<http://www.astron.nl/lofarschool2014/lectures.php>
Open/download T5.pdf
- It may help if the links are functional (otherwise copy/paste)
E.g. on MAC OS open in "Preview" (works for me...)
NB Watch for double-dash "--" in URLs
If needed, replace with single dash "-"
- Document has explanatory text. For a walkthrough, just follow the numbered steps.

The LOFAR Long Term Archive (LTA)

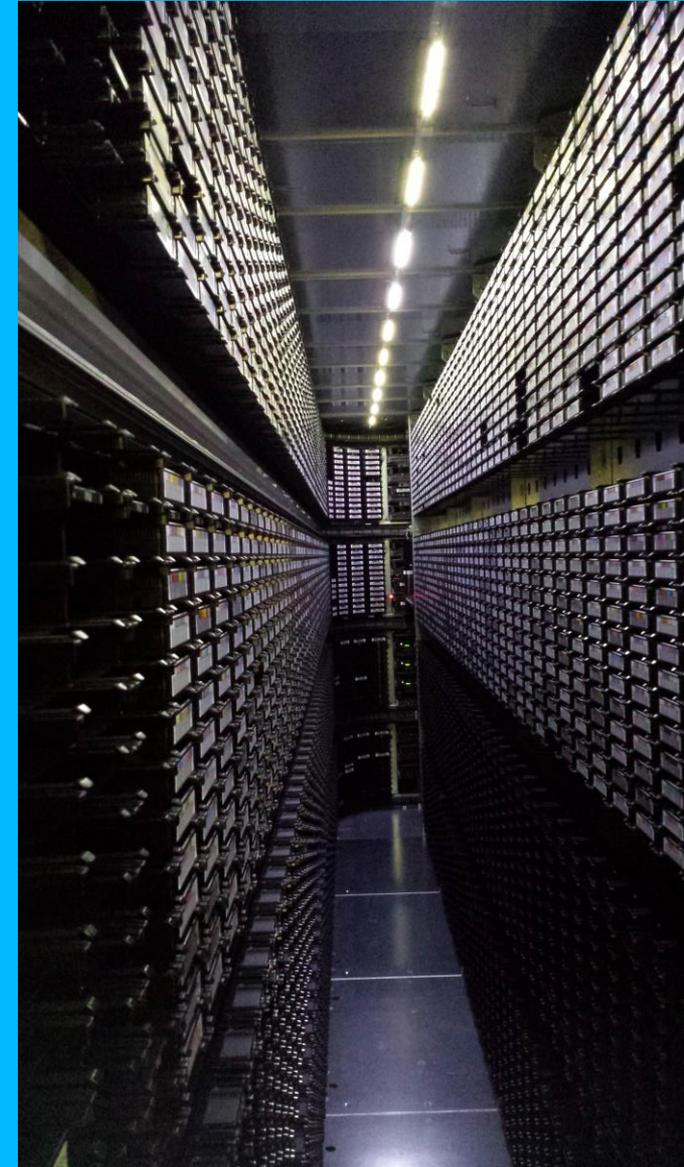
- LOFAR generates 6 petabyte of science data per year
- A single dataset has
 - hundreds of dataproducts
 - a volume of up to several terabyte
- The LTA is distributed
 - Amsterdam: SURFsara
 - Jülich: FZJ
 - Groningen: TARGET (RUG)



The LOFAR Long Term Archive (LTA)



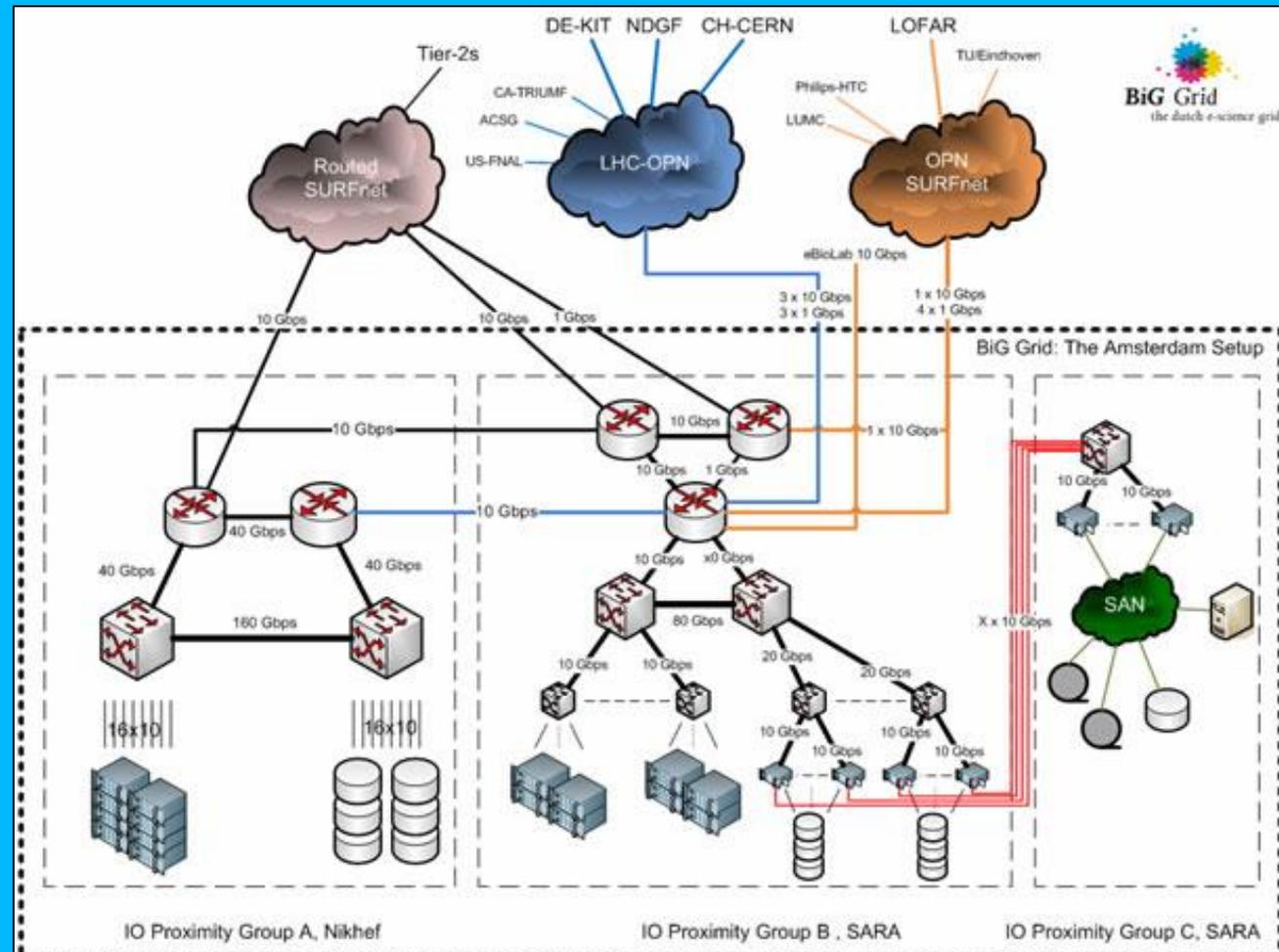
- The LTA builds on GRID infrastructure
 - For performance use grid middleware/clients
 - ***Requires personal certificate!***
 - Key chain allows trust & security for Compute Centers worldwide.
 - For smaller volumes HTTP download possible (First part for today)
 - Single server per LTA site
- Data is stored on tape
 - Stage (restore) to disk before retrieval
 - Staging can take up to several days



The LOFAR Long Term Archive (LTA)

Plan your data retrieval

- Do not stage/request more than can be retrieved within a week (typically 10 TB)
- Be aware that connections can (will) not be stable on timescales of many days
- Theoretical limit:
 - 100 Mbps:
1 TB/day
 - 1 Gbps:
10 TB/day
- In practice lower



Obtaining a personal grid certificate



IV) You were not finished, yet!

7. Tomorrow during coffee or lunch:
Come to desk with your ID: form validated & processed

8. When signed certificate received...

DIY (see PDF):
9. Install certificate in the directory with your key & request
> `mv usercert.pem $HOME/.globus/`
> `chmod 600 $HOME/.globus/*.pem`
10. Load the certificate into your browser
Check tutorial; ask support scientist or me for help
11. Apply for membership of LOFAR Virtual Organisation at
<https://voms.grid.sara.nl:8443>

Data Retrieval I

Follow T5



I. Searching the catalog

II. Retrieving data

a) Using wget

Important notes:

- If you can not log into the catalog, ask for help
- Do not set your password as part of the wget commandline
 - On CEP3, use --ask-password setting
 - On a system with a personal home, you can use .wgetrc
- For more help (renaming & untarring): Tutorial or http://www.lofar.org/wiki/doku.php?id=public:lta_howto

Data Retrieval II

Follow T5 II b) Using srmcp



Common issues:

- Terena eScience portal:
<https://tcs-escience-portal.terena.org/help.php>
- Importing certificate in your browser:
<http://ca.dutchgrid.nl/info/browser>
- Chrome may require importing CA certificates (???)
- !!! Chmod 400 userkey.pem (not 600 as in tutorial) !!!
- On CEP3: Only use certificate if strong password has been set and remove key before logging out
- Password for the key can not be recovered!!! (new request)

Minimal local installation (Linux/Mac OS): walkthrough at

<http://www.lofar.org/wiki/doku.php?id=public:srmclientinstallation>

Homework/expert: install globus-url-copy (superior performance)

Done



ASTRON

Happy LOFAR Processing!