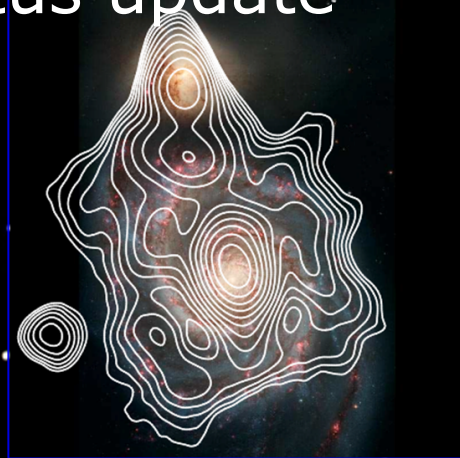
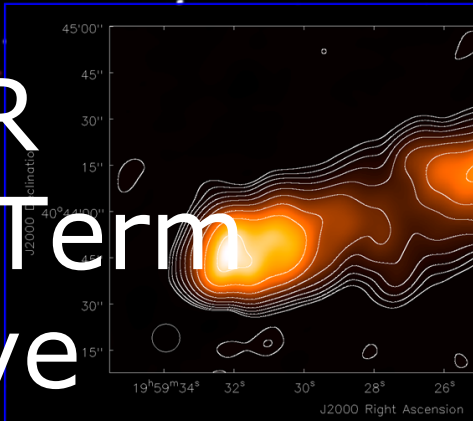


ASTRON

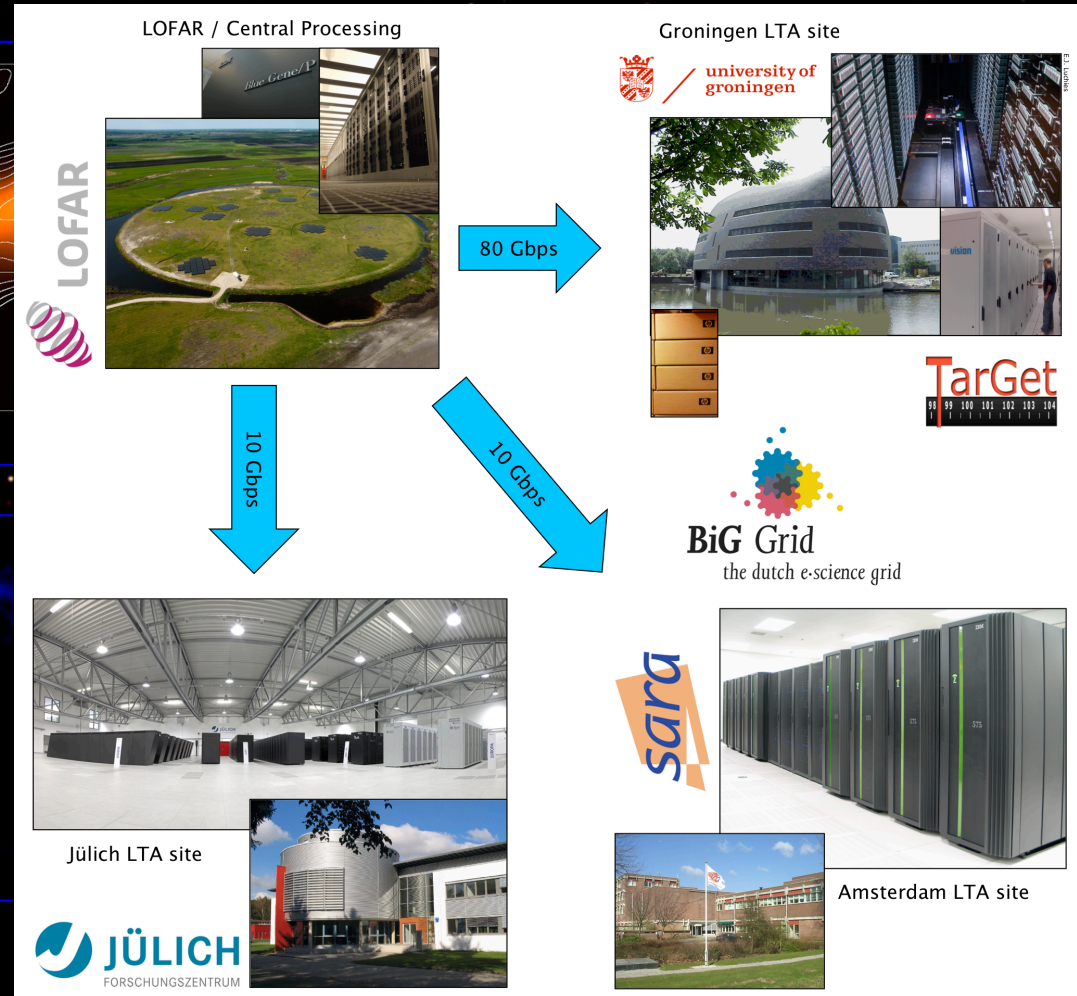


Netherlands Institute for Radio Astronomy

LOFAR Long Term Archive Status update



March 6, 2013



LTA Progress

(Ingesting

- (UV-data (raw & processed)

- (Images

- (Ready to ingest beam-formed data

- (Speed up needed

- (Improved LTA UI provided by Astro-Wise

- (Queries

- (Latest data

- (Stage data for retrieval

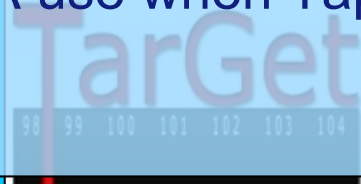
- (LOFAR software tree built on LTA sites (SARA, NIKHEF, RUG)

- (Currently testing BBS runs

- (Pulsar processing on SARA Grid cluster

- (Portable Grid client installation available

- GPFS filesystem now stable
- 1 Petabyte disk space available
 - + ~400 TB temporary space
- Migration to tape starting
 - 3+ Petabyte additional space
- 40 Gbps connection from CEP (will scale up further to 80 Gbps)
- SRM/Gridftp for data retrieval being tested
- Currently mainly handling data storage for EOR
 - General LTA use when Tape & Data retrieval available



USER

Projects and accounts (recap)



(Project synchronization

MoM provides LOFAR project administration

Provisioned to LTA catalog when an 'LTA Resource' (storage/processing) is allocated to project

(Account synchronization

NorthStar/MoM accounts synchronized with LTA when account is 'LTA enabled'

Automatic for members of project with LTA Resource

Can not distribute MoM/NorthStar password hash

**User will receive request by mail
to generate new password !**

A screenshot of the ASTRON login interface. The page has a dark blue header with the ASTRON logo on the left and the text 'Please Log In' and 'ASTRON Web Applications Password Self Service' on the right. The main content area is a light gray box containing a login form. The form has two input fields: 'Username' with the value 'holties' and 'Current Password' with a masked password '*****'. Below the fields are three buttons: 'Login', 'Clear', and 'Cancel'. At the bottom of the form, there is a link for 'Forgotten Password' with the text 'Recover your forgotten password.' Below the form, at the bottom of the page, there is a footer with the text 'Idle Timeout: 4 minutes' and '82.95.247.128 | English'.

LTA Catalog



(LTA Catalog UI

Builds on AstroWise

Several views:

- Web interface
- DB view
- Console

Request download

- Staging request plus user notification

Home | Contact | Help | user awtier0 | project MSSS | Preferences | Tables

ImagingPipeline

- Order by: <none> descending ascending
- Maximum number of rows: 100
- Show only data within project: yes no
- Show expanded attributes: yes no [much faster]
- Export options: HTML

Submit

expand all attributes

- ImagingPipeline
 - calibrationStrategy
 - creationDate
 - demixing
 - duration
 - endTime
 - frequencyIntegrationStep
 - imagerIntegrationTime
 - imagerStrategy
 - numberOfMajorCycles
 - observationId
 - observationIdSource
 - pipelineName
 - pipelineVersion
 - processIdentifier
 - processIdentifierName
 - processIdentifierSource
 - skyModelDatabase
 - startTime
 - strategyDescription
 - strategyName
 - timeIntegrationStep
- parset
- projectInformation

Submit



(AWANONYMOUS) | project (ALL) | Search | Show Latest

Projects of db.lofar.target.rug.nl

- Number of projects : 2
- Number of Users : 4
- Current user : AWANONYMOUS

Click on a project name to set the project

ID	Project	Privileges	Instrument	Member of	Member count	Manager(s)
1	ALL	4	None	True	public	AWTIER0
401551	MSSS	2	LOFAR	False	2	AWTIER0

powered by



LTA Catalog Queries



Search

Use [simple search](#)

Or select a product for advanced search

- [Observation](#)
- [Beam Formed DataProduct](#)
- [Interferometric Data](#)
- [Sky Image DataProduct](#)

- [Imaging Pipeline](#)

Query Interferometric Data

Object [resolve](#)

Reference J2000 B1950

System SUN JUPITER

Units rad deg hex

RA

DEC

Units rad deg min sec

Radius 1

Pointing

Observing Date From 0000-00-00 To 0000-00-00

Observing Frequency From To [10-250 MHz]

Min [Hz]

Min

From To [s]

select

Any

- Single
- Core
- Dutch
- International

Custom +/-

[select](#)

[Search](#)

Query Simple

Object [resolve](#)

Reference J2000 B1950

System SUN JUPITER

Units rad deg hex

RA

DEC

Units rad deg min sec

Radius 1

Observing Frequency From To [10-250 MHz]

[Search](#)

Strategy Description

[select](#)

[Search](#)

Show the latest

- [Observation](#)
- [Sub-Array Pointing](#)

- [All DataProducts](#)
- [Beam Formed DataProduct](#)
- [Interferometric Data](#)
- [Sky Image DataProduct](#)
- [TransientBufferBoard](#)

- [All Pipelines](#)
- [Averaging Pipeline](#)
- [Calibration Pipeline](#)
- [Imaging Pipeline](#)

LTA Catalog Data Retrieval



Interferometric Data (total 488)

[edit columns](#) | [stage uris](#)

#	<input checked="" type="checkbox"/>	DataProduct Identifier	Target Name	Right Ascension [degrees]	Declination [degrees]	Central Frequency [MHz]	Channel Width [Hz]	Channels Per Subband	Integration Interval [s]	Start Time	Duration [s]	SubArray Pointing Identifier	Subband	Station Subband	Stations	Observations	Pipeline	Derived DataProducts	Ingestion Date
1	<input checked="" type="checkbox"/>	4170439	3C48	24.4220808	33.1597594	8.4765625e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	476	434	show	1			2013-02-20 02:07:24
2	<input checked="" type="checkbox"/>	4170443	3C48	24.4220808	33.1597594	8.5546875e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	480	438	show	1			2013-02-20 01:56:20
3	<input checked="" type="checkbox"/>	4170449	3C48	24.4220808	33.1597594	8.671875e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	486	444	show	1			2013-02-20 01:51:44
4	<input checked="" type="checkbox"/>	4170442	3C48	24.4220808	33.1597594	8.5351562e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	479	437	show	1			2013-02-20 01:48:58
5	<input checked="" type="checkbox"/>	4170309	3C48	24.4220808	33.1597594	5.4492188e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	346	279	show	1			2013-02-20 01:48:39
6	<input checked="" type="checkbox"/>	4170397	3C48	24.4220808	33.1597594	7.5195312e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	434	385	show	1			2013-02-20 01:43:32
7	<input checked="" type="checkbox"/>	4170450	3C48	24.4220808	33.1597594	8.6914062e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	487	445	show	1			2013-02-20 01:42:20
8	<input checked="" type="checkbox"/>	4170448	3C48	24.4220808	33.1597594	8.6523438e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	485	443	show	1			2013-02-20 01:37:36
9	<input checked="" type="checkbox"/>	4170441	3C48	24.4220808	33.1597594	8.515625e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	478	436	show	1			2013-02-20 01:36:52
10	<input checked="" type="checkbox"/>	4170432	3C48	24.4220808	33.1597594	8.3398438e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	469	427	show	1			2013-02-20 01:36:24
11	<input checked="" type="checkbox"/>	4170446	3C48	24.4220808	33.1597594	8.6132812e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	483	441	show	1			2013-02-20 01:36:15
12	<input checked="" type="checkbox"/>	4170351	3C48	24.4220808	33.1597594	6.3476562e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	388	325	show	1			2013-02-20 01:35:02
13	<input checked="" type="checkbox"/>	4170436	3C48	24.4220808	33.1597594	8.4179688e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	473	431	show	1			2013-02-20 01:34:26
14	<input checked="" type="checkbox"/>	4170444	3C48	24.4220808	33.1597594	8.5742188e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	481	439	show	1			2013-02-20 01:34:24
15	<input checked="" type="checkbox"/>	4170437	3C48	24.4220808	33.1597594	8.4375e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	474	432	show	1			2013-02-20 01:34:24
16	<input checked="" type="checkbox"/>	4170445	3C48	24.4220808	33.1597594	8.59375e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	482	440	show	1			2013-02-20 01:32:40
17	<input checked="" type="checkbox"/>	4170447	3C48	24.4220808	33.1597594	8.6328125e-05	3.051758	64	1.00139	1899-12-31 00:00:00	35699.0	213379	484	442	show	1			2013-02-20 01:31:34

The following file(s) are requested for download. You will receive an email when the files can be retrieved.

Size	Filename
43.0 GB	L94481_SAP001_SB476_uv.MS_203015f1.tar
43.0 GB	L94481_SAP001_SB480_uv.MS_0b5e2a4b.tar
43.0 GB	L94481_SAP001_SB486_uv.MS_22ee1f40.tar
129.0 GB	total

Mail From: <noreply@astron.nl>

Close Reply Reply All Forward Read Later

Mail Properties Personalize Message Source

From: <noreply@astron.nl> 2/3/2013 09:58 PM
To: Hanno Holties
Subject: Data ready for retrieval

Dear Hanno Holties,

Your data retrieval request with id 45 has been staged and is ready for retrieval.

List of files:
srm://lofar-srm.fz-juelich.de:8443/pnfs/fz-juelich.de/data/lofar/ops/LC0_002/L83093/L83093_SAP000_SB153_uv.MS.tar

The attached files can be used to retrieve the staged files.
For more information visit http://www.lofar.org/wiki/doku.php?id=public:lta_howto

This mail has been automatically generated by the ASTRON/LOFAR LTA staging service.
Do not reply to this message. If you have any questions or remarks, please contact sciencesupport@astron.nl and provide the id of the request in your message.

Name	Size	Type	Modified
Message	4KB	Message Attachment	2/3/2013
html.txt	187 Bytes	File Attachment	
srm.txt	153 Bytes	File Attachment	

LTA data retrieval (recap)

(Web based download server

'LTA enabled' ASTRON/
LOFAR account

Low threshold

Primarily for few files
& smaller volumes

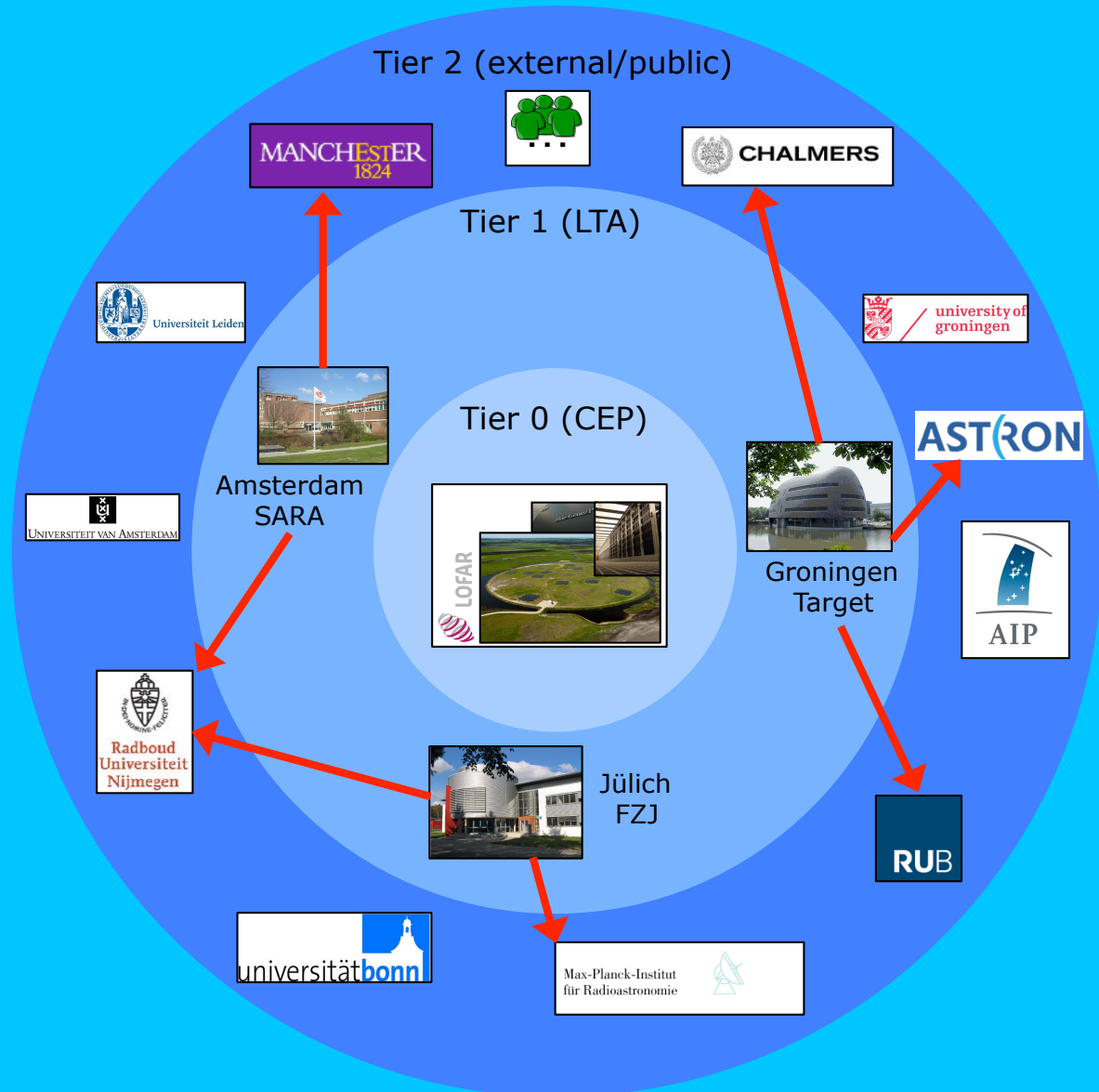
(GridFTP

Requires grid
user certificate

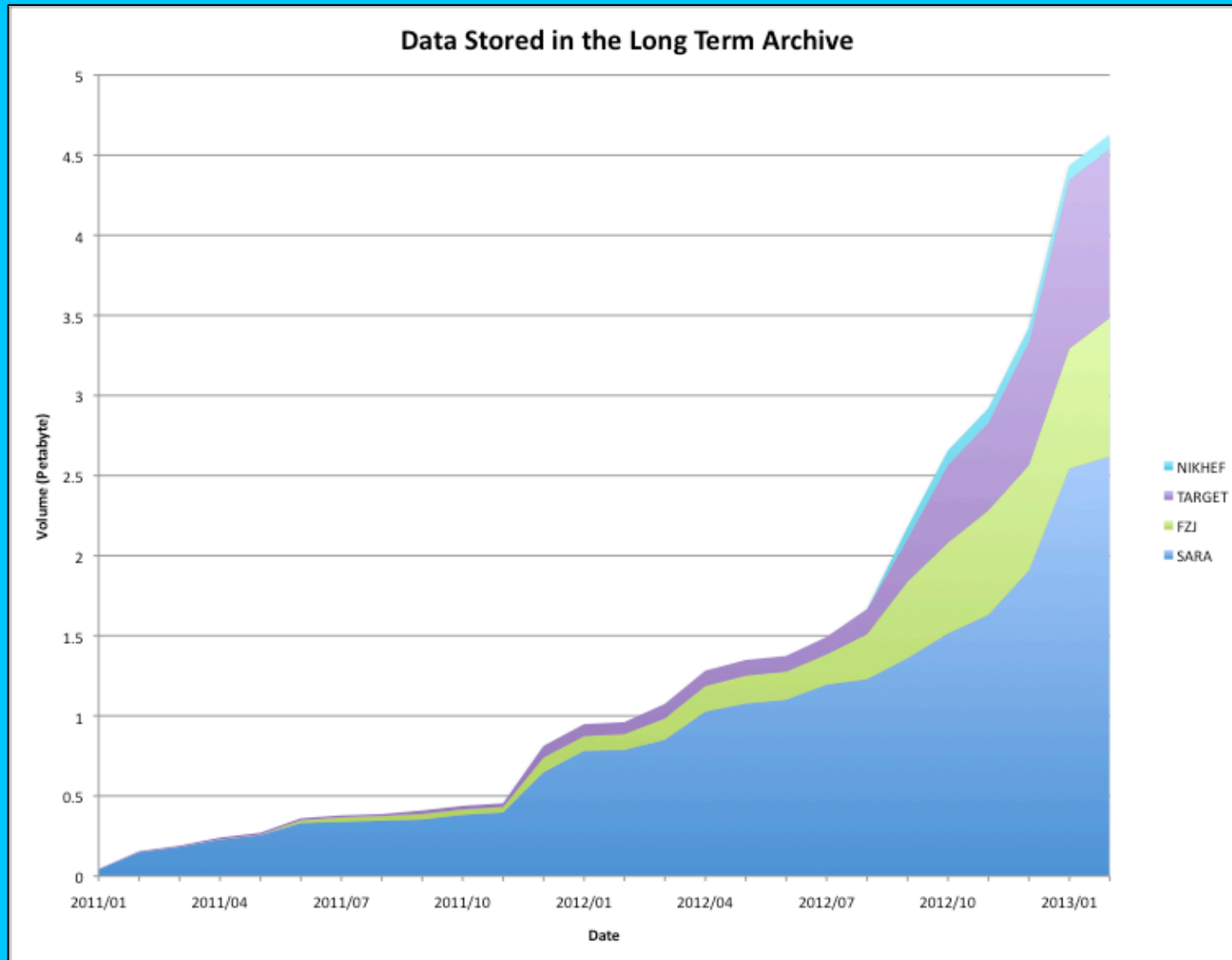
More robust;
superior performance

Requires grid
client installation

Portable client installation
available!



The LOFAR Long Term Archive (LTA)



Data products ingested into the LTA

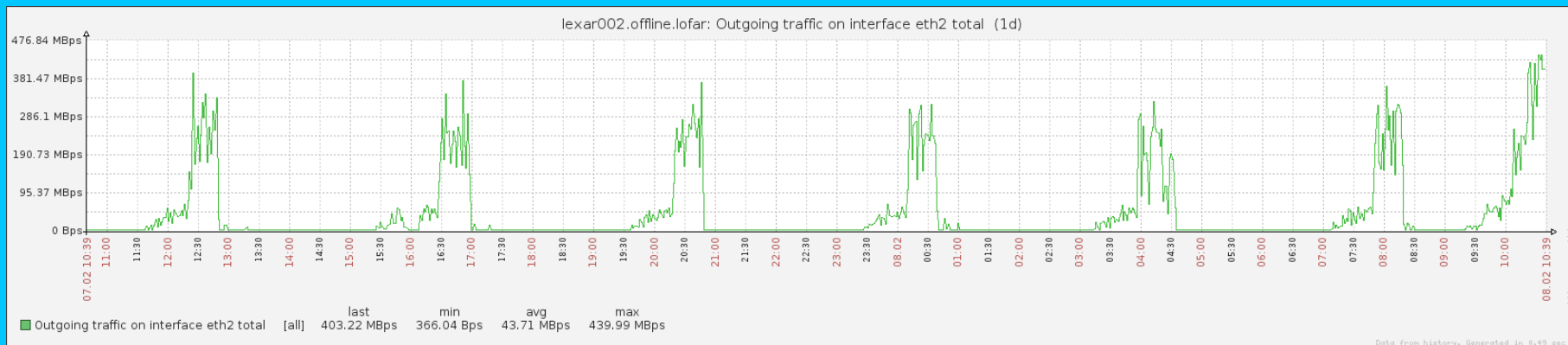


(February 2013: start of processed data ingests

(Smaller files

(More metadata

2012/07	79043
2012/08	7878
2012/09	36622
2012/10	161019
2012/11	164974
2012/12	32276
2013/01	80530
2013/02	344590

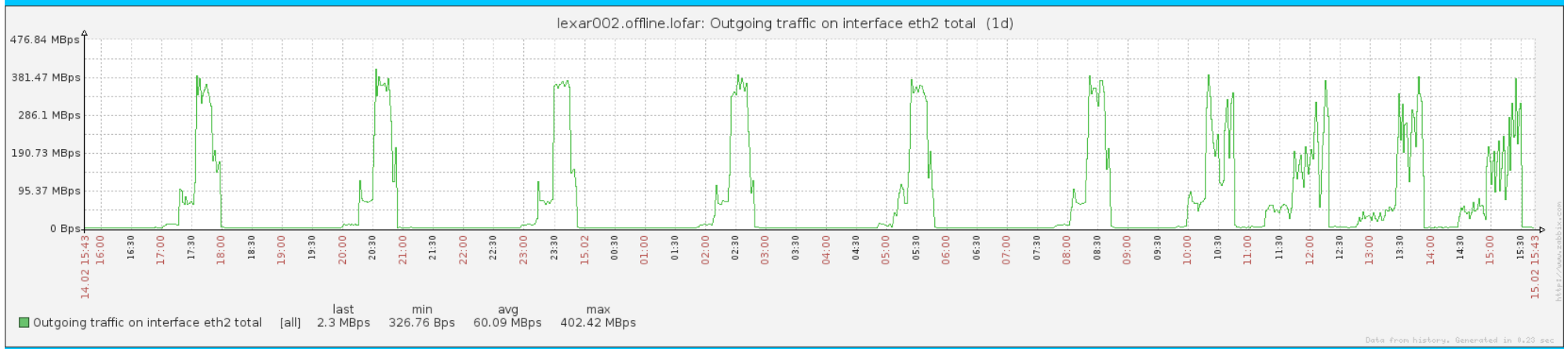


Speeding up the ingest

(Multithreading Astro-Wise: factor 4 overall

	Average Durat	Observation d	Pipeline data p
Get storage tic	109	52	229
Transfer file	51	57	38
Send checksur	125	53	277
get SIP from M	4	3	6
send SIP to AV	126	39	307
update status	21	12	39
Total	436	216	896

	Average Durat	Observation d	Pipeline data p
Get storage tic	66	67	64
Transfer file	43	49	30
Send checksur	1	1	1
get SIP from M	4	2	9
send SIP to AV	16	3	41
update status	2	2	2
Total	132	125	147



(Further speed up of factor 8-10 required to keep up with observing program

(In progress