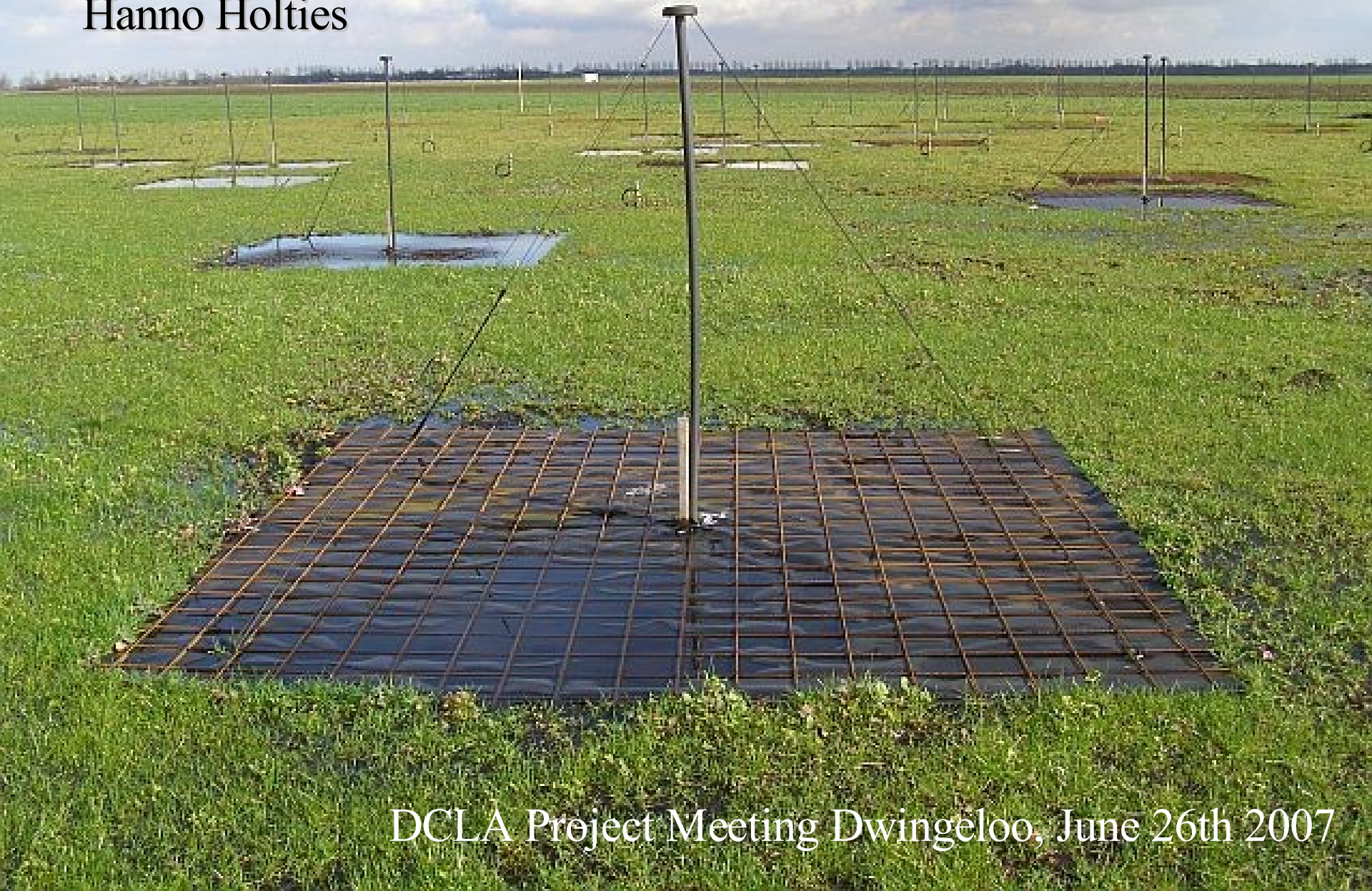


CS1 & LOFAR Operations Commissioning

Hanno Holties



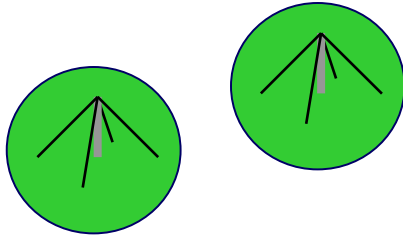
DCLA Project Meeting Dwingeloo, June 26th 2007

ASTRON Radio Observatory & LOFAR

- ◆ The role of the Radio Observatory
 - ⊕ Radio astronomical application for LOFAR
 - ⊕ Operation/maintenance of the shared components/infrastructure (LOFAR Operations Center)
 - ⊕ Science support for Radio astronomical user groups
- ◆ Joint operations with the WSRT

LOFAR Observatory

International LOFAR stations



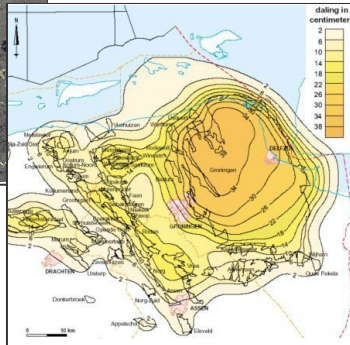
RUG-RC



Computing centers



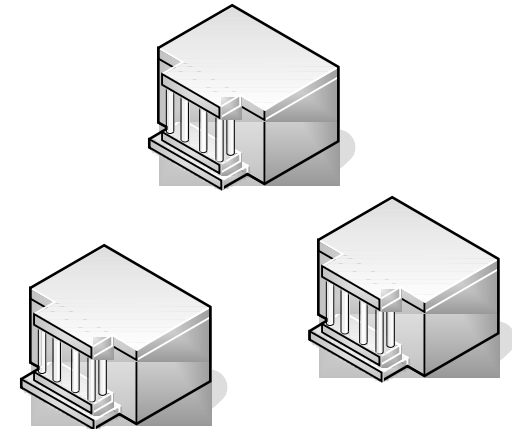
Lofar Observatory



Non Astronomical Applications



Network & Power



Astronomy user groups

ASTRON Observatory & CS1 Operations

- ◆ Operation of CS1 system
- ◆ Commissioning of LOFAR Operations
- ◆ Operations have started; to expand during summer
 - ⊕ Important milestones
 - Integration SAS/MAC – Stations
 - Separate engineering from operational environment
 - Integration OLAP/ACC
 - Integration Calibration Pipeline
 - Integration HBA tiles

...

CS1 Operations

◆ CS1 Operations room

⊕ Activities

- Permanently occupied (office hours)
- Preparation + M&C observations
- Data inspection & administration
- System status tracking & coordination activities on CS1

CS1 Operations

◆ Technical Support

⊕ Provide information facilities

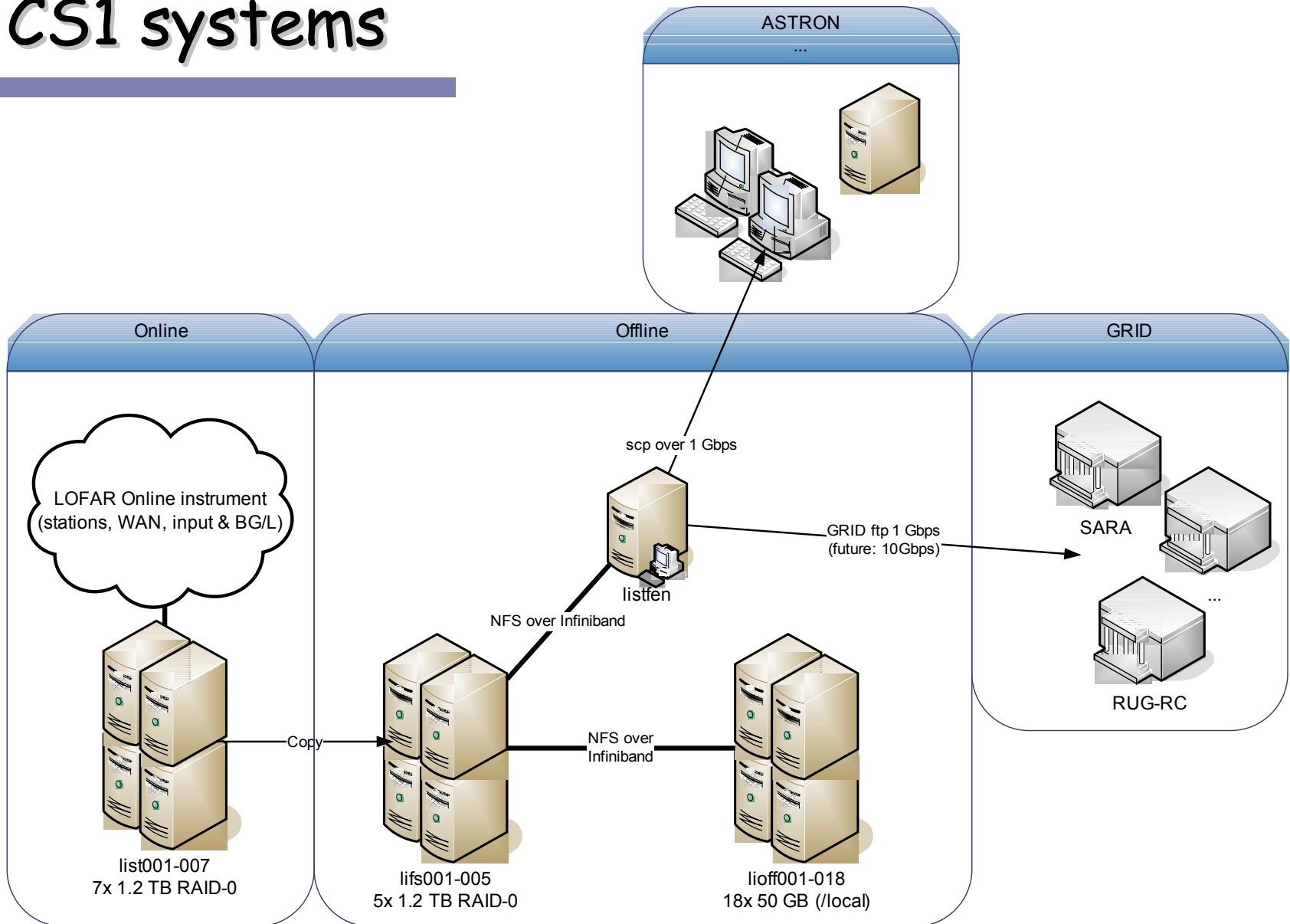
- LOFAR WIKI
- <http://www.lofar.org/operations> to replace
- <http://www.lofar.org/wiki>

⊕ Access to CS1 facilities

- CS1 storage & processing
- Archived data (GRID)

⊕ Maintain the environment & interface for applications

CS1 systems

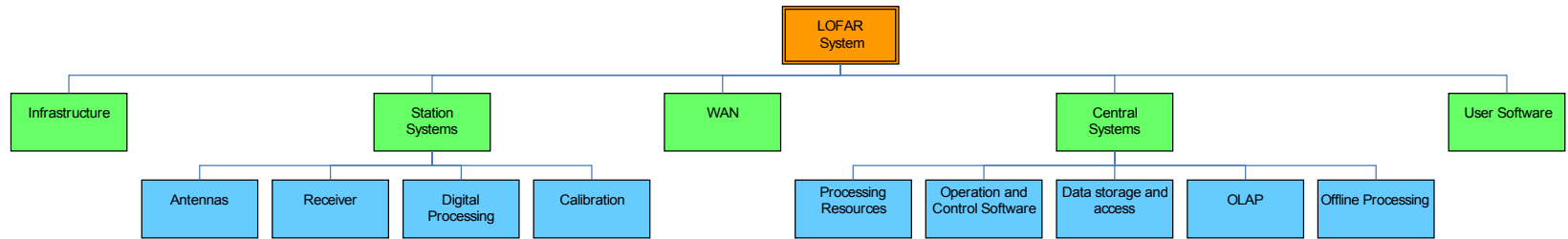


CS1 Operations

- ◆ Commissioning Coordination & Science Support
 - ⊕ Prioritization observations/resource brokerage
 - Commissioning
 - Scientific
 - Engineering (test & integration)
 - ⊕ Coordination of commissioning activities
 - ⊕ Engage user groups

Handover from project to operations

LOFAR System breakdown



◆ Definition Points of Contact (PoCs) for each subsystem

◆ POC:

- ⊕ Liaison with project
- ⊕ Information gathering
- ⊕ Feedback to project
- ⊕ Commissioning

Handover from project to operations

Observatory points of contact for LOFAR (sub) systems	
Infrastructure	Jan Pieter de Reijer
Station Systems/Analogue (Ant&Rec)	Hans van der Marel
Station Systems/Digital (Dig Proc&Calib)	Rob Millenaar
WAN	Teun Grit
CEP (Processing Resources)	Teun Grit
CEP (Data Storage & Access)	Hanno Holties
CEP (OLAP)	Arno Schoenmakers
User Software	Arno Schoenmakers
CEP (Offline Processing)	Adriaan Renting
CEP (Operation & Control Software)	Hanno Holties
Observatory points of contact for LOFAR operations	
Operations	Tony Foley
Science Support	Michiel Brentjens

CS1 Operations

- ◆ Technical commissioning of (sub) systems:
 - ⊕ Determine characteristics
 - ⊕ Maintainability
 - ⊕ Ensure availability documentation/knowledge
 - ⊕ Does it work in the operational system

CS1 Operations

◆ Maintenance

- ⊕ Operational (sub) systems

- ⊕ Fields & infrastructure

- ⊕ Station hardware

- ⊕ Computers & networks (together with RUG-RC)

- ⊕ Software (Production releases)

◆ ...in close collaboration with development project

CS1 Operations

◆ Archive

⊕ CS1

- ◆ Interesting datasets (observation catalogue)
- ◆ Metadata
- ◆ Station statistics/autocorrelations
- ◆ (Standard) dataproducts

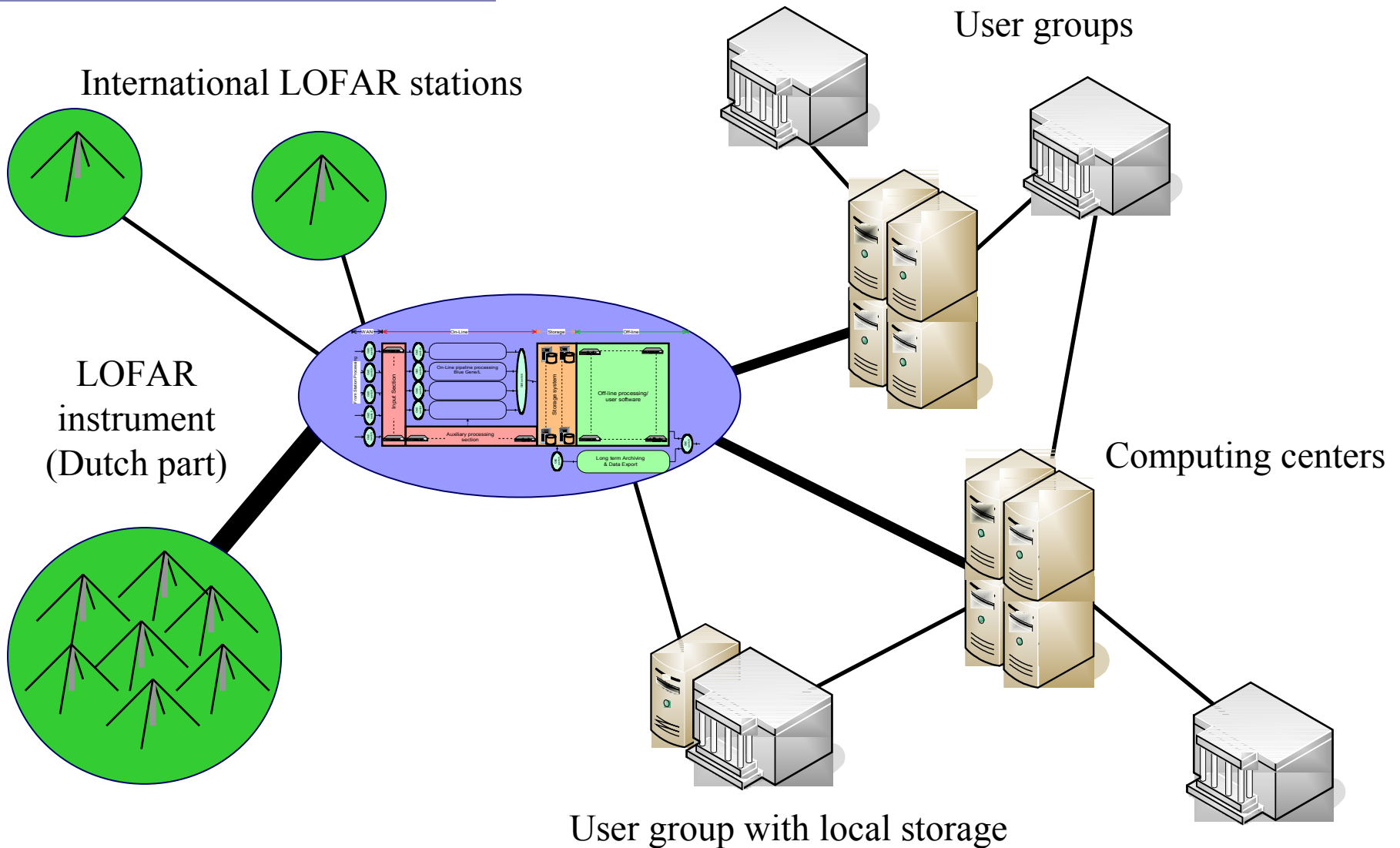
⊕ Main storage resources

- ◆ Temporary CS1 storage (~5 TB)
- ◆ GRID storage (# TB)

⊕ Towards the future

- ◆ LOFAR GRID Meetings
- ◆ BIGGRID

LOFAR data distribution



Planning Operations

- ◆ Start LOFAR CS1 operations: this summer
- ◆ CS1 “operational”: After summer holidays
- ◆ Roll out new stations: Winter 2008
 - ⊕ ...expand operational system as new stations/applications are integrated

