



NRT Data Transfer Software

Training ACTRIS community

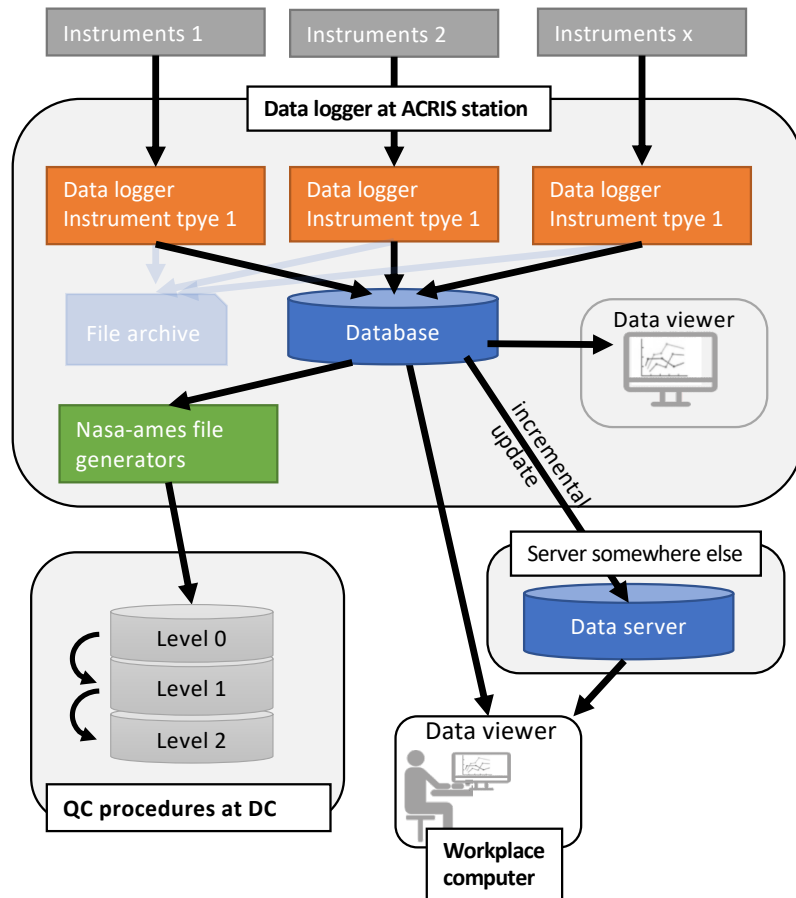
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NRT data flow

Aerosol particle number concentration & size distribution, aerosol particle light scattering and absorption coefficient



Data logger software at Station

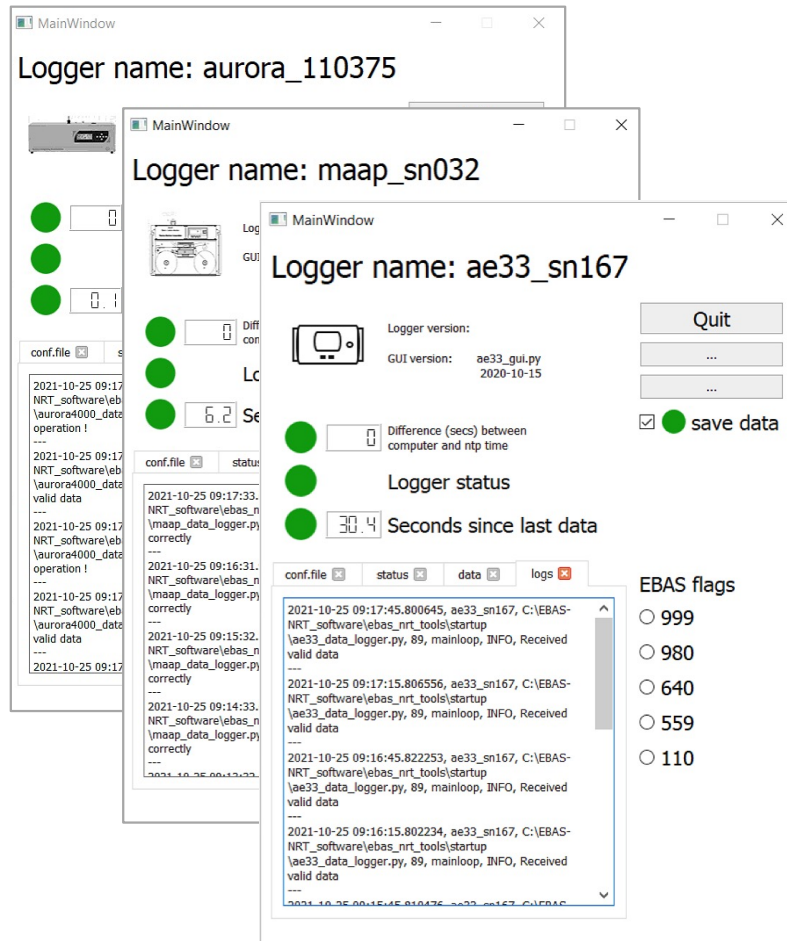
- Collects data from several instruments
- Stores all data in single database
- Supports archiving data as text files
- Generates Nases-ames files
- Configurable data viewer

External access to data

- Remote access possible if computer are in the same network
- Access via other servers possible to save resources at measurement site

Graphical User Interfaces

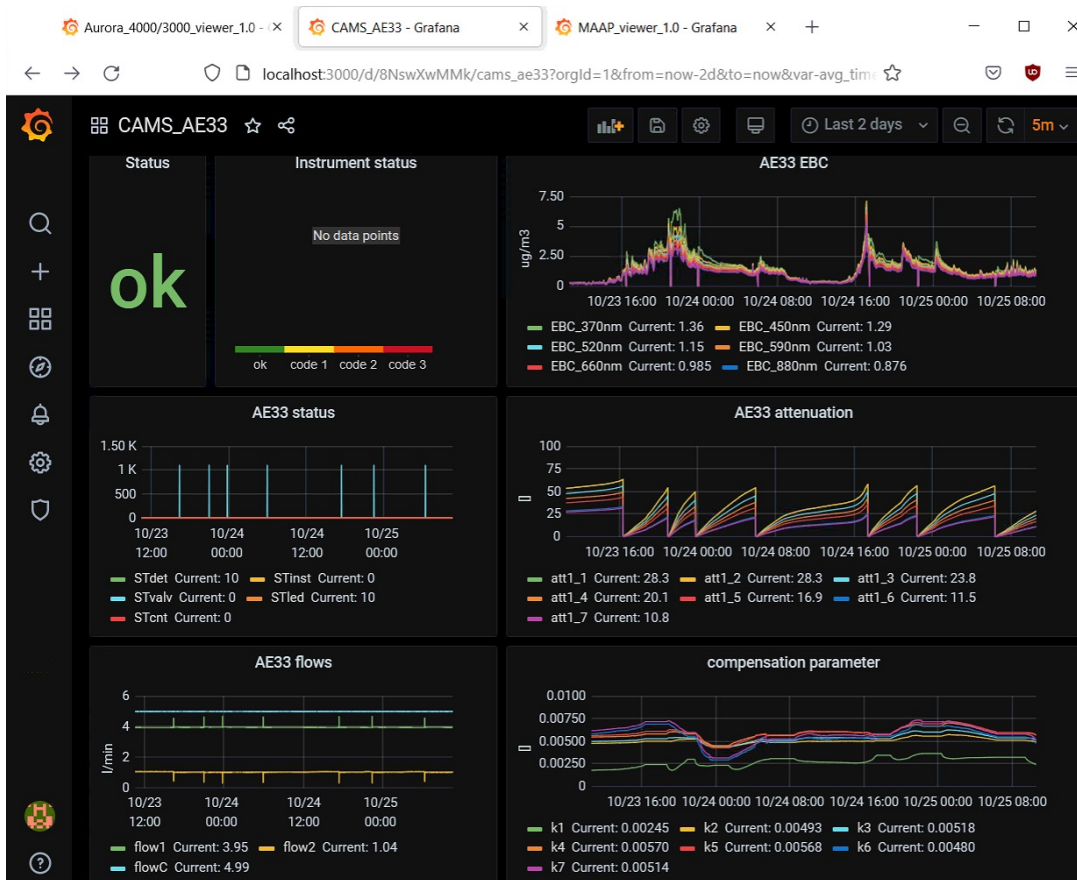
Aerosol particle number concentration & size distribution, aerosol particle light scattering and absorption coefficient



- Fully configurable via configuration file
- Similar and easy to use GUIs for all data loggers
- Setting EBAS flags
- Error detection and troubleshooting
 - Reinitialization of device connections
 - software & hardware restart if required
 - Saving all activities, status and error messages
- Saving data in various formats for
 - Debugging (text file)
 - Archiving data (text file)
 - Database

Visualization

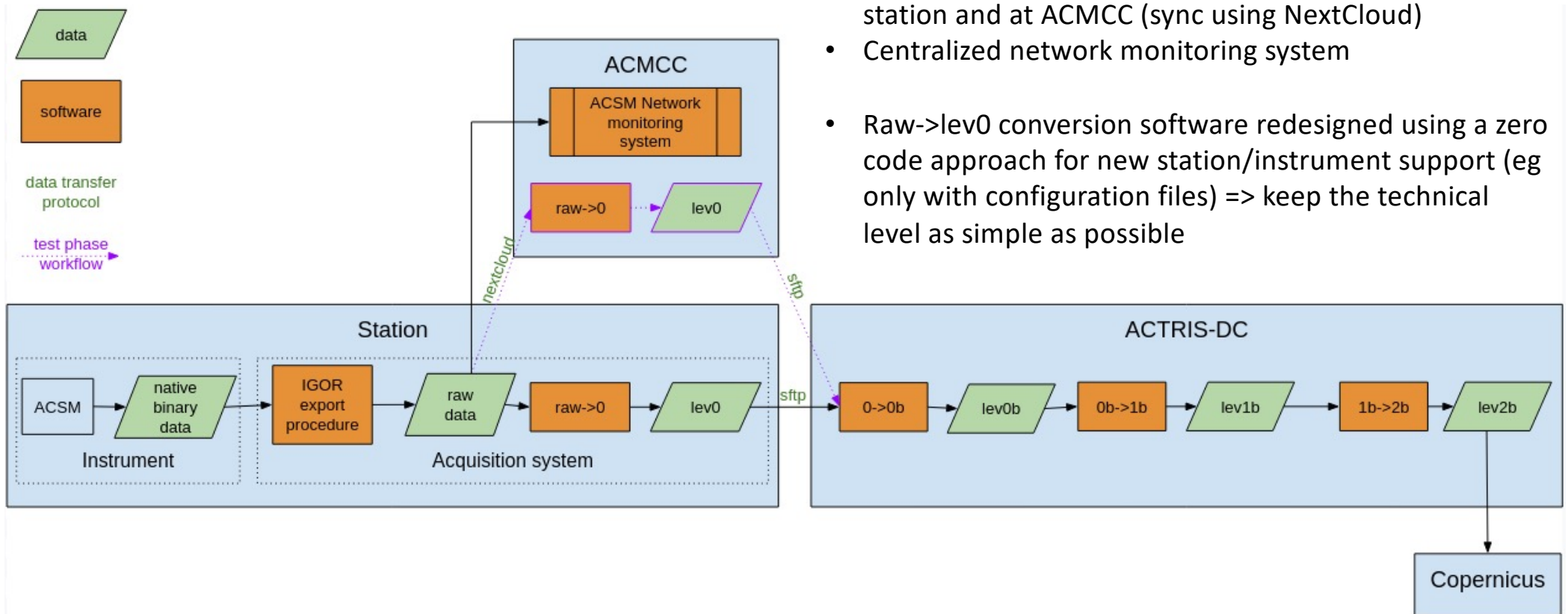
Aerosol particle number concentration & size distribution, aerosol particle light scattering and absorption coefficient



- Measurement data, status information and housekeeping data.
- Visualization on local or remote computer possible
- Dashboards for all common device types available.
- Dashboards can be customized and extended by the user.

NRT data flow

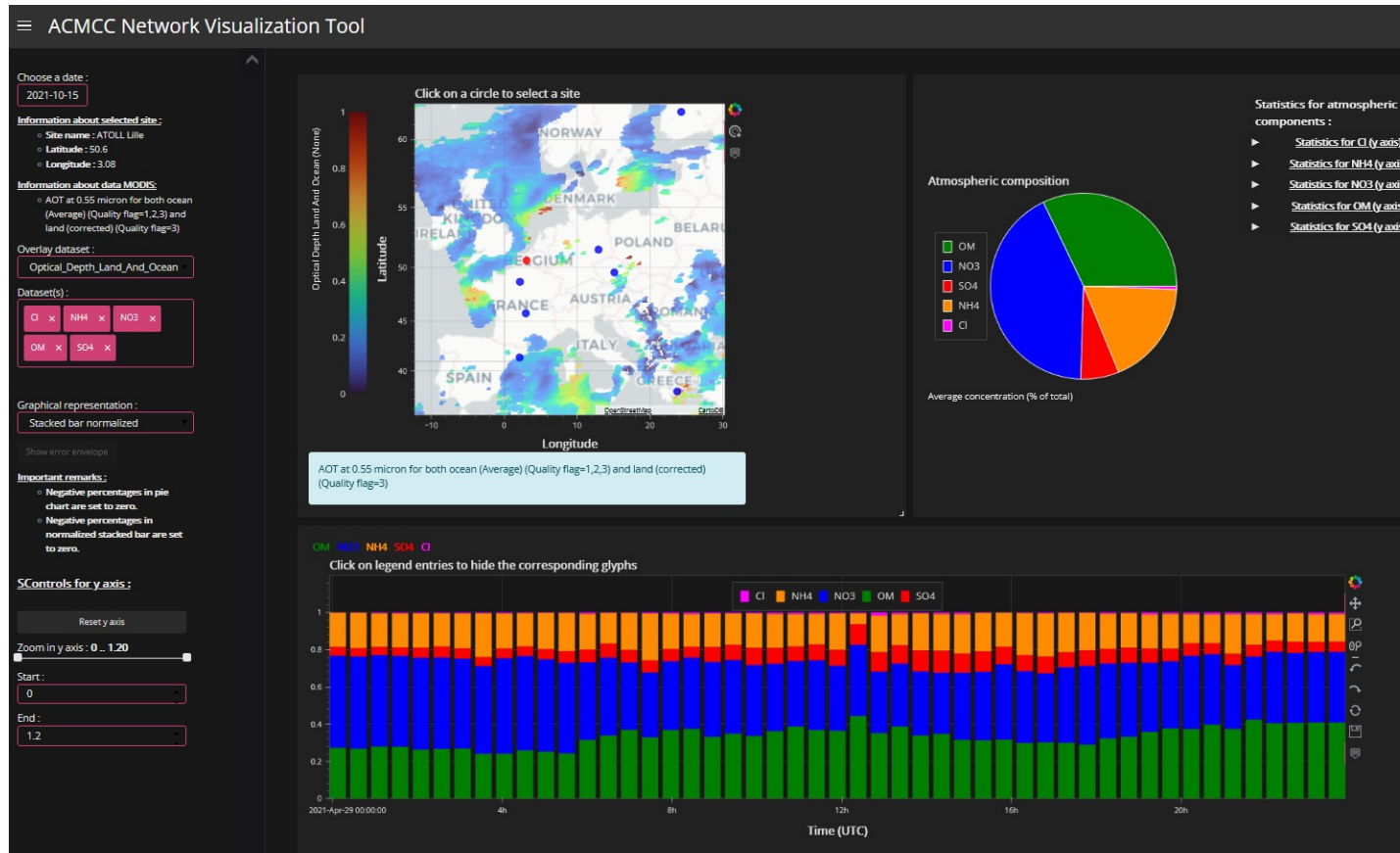
Aerosol chemical species concentrations



- During implementation phase, raw->lev0 processing centralized at ACMCC. Will be done at station in operational phase
- Raw data saved in CSV files with metadata in header, lev0 in NASA-AMES format. Both are available in the station and at ACMCC (sync using NextCloud)
- Centralized network monitoring system
- Raw->lev0 conversion software redesigned using a zero code approach for new station/instrument support (eg only with configuration files) => keep the technical level as simple as possible

Visualization

Aerosol chemical species concentrations



- Centralized web dashboard
- Focused on raw NRT data
- Satellite overlay
- Interactive
- 8 sites supported

Further steps

Aerosol chemical species concentrations

- Consolidate export for ToF-ACSM
- Develop technical validation for ToF-ACSM
- Possibility of exporting OM matrices

Infrastructure required at Station

Common

- Internet connection
- Remote access software facilitates installation and troubleshooting support.

Aerosol particle number concentration & size distribution, aerosol particle light scattering and absorption coefficient

- Linux version 19.0 or newer*
- Windows 10 or newer*
- Operating system must support 64-bit mandatory.

*In case of deviations from the specifications, the software may well work. In case of problems, however, no support can be guaranteed.

Aerosol chemical species concentrations

- Aerodyne acquisition platform and software (Windows 7 or 10 ; IGOR)
- NextCloud client, (Python 3, OpenSSH)

Support for installation and operation

- Online meetings with the community in which a general introduction to the systems is given and problems can be discussed.
- Installation and operation manuals
- Software installation packages and material for support will be uploaded to a software repository.
- Individual support for planning before installation
- Personal support on request
- Subject in ECAC forum