CoMPAS

Description

Configuration **M**odules for **P**ower industry **A**utomation **S**ystems

The mission of LF Energy's CoMPAS project is to develop open source software components and examples/artifacts/SCL files related to IEC 61850 model implementation (profile management) and configuration of a power industry Protection Automation and Control System (PACS).

The project seeks to:

- Leverage multi-vendor and multi-end-user development resources and 61850 competences to accelerate the development of common software blocks;
- Promote/Evangelize top-down configuration processes and common model implementation choices (thus also accelerate the conformity to IEC 61850 through software implementation);
- Deliver a production grade and reference implementation of the standard.
- Lower the barrier to adopt IEC 61850

The project strives not to duplicate works already carried out in standardization groups. When the rules and principles from the standard are not comprehensive enough or subject to interpretation or still work in progress, the project may have to take choices for the implementation. In such case it should strive to a configurable implementation.

Technical Information

- Github repository
- Functional and technical architecture documentation
- Functional Scope
- Contributing and deployment
- CoMPAS Roadmap including Process and Priorities

The CoMPAS current features

CoMPAS SCT tool contains the following features:

- SCL datamanagement / SCL data storage service: store and load SCL files
- SCL file versioning (semver)
- CIM to IEC61850 conversion
- Single sign on
- Role-based acces per file type: CRUD: Create, Read, update and delete
- Filetypes SCL supported: ICD / SCD / SSD / ISD / CID / IID /SED
- Display/edit SCL files e.g.
    - GOOSE/Sample value subscription
    - Create datasets
    - Cleanup un used data
- Multi language support
- Riseclipse integration
- 104 SCL support (IEC61850-80-1)

Please note that CoMPAS is in active developement!

Try CoMPAS

Public demo environment!

https://demo.compas.energy/

Please note that the database is shared between all users.

A Docker compose is used to try CoMPAS. More information can be found here:

com-pas/compas-deployment: CoMPAS Deployment repository (github.com)

In all cases, make sure your webbrowser has enough free memory! if needed, disable plug-ins and close unused browertabs.

Youtube tutorials/video's

CoMPAS Tutorials - YouTube

OpenSCD - YouTube (unofficial)

Background

Due to the Energy Transition the use of power transmission and distribution grids is changing. The control architecture of power grids needs to be swiftly adapted to take account of infeed at lower grid levels, higher dynamics in flow patterns and more distributed controls (both internal controls and grid flexibility services from third parties).

In this context TSOs and DSOs require a new generation of Digital Substation Automation Systems (DSAS) allowing for more dynamic protection settings and adaptive automation functions. Moreover, data management becomes significant, both for administration of deployed automation and protection functions as well as operational grid data.

The design of the new DSAS will have to allow for a drastically higher level of modularity, interoperability and scalability compared to the previous generations. An open source collaboration is essential to meet those requirements in a cost-efficient way by sharing the effort through a leveraged development approach that involves all stakeholders from equipment manufacturers to end-users, fostering vendor-agnostic implementations and convergence of utility practices.

Community

The idea of the communication is to be as open as possible (open governance). This allows others to trace requirements and join relevant conversations (CoMPAS@lists.lfenergy.org | Calendar).

- If you are a potential (end) user, feel free to join the LF energy CoMPAS community calls. These are Q&A sessions to ask questions and check the progress (if interested),
- The LF Energy slack channel will be the chat communications channel for the CoMPAS project. Look for the #compas channel
- High level and generic requirements and feature will be described in the architecture documentation here and on Github.
- Github issues will be used for technical issues and low level requirements/userstories.
- The mailing lists can be used for more formal communication:

Name	Description
CoMPAS	CoMPAS general discussion list
CoMPAS-dev	CoMPAS developers
CoMPAS-tsc	CoMPAS Technical Steering Committee

Regular meetings

The TSC will meet once a month. Meetings will be announced on the mailing list and available through the project calendar. Meeting minutes are published on the CoMPAS Meeting Archive page.

Community call will be held once a month. CoMPAS refinements will be done every week (see calender).

Important Links

- Project Charter on GitHub
- Project License on GitHub
- Maintainers on GitHub