SnT 2021
CTBT: SCIENCE AND TECHNOLOGY CONFERENCE

CTBTO
PREPARATORY COMMISSION

SSI new Configurator

Moctar Moumouni Kountche, Julien Marty, Benoît Doury

Poster No. P4.3-334

POSTER

SSI new Configurator

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ABSTRACT

- SSI: Station Standard Interface SSI is a software system for data acquisition designed and developed by CTBTO with the capacity to integrate a wide variety of equipment
- SSI supports the waveform IMS stations to collect, reformat, buffer, sign and transmit data using IDC formats and protocols
- SSI is used at more than 150 IMS stations in all waveform technologies as well as at several NDCs
- The Web configurator which appears as complex has been the main interface to configure and manage SSI
- A new configurator was then developed to fill the gaps and difficulties of the previous interface and compatible with CTBTO network infrastructure
- This new configurator is a fat client developed in Python running on both Linux and Windows

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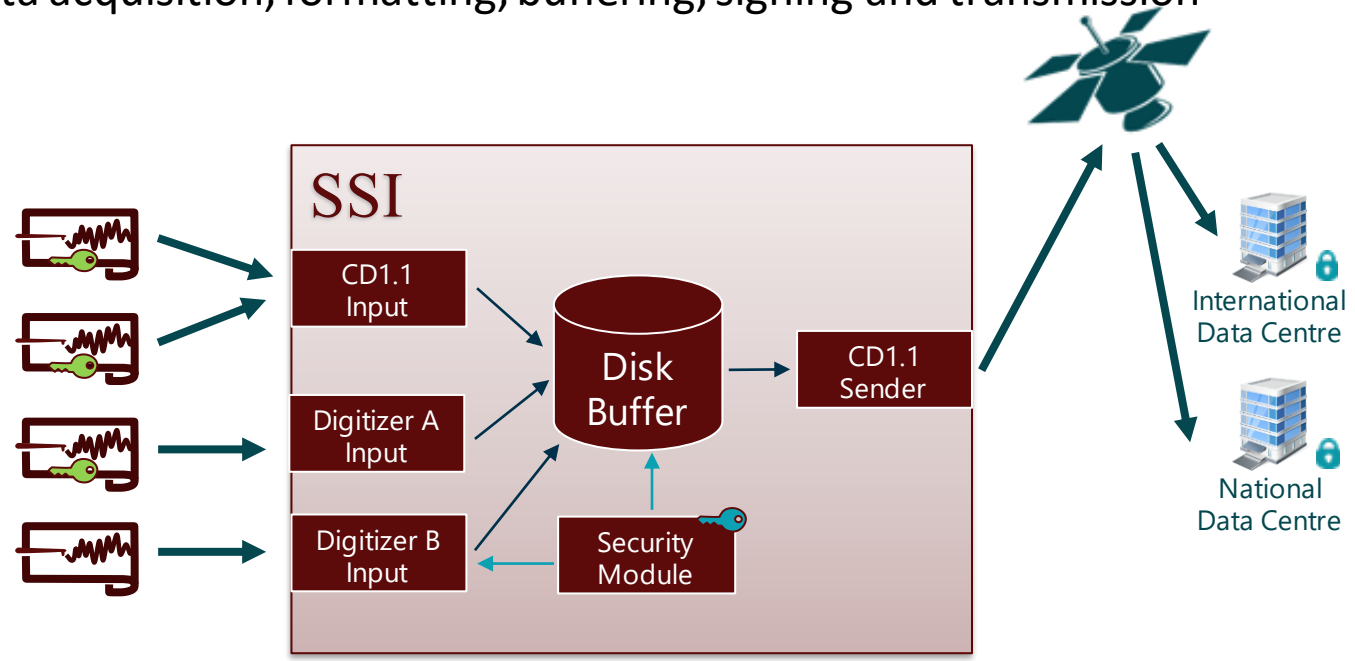
SSI: Basic Functionalities

- Data acquisition, formatting, buffering, signing and transmission



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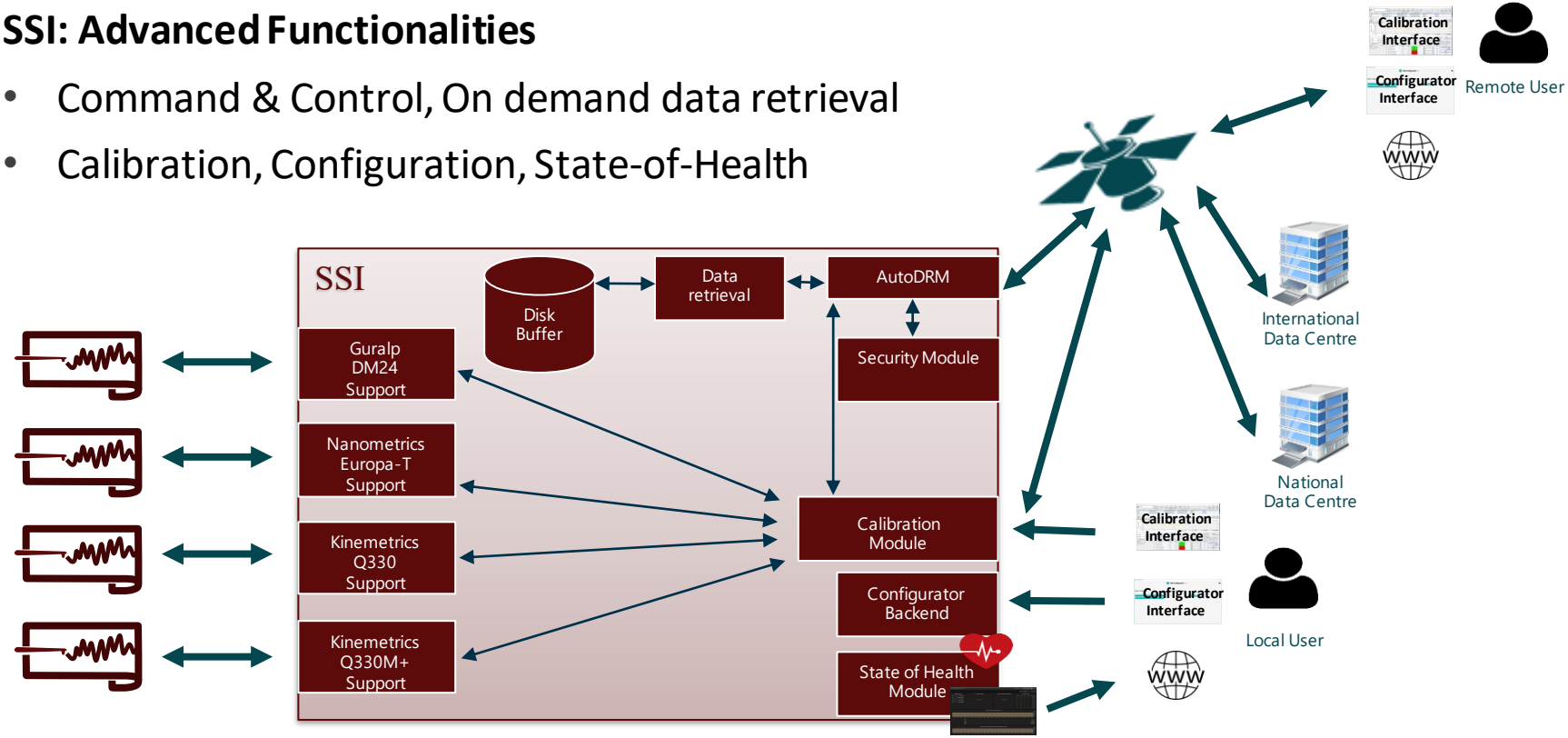
SSI: Advanced Functionalities

- Command & Control, On demand data retrieval
- Calibration, Configuration, State-of-Health



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New configurator

- Graphical User Interface (GUI) tool used to configure and manage SSI.
- Replaces the older SSI Web Configurator.
- Improves the overall usability and responsiveness over the GCI bandwidth.
- Consists of a frontend and a backend which exchange data via REST-API
- Uses REST-API technology to not overload GCI and for a smooth user experience.
- Comes with SSI Release 2021.04 and later.
- The frontend is also available as a standalone version for Linux and Windows.
- Can be used on a separate computer to connect remotely to an SSI workstation.
- Tooltips and embedded documentation.

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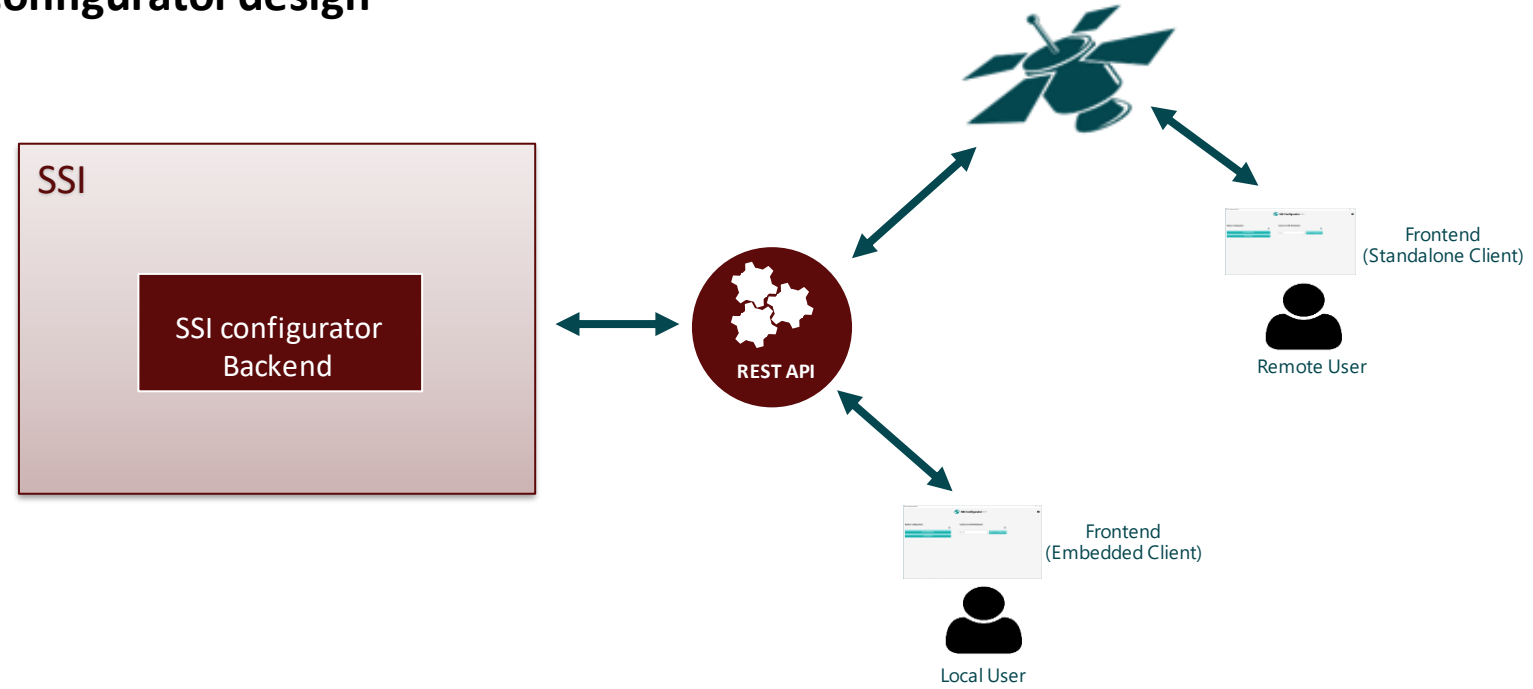
New configurator design



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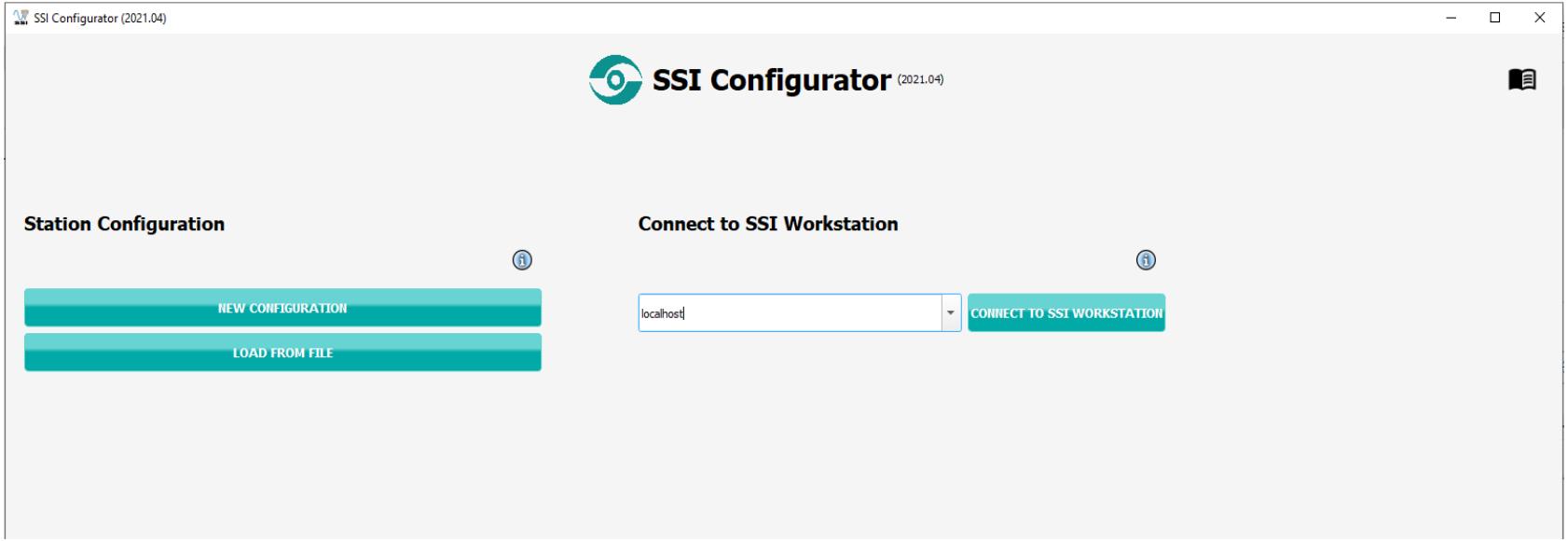
New configurator main page



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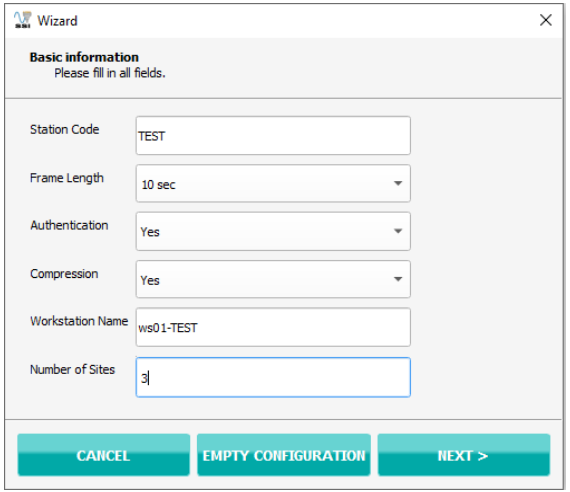
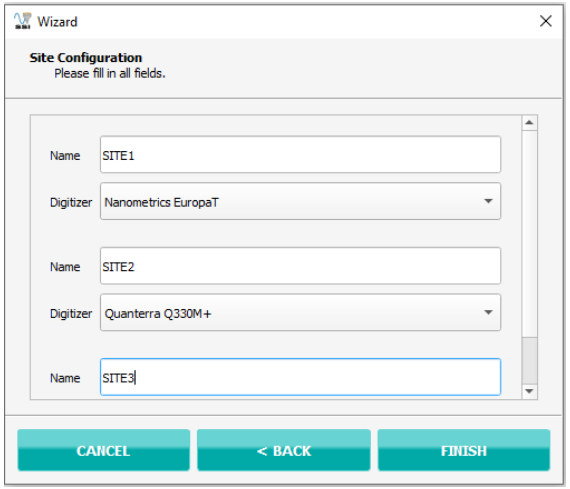
The Wizard

- Asks for most important parameters.
- These parameters can be changed at a later stage.
- Option to start configuration from scratch.





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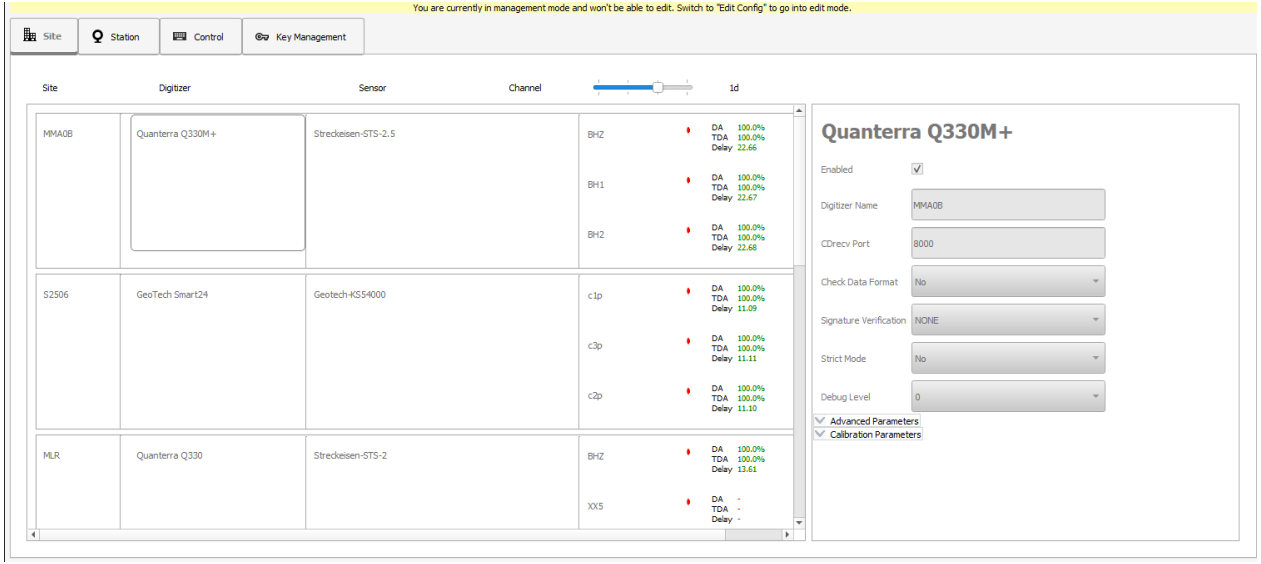
Site structure

- Site/Digitizer/Sensor/Channel/Detailed settings.
- Channel's status.
- Advanced parameters.



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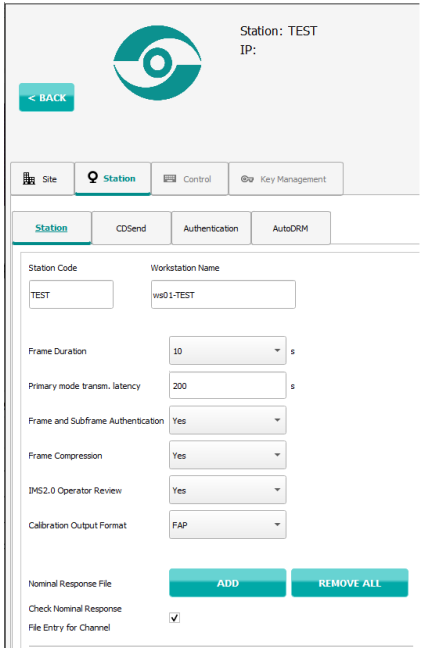
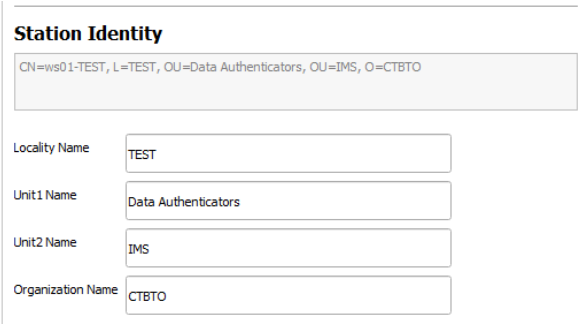
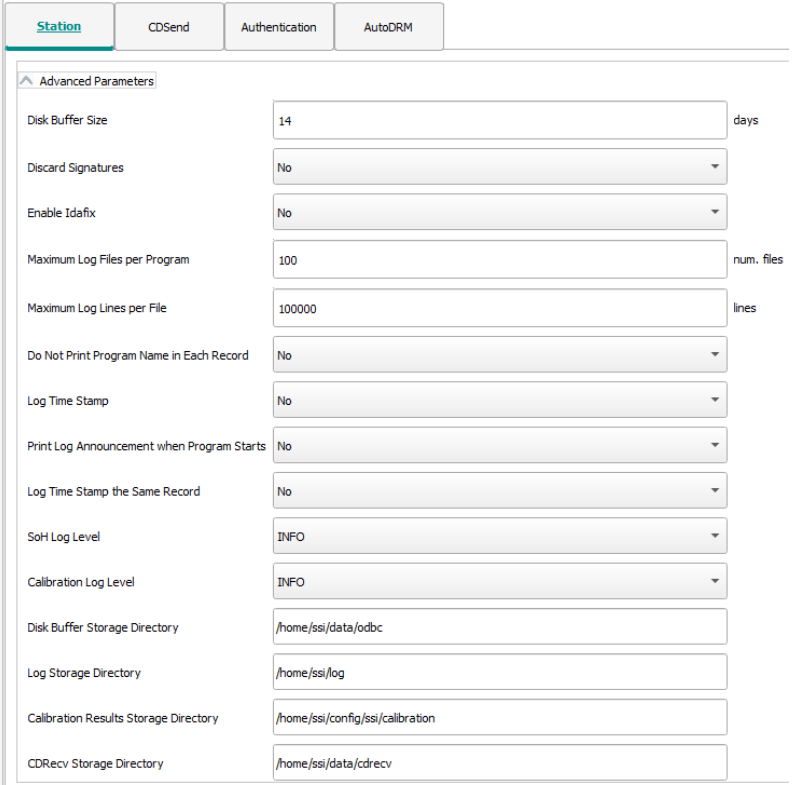
Station parameters

- Station-wide SSI-specific configuration parameters







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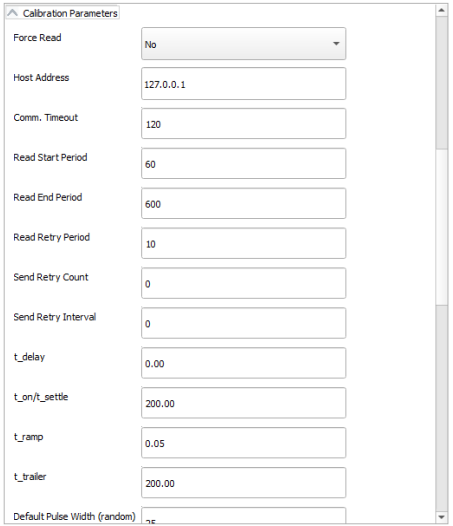
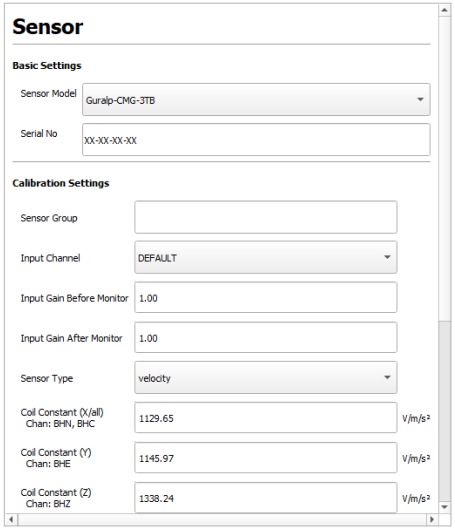
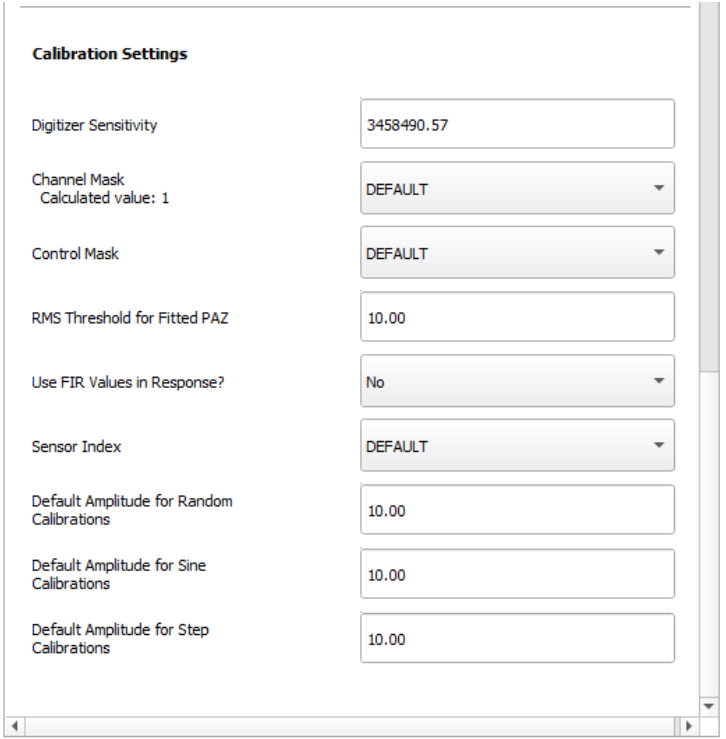
Calibration configuration

- Calibration parameters specific to Digitizer/Sensor/Channels
- Add or remove calibration nominal response file







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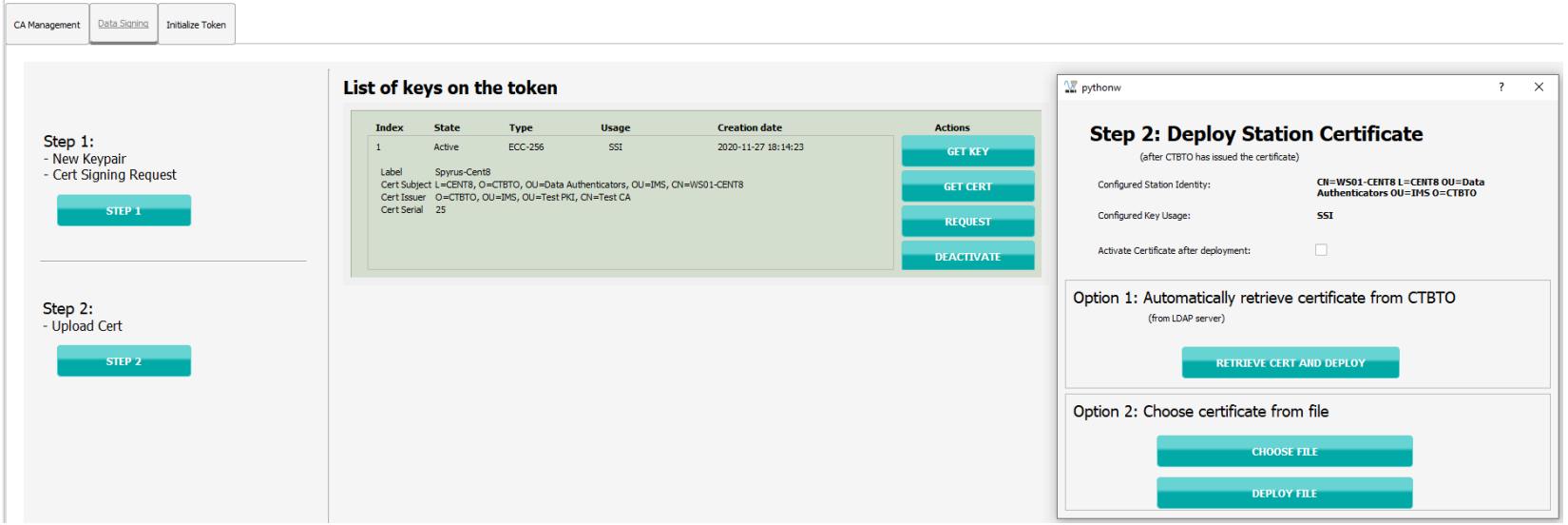
Data signing

- Clear step by step process
- Automatically retrieve certificate from PTS
- Automatically update PTS CRLs



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CONCLUSION

- Intuitive and user-friendly configurator adapted to the limited GCI bandwidth
- Simplify complex tasks for SO (calibration, authentication, …)
- Load, save and archive the whole SSI configuration
- Simplify configuration process (good defaults, auto-config, drop-down list)
- Powerful tool for beginners and advanced users
- Configuration validator for less error prone