SSI new Configurator

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• **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.
**SSI: Basic Functionalities**

- Data acquisition, formatting, buffering, signing and transmission
SSI: Advanced Functionalities

• Command & Control, On demand data retrieval
• Calibration, Configuration, State-of-Health
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.
New configurator design

SSI

SSI configurator Backend

REST API

Frontend (Standalone Client)
Remote User

Frontend (Embedded Client)
Local User

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New configurator main page

Station Configuration

- New Configuration
- Load from File

Connect to SSI Workstation

- Username
- Connect to SSI workstation

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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.
Site structure

- Channel's status.
- Advanced parameters.

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**Station parameters**

- Station-wide SSI-specific configuration parameters

<table>
<thead>
<tr>
<th>Station Code</th>
<th>Station Name</th>
<th>Station Identity</th>
<th>Station Parameters</th>
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<td>TEST</td>
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<td>Data Authenticators</td>
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### SSI new Configurator

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Calibration configuration

- Calibration parameters specific to Digitizer/Sensor/Channels

- Add or remove calibration nominal response file
Data signing

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