Data Processing Services at your fingertips

The ENEXSA Data Processing Service (DPS) is a comprehensive suite of functional modules that enable the configuration, testing and implementation of complex procedures for online data from a wide variety of sources.

Designed as a toolbox with a user-friendly web interface, the DPS allows for building the sequence of process steps from individual 'unit operations' to be placed on the flowsheet and connected by simple mouse click.

The calculation flow can be triggered based on user-defined points of time or time intervals, or event-based by 'watch-dog' criteria applied on one or several online signals. For development and testing, the process can of course also be started manually and checked step-by-step utilizing debugging modules for specific intermediate results. Various types of data Sources can be linked to the process with modules based on published API information or standard communication protocols.

While file-based interfaces have proven to be a simple and reliable work-around for integrating with other data sources, customized direct interfaces to specific or proprietary data sources can be engineered on request.

Pre-processing of online input data is a key step to effectively mitigate the 'garbage-in-garbage-out' dilemma of online software solutions.
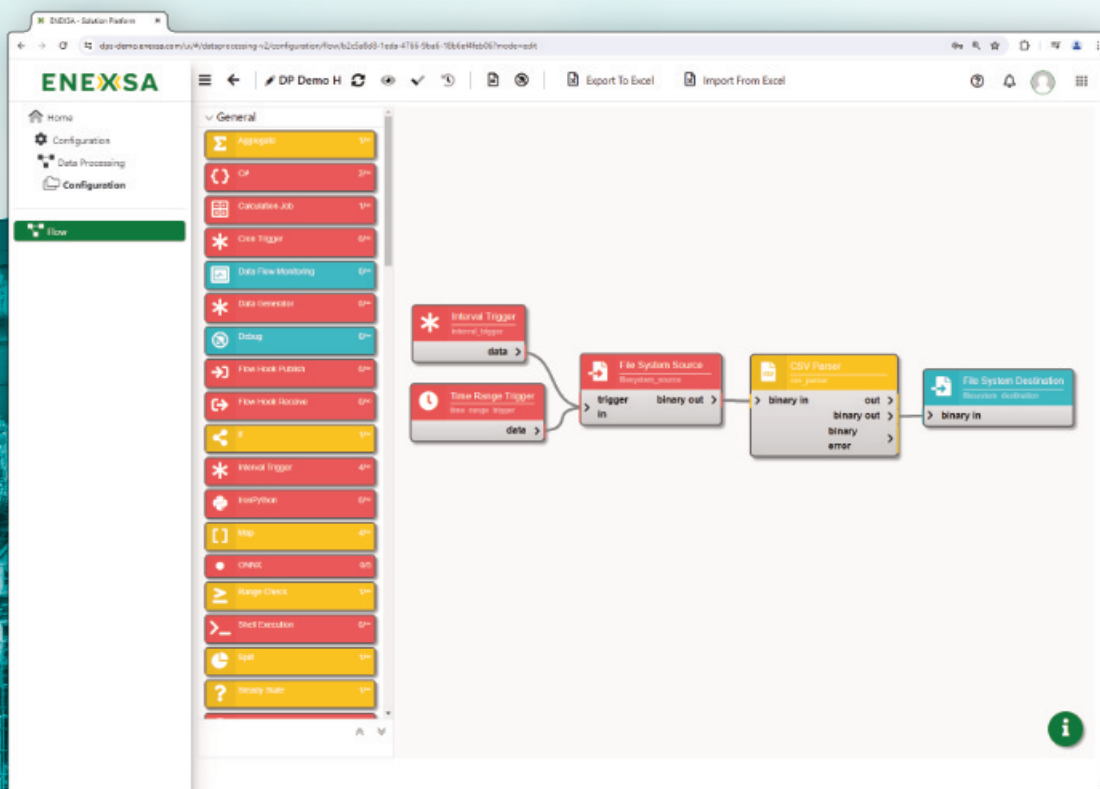
Configurable modules for range and steady-state checking as well as logical operators make sure that only valid inputs and reasonable replacement values are processed, or that the calculation is skipped if essential inputs are faulty or missing. The actual calculation process begins with the mapping of the online signals to internal parameters, which may also include side calculations defined in C# or Python, or changing of the variable type. These parameters are then fed into a Calculation Job module which utilizes ENEXSA's GRID distributed calculation technology to process the data either in simulation programs such as EBSILON®Professional or in customized code written in C# or Python. The GRID effectively manages the distribution of computational resources between concurrent online and offline calculations, or between multiple calculation jobs, so that the use of available hardware and software resources is maximized while prioritized processes are not delayed by less important tasks.

Once the results of a calculation job are returned to the processing scheme, the post-processing steps may involve further logical checks and customized calculations before they are mapped to output signals and written to one or several target data repositories.

ENEXSA delivers high quality software by using an ISO 9001-certified development process and a state-of-the-art technology stack.

If you want to learn more about the Data Processing Service please contact ENEXSA!

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