# S3control 2019.1 Release Notes


**S3control**

January 2019

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# 1. Introduction

S3control 2019.1 is the latest version of the Reservoir Engineering Pre-Processing software from Sciencesoft Ltd. S3control provides an advanced text editor for input decks. It includes powerful keyword recognition, validation and syntax highlighting. The built-in workflows and concept views enable engineers to perform common tasks quickly and easily. Engineers can also create their own workflow templates and share these with colleagues. Real time keyword and model validation functions are built in as standard.

The new features to be found in the latest version of S3control are outlined as follows:

### *TNavigator Support*

S3control now supports the loading and native running of TNavigator models.

### *Multiple Simulator Manual Support*

Each supported reader can now handle a collection of manuals to open and link to. This allows multiple versions to be stored and used with compatible models.

### *Adding Wells*

Simple wells can now be added into your model using the new well editor from the Wells concept view.

### *Adding Faults*

Adding faults has been available in S3control since last years release. In 2019 we further enhance the feature by allowing a fault to be added by clicking on cells on the grid.

### *Derived Variables Enhancements*

2019 sees the introduction of arrays in the Variables feature of S3control.

### *Conceptual Variables*

For the first time the Concepts and Variables feature are now linked together. Some concepts like reference depth and contact depths can now be used as variables.

### *Editor Settings Control*

The text editor now has a dedicated options panel in the main application settings page.

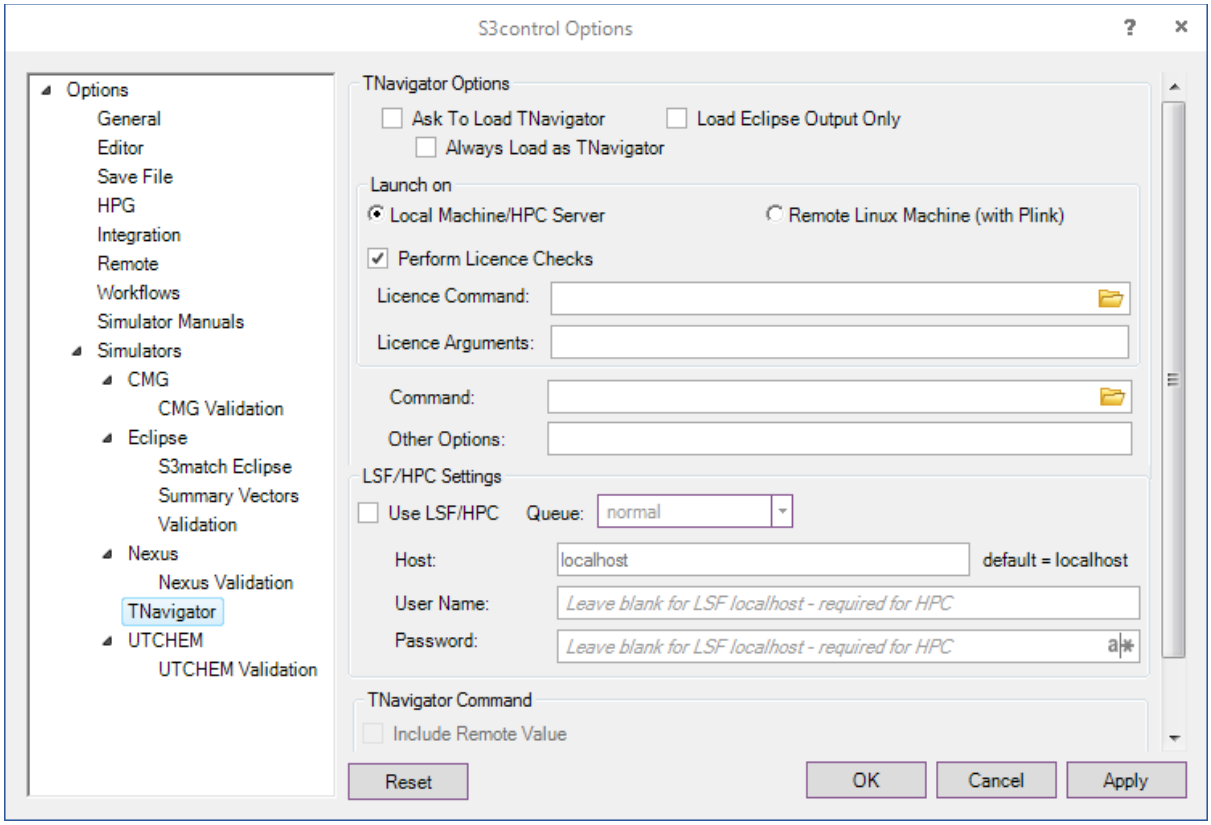
### *Redesigned Simulator Manual*

For 2019 a new PDF viewing control has been added which has better memory efficiency and simple user interface.

## 2. TNavigator Support

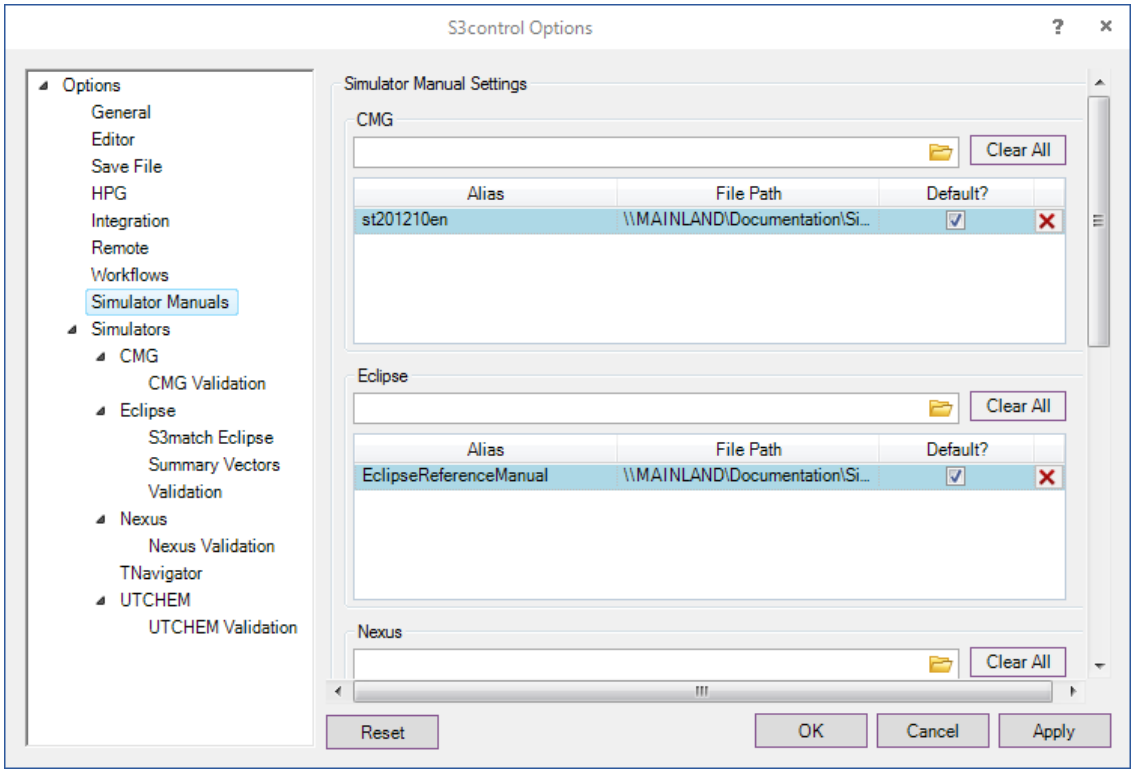
The TNavigator simulator uses an Eclipse input deck format to run models. It additionally supports loading CMG models or a mixture of the two. S3control now supports the loading of these files and launching the simulator. The output from the simulator can be either a native format or an Eclipse compatible format. Again, S3control supports the loading of either type of files.

The settings for this reader can be found on the main application settings page as shown below:



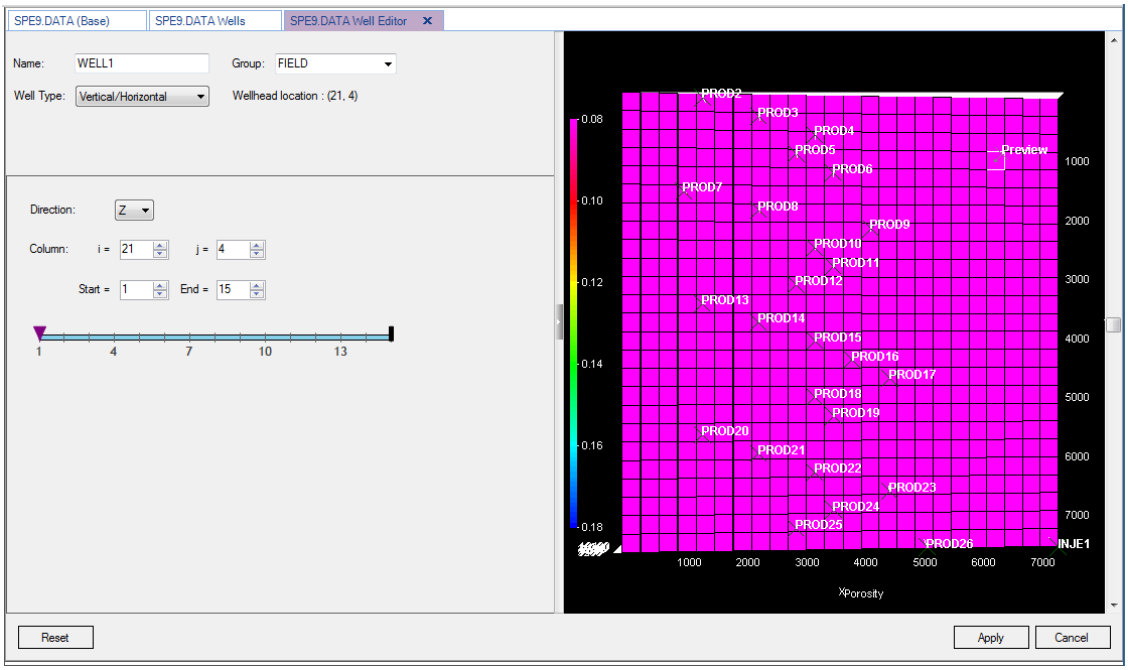

## 3. Multiple Simulator Manual Support

On occasion, a user will require to look up a number of different manuals while using a particular model. For 2019 S3control will now allow users to switch between different manuals. To build up a collection of manuals there is now a panel in the tools options page to set these up. One of the manuals can be set as the default with all the others available from a dropdown on the ribbon.




## 4. Adding Wells

One of the most exciting features for 2019 is the new editor to add simple wells to a model. This new editor will allow vertical, horizontal or deviated wells to be added to an existing model.




Created wells will be automatically added to the simulation model with defaulted values for the user to edit.

## 5. Adding Faults

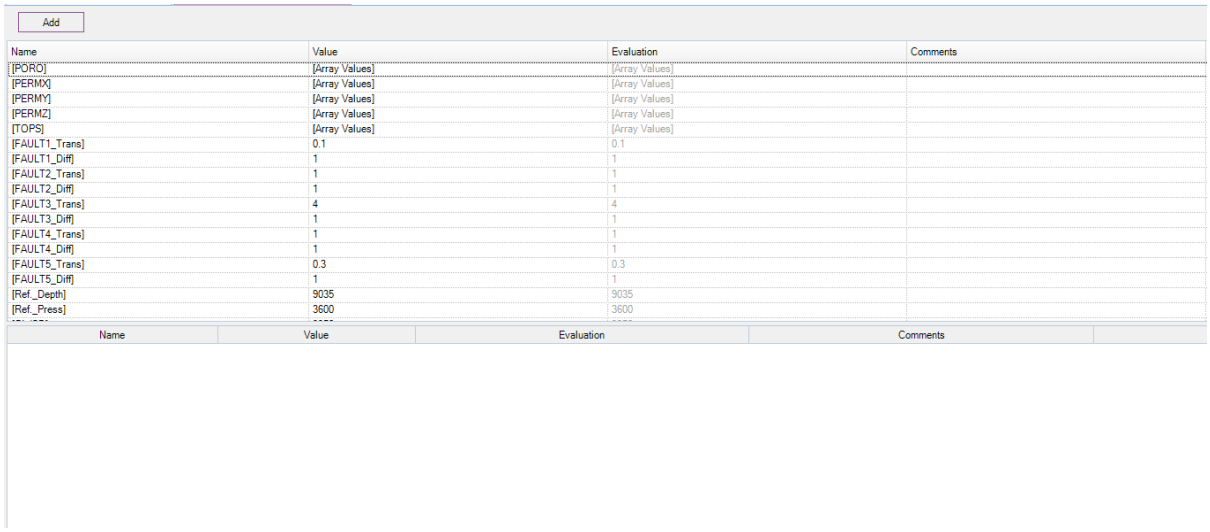
A significant enhancement to the Add Faults feature in S3control is the ability to add components to a fault by clicking on cells on the grid. This feature makes adding faults simpler and quicker to complete than in previous versions.

## 6. Derived Variables Enhancements

Derived variables previously allowed simple functions like a = b+c. Now in 2019 it is possible to do things like a = Math.Min([poro]) or a = {1,2,3}. This further increases the power and flexibility of one of the flagship features of the S3control pre-processor application.

## 7. Conceptual Variables

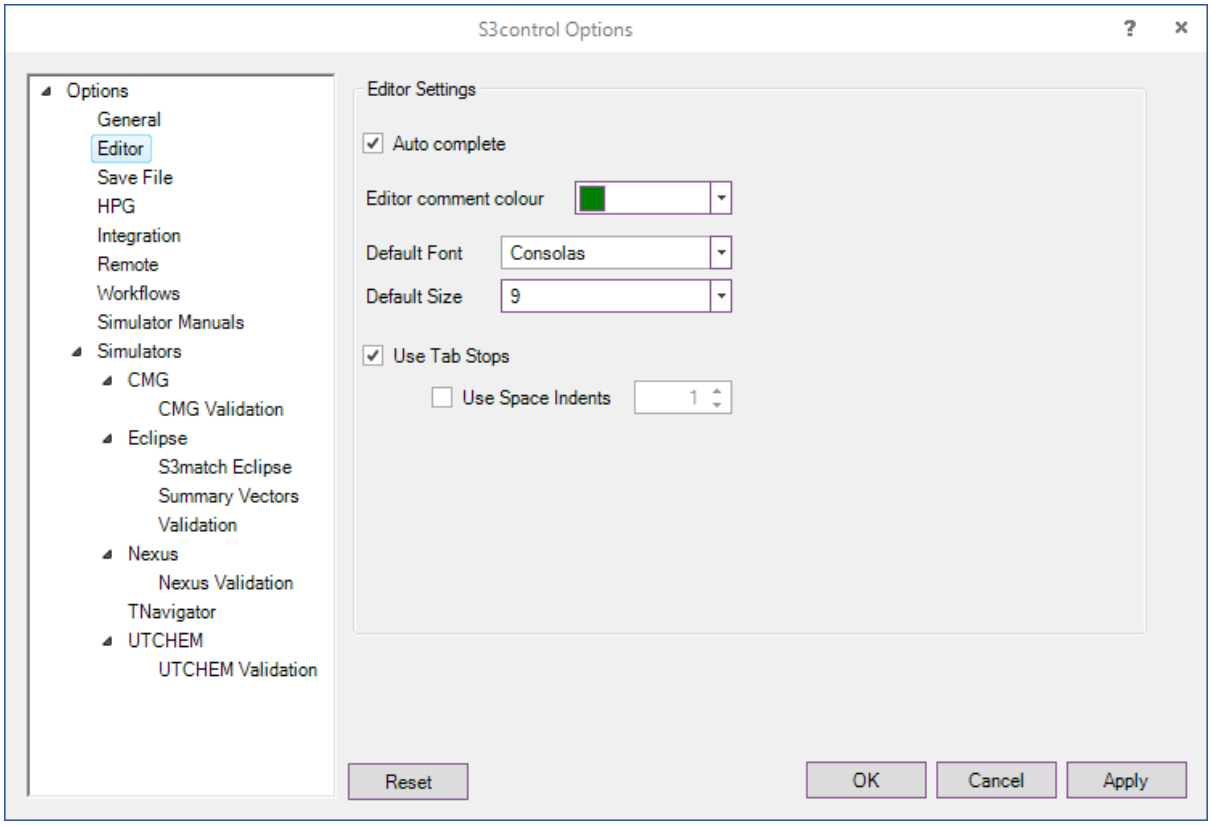
The Variables view now contains a number of pre-set variables which come from the Concepts functionality in S3control. This allows calculated values for contact depths, wells and faults to be available to functionality previously only available for variables.




## 8. Editor Settings Control

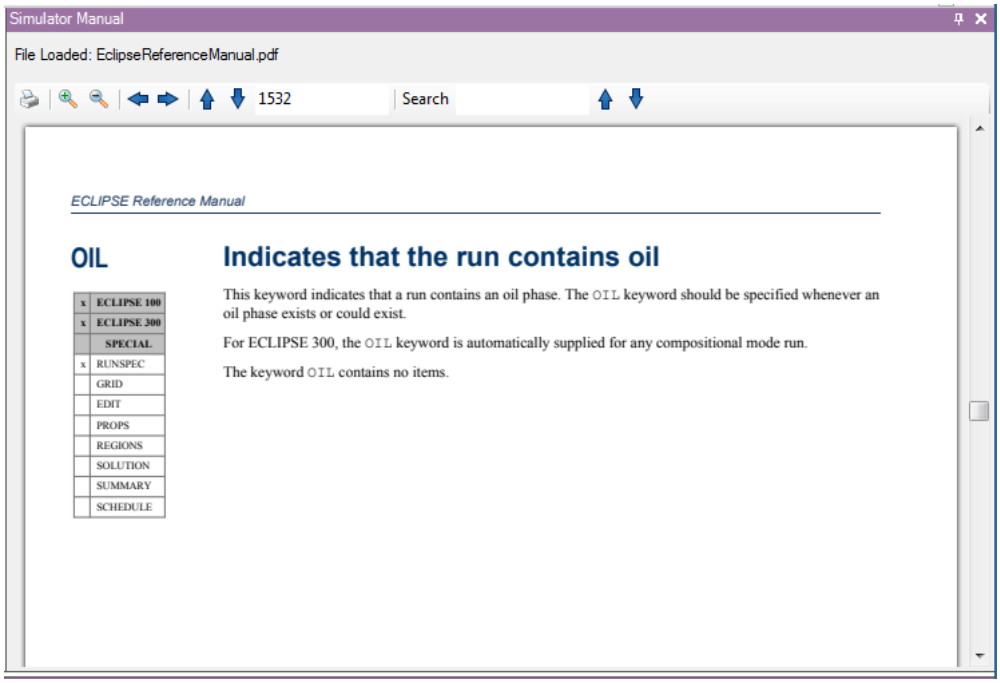
The text editor in S3control is a powerful editor which has built in intelligence geared towards editing simulation files. The settings are now available from the application settings page.

At the moment this allows auto completion to be turned on and off and font settings to be changed.




## 9. Redesigned Simulator Manual

Previous versions of S3control required users to have Adobe Acrobat installed. To avoid this requirement S3control now includes an in-house developed tool for viewing PDF files. This quick and simple interface allows users to print pages, navigate the document and search for keywords within the document.



## 10. Miscellaneous Enhancements

- Ability to start and stop runtime monitoring
- Treeview filtering to give colour coded feedback on searching. Green for a successful match and red for no matches found
- Running simulations now show the elapsed time as well as the start and end times
- Launches of S3GRAF can now be done to specific versions of the application
- Multiple versions of UTCHEM can be used to run models of this simulator
- New actions added on Saving files to aid user efficiency.
    - Replace TABS with Spaces
    - Trim whitespace
    - Trim empty lines
- New Eclipse Validation Steps Added
    - Arrays overridden in EDIT section check
    - Presence of NONNC and NNC keywords
    - Messages on output being unified or multiple files
- Support for very large Sensitivity Analysis studies
- A number of improvements to support very high resolution monitors.
- New ability to add NNCs, Wells and Faults to models which do not contain them on load.
- Running models can now be done using any number of licences concurrently from the run monitor window. Number of licences can be changed up or down in real-time.
- S3match now includes the ability to add a weighting to each timestep
- S3match calculates and displays R-squared values in the results screen.
- S3match now includes a scatter plot of objective function against parameter values.