

SILVACO

VWF

Release Notes

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1:VWF Version 2.6.2.R

1.1: New Features

- Support for the LSF queuing system. You can now select which grid computing sub-system to use.
- Added support for optimization. The following algorithms are supported:
 - Levenberg-Marquardt
 - Hooke-Jeeves
 - Simulated Annealing
 - Parallel Tempering
 - Genetic Algorithm
 - Differential Evolution
- Added support for a target language (for optimization). This can be used to perform operations on optimization targets in order to make them suitable for a given optimizer. Most notably this can be used to allow using curves as targets with another than the Levenberg-Marquardt optimizer. The language is made available through the DBINTERNAL simulator.
- Added new examples demonstrating optimization. Examples are now defined in a directory hierarchy.
- Added a simple curve viewer, which allows direct viewing of curve results.
- Added support for SMARTSPICE, SMARTVIEW, and QUEST.

2:VWF Version 2.4.15.A

2.1: New Features

- Added support for special characters '&' and '~' in decks (to support QUEST and DEVEDIT decks).
- Added Japanese translation of menus and dialogs.
- Allows selecting an arbitrary DECKBUILD version.
- Allows defining splits in model statements.

2.2: Changes

- Improved filemode: Allows re-running of aborted nodes.
- Changed starter script to link in 32bit DRMAA libraries.
- Experiments can no longer be closed when they are running.

2.3: Fixed Issues

- Import dialog now uses default file extension of .tgz.
- Cursor is always positioned at the top in the deck editor.
- Set statements are created before line statements.
- Hitting Enter on login dialog now advances to the **Password** field.
- Segfault in Open With dialog.
- Support splits on set statements.
- Propagate exit status from DRMAA sub-system.
- Segfault in **Node Summary**.
- Error when pasting deck into baseline.
- Allows changing the type of a split parameter.
- Allows selecting version of TONYPLOT used for visualizing files.
- Improved CVS export of worksheet.

3:VWF Version 2.4.0.A

3.1: New Features

- Provide multi-level (cascaded) evaluation of the DOE tree. Result files are now available on every level and individual branches can be run.
- Improved backup/restore facility. Two separate tools, `vwf_backup` and `vwf_restore`, are provided, which backup the VWF database and the base directory into a single zipped TAR file.
- Improved tool flow between **VWF**→**Tonyplot**. Multiple files of different nodes can now be displayed within a single instance of TONYPLOT.

3.2: Known Issues and Workarounds

- Nodes added to the queue at runtime cannot be unqueued anymore. The experiment must be stopped and restarted.
- A single deck is supported in any experiment.

4:VWF Version 2.2.1.A

4.1: New Features

- Added new examples. Examples now contain results and simulation files as well.
- Added feature to allow loading examples into the database. The feature is available through the **Help** menu of the main window.
- Implemented locking mechanism, which prevents that one experiment is opened from two different applications (users).

5:VWF Version 2.1.5.A

5.1: New Features

- Provides VWFII upgrade path. This is installed as a separate application (`vwf_upgrade`). The tool converts a VWFII dump to a set of VWFII external files.

5.2: Changes

- Extended the VWFII import facilities:
 - Import now operates on TAR files and can handle all kind of file-based data.
 - Provide a special dialog for importing experiments created with the `vwf_upgrade` utility.
 - Provide a batch import feature.
- Extended the VWFII export facilities to also export resources and other file-based data. The export operation now creates a zipped TAR file containing the experiment description (`.xml`) and all files.

6:VWF Version 2.0.6.R

6.1: New Features

- Permissions of directories created by VWF are now always world readable/writable (0777). This ensures that different users can operate on the same experiment.

6.2: Changes

- Improved copy/paste of experiments.
- Improved tool flow between VWFII→SPAYN and VWFII→TONYPLOT.

7:VWF Version 2.0.4.R

VWF has been redone.

7.1: Major Changes

- The GUI is based on the qt toolkit, giving the same look and feel as other Silvaco/Simucad tools.
- Manual was completely rewritten.
- VWF uses a standard SQL-92 based database system called Firebird.
- Usage of the database is optional, experiments can also be stored in an external file representation (XML).
- External file representations can be used to directly run experiments and also to transfer experiments between sites.
- VWF experiment files can be exported/imported from/to a VWF database.
- Comes with a powerful database explorer, which allows inspection of every node of a split lot experiment.
- VWF supports the grid-computing API DRMAA, which is standardized by the open grid forum.
- Grid computing is optional, VWF can also be used on single-machine installs.
- Supports visualization/analysis through TONYPLOT and SPAYN.
- TONYPLOT and SPAYN are integrated through the SIPC communications protocol.
- Provides upgrade path from existing VWF-I installations.
- Supports automatic backup procedure.

7.2: New Features

- Performs any kind of DOE experiment on real-valued and string-valued parameters.
- Utilizes either Sun Grid Engine or a built-in functionality to perform simulations on a single SMP machine.
- Uses an SQL database (firebird) for storage of experiments or store experiments in files (XML) for exchange between sites.
- Exports experiments from the database into XML and vice versa.

7.3: Known Issues and Workarounds

- Within an experiment, the split tree is always evaluated from top to bottom. This means that no parts of the deck are automatically re-used. This functionality can still be achieved, however, by creating two (or more) experiments and re-using generated structure files through resources.
- A single deck is supported in any experiment.
- If multiple users are going to use VWF, then it must be taken care that the permissions of the directory holding the experiments are so that all users can access the data.

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