MappingBreakDown User Guide

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0 Introduction

MappingBreakedown is a GUI maintenance tool. Designed to automatically create mapping_package.vhd files and load existing files while conducting pre-compilation tests. The GUI tool is designed to create and maintain the register configuration table described in the mapping.vhd file.
This is a manual document for MappingBreakdown - including explanation of the controls and functionality of the GUI tool.

1 Getting Started

This chapter gives a quick guide to the simplest types of interactive sessions using MappingBreakdown.

1.1 Starting A New Session

when you start MappingBreakdown for the first time, you immediately introduced to the main screen of the GUI tool, at the top of the screen, you see a panel with the file destination and source controls.
"Path to file" text box indicates the current working file - if existing.

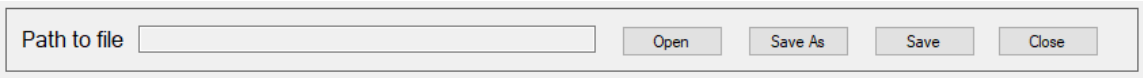

Figure 1: Source controls

Next to it are 4 source control buttons:

- "Open" - Prompts an opening file dialog screen, enabling user to load an existing mapping_package.vhd file, conducting various lexical and logical analysis tests. Finally loading the mappings to the table at the bottom half of the main screen.
- "Save As" - Prompts an opening file dialog screen, enabling user to choose the destination location of the newly created package file. Updating the text box to the left.
- "Save" - If file destination is already chosen, this operation shall create a new package file from the register table below, and overwrite the previously saved file. Otherwise, when file destination is unknown, this button operates similarly to "Save As".
- "Close" - removes the reference to the file in the "Path to file" text box, while saving the register entries in the table. If the file isn't saved, the user is prompted with a dialog message asking whether to save the register table to file.

1.2 Loading An Existing Session

MappingBreakdown Includes automatic state preservation features, including saving all register table entries and automatic restoration of the table after restart of the session from a local file named "registers.txt" (if existing). Each session automatically creates or overwrites this backup file.
A user may clear the register entry table by clocking on the "Clear" button, which clears the backup file (without deleting it) meaning that the next session will start as described in the previous section.

2 Editing Register Entry Table

MappingBreakDown includes the following features for easy editing of the register list:

- Adding new registers to the list
- Editing existing register entries
- Deleting registers from the list
- Commenting out registers.
- Searching by name for easier editing

2.1 Adding New Register

Adding new registers using the "Insert" button, or by typing Enter on the keyboard, after choosing the desired parameters.

2.2 Type-Field Mechanism

When adding a register with a type - field, a special prompt shows-up, requesting the user to choose the relevant register to which the field belongs

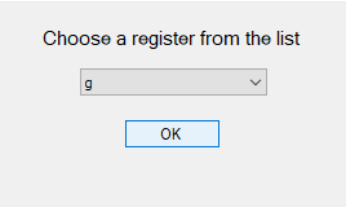

Figure 2: Type-Field prompt

2.3 Editing Existing Register

Editing existing register in the table by clicking on the leftmost table entry to select the whole row. The register parameters should be loaded to the fields in the controls above. After changing the fields to the desired values, the user should click "Load" to commit changes to the table.

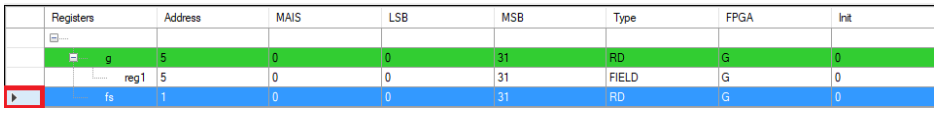

Figure 3: Select register

2.4 Delete Registers

Delete registers by choosing them from the table and clicking "Delete". Its possible to delete multiple registers by clicking Ctrl key and clicking on the table rows.

2.5 Comment Mechanism

Commenting and uncommenting is possible by clicking on the required register rows (also supports multiple selection) and clicking on the comment or uncomment buttons to toggle. Commented registers show-up as green rows.

2.6 Grouping Mechanism

Register grouping mechanism, with possibility to add a new register group text box.
Note that no two groups with the same name are allowed.
Groups are added as parent elements in the register list, in order to add a register to an existing

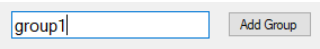

Figure 4: Adding new group

group, the user must choose the group from the drop-down list, to add it under the group branch in the table.

2.7 Searching

Users may search register by name from the list, the list should change dynamically to fulfill the search request.
Search is conducted on the name string of the register, searching whether the name *contains* the requested string.