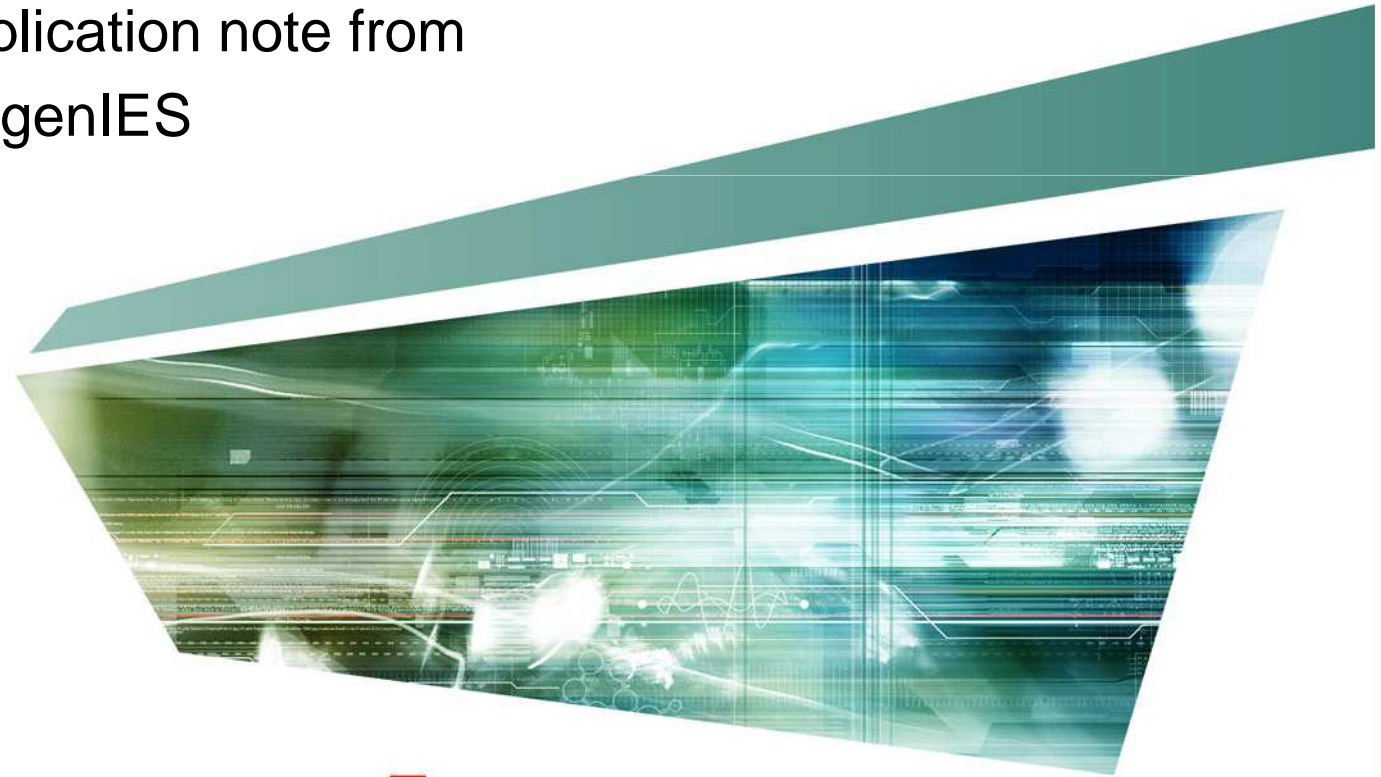# Creating FSM Mnemonic Maps in SimVision

An application note from

Team genIES

Creating FSM Mnemonic maps in SimVision

- Problem
  - Verilog FSMs do not show up as enumerated types in SimVision's waveform window, so the user has to define their own mnemonic map.

- Solution
  - Use create_mmap.tcl as an extension to ncsim, to semi-automate the mmap creation.

- *Here's how…*

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Installation

- Download tcl script from
  https://www.cadence.com/Community/CSSharedFiles/bl
  ogs/fv/genIES/SimVision%20FSM/create_mmap.tcl
- Put the following command into your .simvisionrc file

  ```
  source create_mmap.tcl
  ```

  - You should see the message "`Loaded create_mmap function`" when SimVision starts up
  - You will see a new button called "FSM Map" in the DesignBrowser toolbar
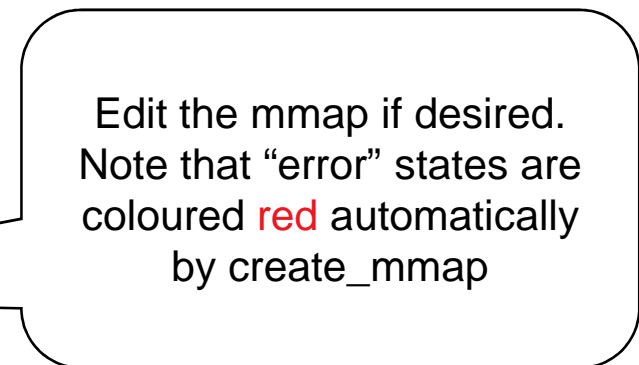
Use model

- Each time you want to create a new FSM mmap
    - Use the Design Browser / Source Browser to select
        - The FSM state variable
        - All the parameter / localparam objects that enumerate the state
    - When all objects are highlighted, click the "FSM Map" toolbar button to create the mmap.
- The new mmap is
    - Created instantly in SimVision (and the state variable is sent to the waveform)
    - Saved to a new *.svcf file so you can reload it in any SimVision session
    - Named `<module>__<statevar>`, where `<module>` is the enclosing module's name, and `<statevar>` is the name of the state variable.
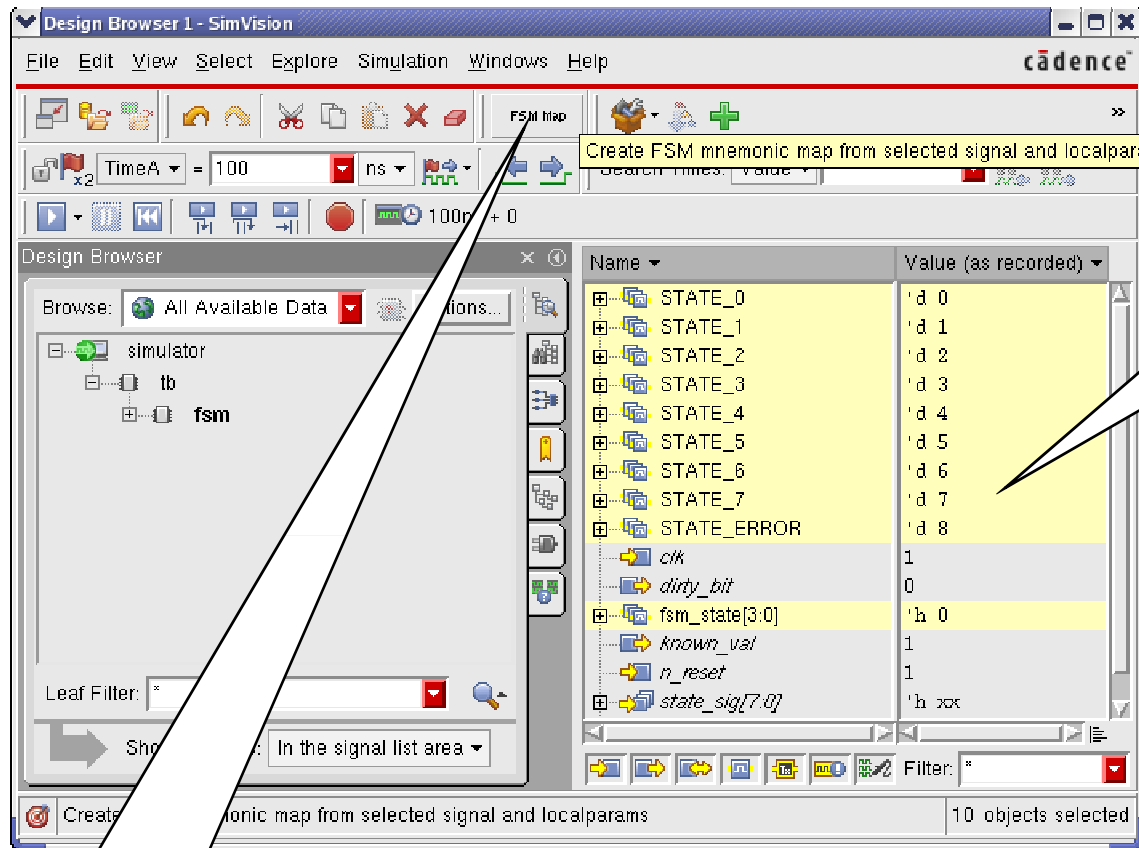
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Edit the mmap if desired. Note that "error" states are coloured red automatically by create_mmap

Notes

- Any state enumeration name that contains the word "error" will be recognised and the mmap style extended to show red text and line colour
  - Users may enhance the TCL pattern matching to recognise other name patterns and apply other styles

- Note that SimVision automatically recognises SystemVerilog enumerated types

- Email genIES@cadence.com if you have any questions

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