m Sequence Editor

to link functional description, requirements, register sequences and code

Description

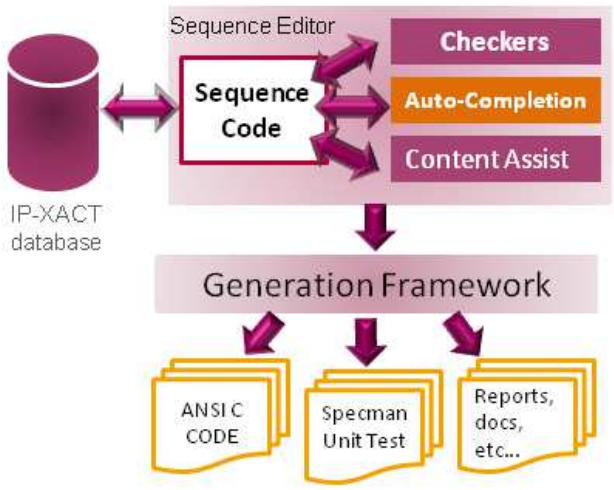
Building on the robustness and efficiency of the Magillem Register View (MRV), the Magillem Sequence Editor (MSE) raises IP packaging to the next level. MSE is a user-friendly yet powerful tool for defining IP drivers, testbenches, and reports, based on their IP-XACT descriptions. MSE provides an intuitive development environment for designing sequences and automatically generating packaging code and reports.

Sequences are simply methods which interact with an IP, including driver code, test bench code and inter-register coherence constraints. Sequences may be defined using an augmented C language dialect, which enables direct access to an IP's bus interface/register/bitfield enumeration data. Designers may directly reference an IP's bitfields using a concise REGISTER.BITFIELD syntax for read and write operations.

The direct connection with the IP-XACT descriptions provided by MSE enables developers to dynamically check available register data, while capturing sequence code, using auto-completion, smart hover and content assist. Dynamic checkers operate constantly to ensure consistency of sequence code by aligning data-access and size restrictions with the register data.

Automatic code generation runs continually to translate sequence code into compilable code, using configurable generators for packaging the IP. MSE provides native ANSI-C and Specman generators, which can be extended to support custom access to register data, and complemented with other generators.

Magillem Sequence Editor schematic workflow

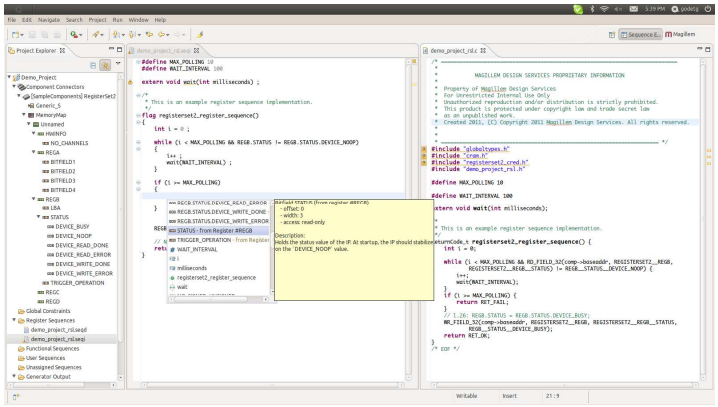


Features

SoC Realization

Embedded SW

- Complete visualization of the IP structure while designing sequence code
- A simple syntax similar to the C language for defining sequences, with additional features for improving developer productivity, and packaged code maintainability and efficiency
- Smart content assist for register data, providing all necessary information for writing sequence code (size, range, name, description etc.)
- Smart auto completion of register data
- Contextual drag and drop from the component's outline to the sequence editor



- For customers purchasing both an MRV and an MSE license, cross-linking between register references (in the component outline and sequence editor) and the MRV editor.
- Used in conjunction with MRV, MSE covers the complete IP design and packaging workflow: from datasheet to packaged and compilable source code.
- Dynamic generation of compilable code, using configurable and extendable code generators (current generators cover ANSI-C and Specman languages)
- Code checkers for thorough validation of sequence code and IP description coherence.
- Tight integration with the renowned C development tools for Eclipse (CDT), for debugging generated code and handling

Benefits

- Full support for IEEE1685 and ip-xact 1.4 platform descriptions
- Very fast learning curve, as the sequence syntax is essentially the C language syntax with a few exclusive additions.
- Improved developer productivity and efficiency
- Improved maintainability and reusability of packaged code for an IP or a product line: modifications made to the IP-XACT are automatically reflected in the generated code or raise focused checker errors in the sequence code
- User-friendly development environment for sequence design

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Specifications

MSE FEATURES	Basic
IP-XACT compatibility	
IP-XACT 1.4 certified	X
IP-XACT IEEE 1685 certified	X
Import	
Legacy C code	X
Development Environment	
Complete development environment (Eclipse RCP) with full support of the sequence syntax	X
Description of constraint rules between register elements	X
Full integration of IP descriptions and data within the code editor	X
Support for lines of product: sequences may be defined for several versions of a given IP with coherence checks	X
IP bus interface selection	X
Cross-linking between register references and MRV editor *	X
Full syntax highlighting	X
Syntactic and semantic checkers (also checking the validity of register operations)	X
Smart auto-completion	X
Smart drag and drop of register elements from the outline view into the editor	X
Quickfixes and autocompletes	X
Dynamic code generation	X
For generated C code: full integration with Eclipse's CDT	X
Generators	
Customizable ANSI C code with automatic code formatting	X
Specman / OVM / UVM sequences	X
ARM® CMSIS-SVD (1.0, 1.1)	X
ARM® CMSIS software layer	X
Doxygen type documentation	X
IP coverage reports	X
Export	
Source code packaging	X
Customizable multi-generators export and packaging	X

**Requires MRV License*

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