

System Composer™ Release Notes



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System Composer™ Release Notes

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R2020a

Version: 1.2

New Features

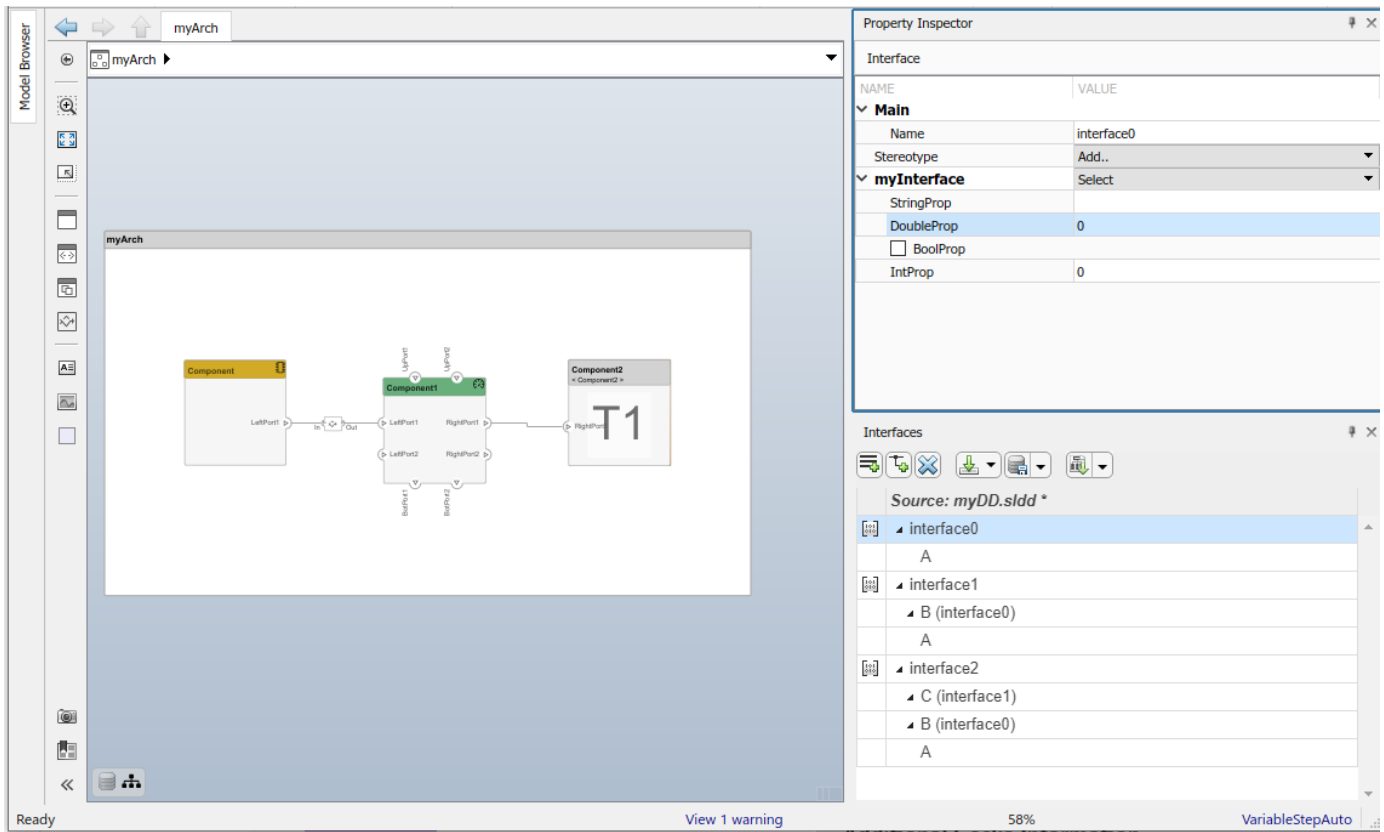
Stereotype-Based Styling: Associate a color with component stereotypes

Profiles and stereotypes are used to apply custom metadata on the architecture model elements. Element styling is an additional visual cue that indicates applied stereotypes. Use a preconfigured set of color options for component stereotypes to style the architecture component headers.



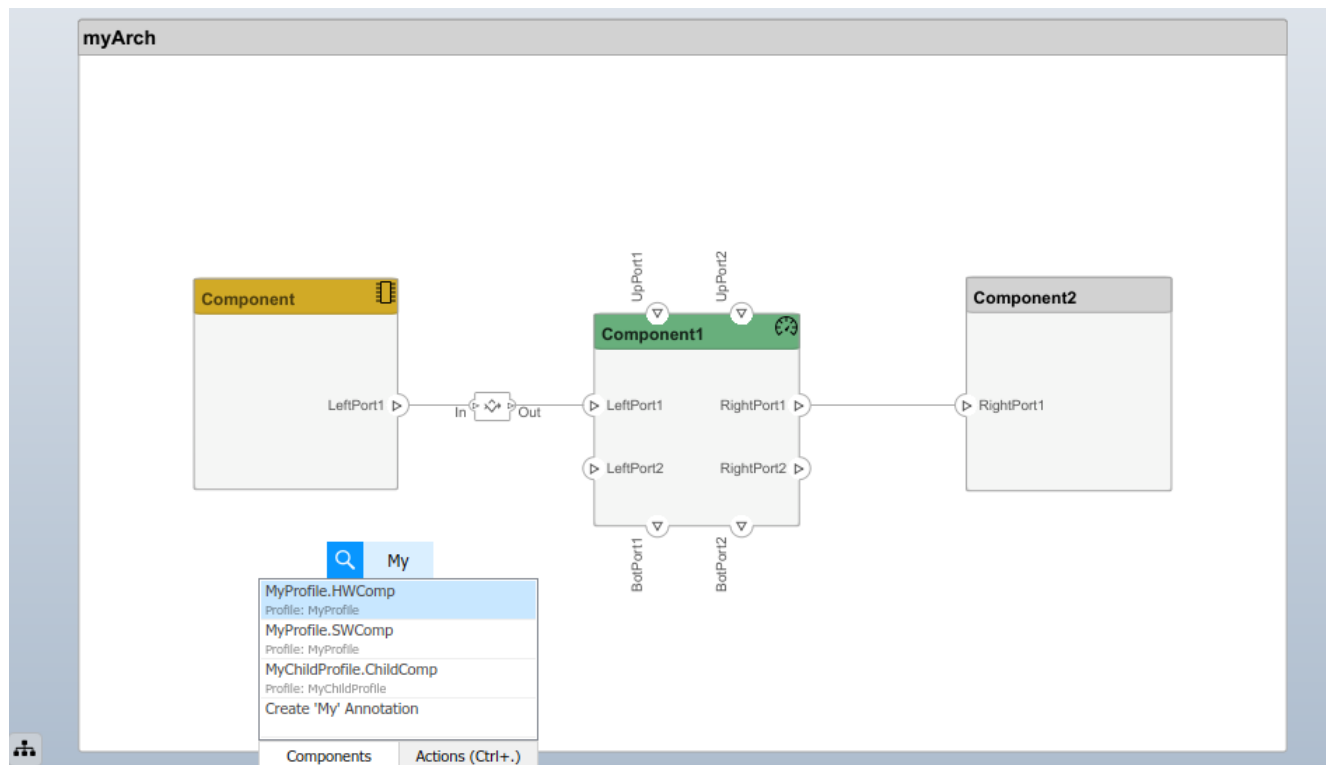
Interface Stereotypes: Apply stereotypes for custom metadata on interface objects

In R2020a, you can add stereotypes containing custom properties to port interfaces. Architecture profiles can be imported into shared dictionaries to create and manage stereotyped interfaces that are shared across multiple models, which enables collaborative workflows. Specify stereotypes that apply to interfaces in the Profile Editor. You can view and edit stereotype properties in the Property Inspector.



Quick Insert Stereotypes: Insert stereotyped components directly by typing on the canvas

You can now insert components preconfigured with all available component stereotypes in the profiles applied to a model using the quick insert capability of the System Composer canvas, which is enabled by typing into an empty location in the canvas.



Model Templates for Referenced Models: Select from preconfigured templates when creating new referenced architecture or behavior models

To maintain specialized settings when creating Simulink behaviors or new architecture models linked to components, you can choose to use an existing template model from the palette of available template models on the Simulink start page. Specialized settings can include configuration parameters such as the solver type, diagnostic settings, and code generation settings. Use the template to specify copyright annotations and organizational styles.

Requirements on Component Ports: Link requirements to component ports

In R2020a, you can link requirements to ports in a System Composer model using the Requirements Perspective. Create requirement sets, organize requirements into hierarchies, and link requirements to components and ports using Simulink Requirements. Annotate architecture models with requirement information and navigate to the source requirement.

Requirements - scExampleSmallUAVModel

Index	ID	Summary
1.2	#11	Communications
1.3	#14	Payload Capabilities
1.4	#15	Construction
1.5	#26	Data
1.5.1	#27	Engine Status

Requirement: #27

Type: Functional

Index: 1.5.1

Custom ID: #27

Summary: Engine Status

Description: Shall provide the engine status to the flight computer at all times.

Implemented by: [Propulsion:EngineStatus](#)

Partial Architecture Model Load: Improved loading for large models

System Composer now loads the architecture part of the model without completely loading the underlying block diagrams of models that are linked to components. For example, opening an architecture model with hundreds of reusable components and behaviors no longer loads every block diagram in the model hierarchy. Models are fully loaded when System Composer workflows need them or you choose to open them explicitly.

R2019b

Version: 1.1

New Features

Bug Fixes

Architecture Views

You can author and generate multiple views for specific viewpoints for design, analysis or communication. Create a view by writing queries against the model using the System Composer model query language. See [Creating Architecture Views Interactively](#).

Interface Adaptor

Visually specify an interface mapping between components with different but compatible interfaces. For example, map a signal with different interface names. See [Interface Adapter](#).

Import and Export Architecture Models

Import a system architecture into System Composer using Excel spreadsheets or MATLAB tables. The tables define components, ports, and connections. See [Importing and Exporting Architecture Models](#).

AUTOSAR Software Architecture

AUTOSAR Composition Editor: Author compositions, simulate functional behavior with basic software services using Composition Editor.

Support for architecture and composition modeling for the AUTOSAR Classic Platform. You can:

- Create AUTOSAR architecture models.
- Use AUTOSAR composition editor to add and connect Composition and Component blocks.
- Link AUTOSAR components to Simulink requirements.
- Define AUTOSAR component behavior by creating or linking Simulink implementation models.
- Configure AUTOSAR scheduling and simulation, including AUTOSAR Basic Software services.
- Generate and package composition AUTOSAR XML description and component code.

R2019a

Version: 1.0

New Features

Introducing System Composer

System Composer enables the definition, analysis, and specification of architectures and compositions for model-based systems engineering and software design. With System Composer, you allocate requirements while refining an architecture model that can then be designed and simulated in Simulink®.

System Composer lets you create architecture models that describe a system in terms of components and interfaces. You can also populate an architecture model from the architectural elements of Simulink designs or C/C++ code. You can create custom live views of the model to study specific design or analysis concerns. With these architecture models, you can analyze requirements, capture properties via stereotyping, perform trade studies, and produce specifications and ICDs.

Composition Editor

Author and edit architecture models in the Composition Editor. Model physical and logical architecture of a system. Create a visual representation of components, ports, and connections and specify information exchange between components with interfaces. Decompose components to add detail and define hierarchical relationships. Create reusable architectures.

Spotlight Views

You can create Spotlight views to analyze component dependencies and hierarchy. A Spotlight view is a simplified view of a model that captures the upstream and downstream dependencies of a specific component of interest. You can shift the spotlight to a different component from within the Spotlight view. You can also trace an element from the Spotlight view back to the composition.

Linking Simulink Behavior Models

You can use Simulink models with System Composer to define component behavior by creating or linking to a Simulink behavior model. Take advantage of System Composer architecture editing and analysis capabilities for Simulink behavior models by exporting them as architecture models.

Linking and Managing Requirements

You can link components to requirements using the Requirements perspective. Create requirement sets, organize requirements into hierarchies, and link requirements to components using Simulink Requirements™. Annotate architecture models with requirements information and navigate to the source requirement.

Stereotypes and Profiles

You can create stereotypes as extensions of components, ports, and connections by defining additional properties. Use Profile Editor to define profiles as self-consistent sets of stereotypes. Import profiles into architecture models. Assign stereotypes to model elements.

Architecture Model Analysis

You can use MATLAB[®] analytics with System Composer API to write scripts to generate data that can be used for trade studies or for verifying nonfunctional requirements.

