

## Release Notes ASD:Suite Release 3 version 8.1.0

### Release package

The 'ASD Suite Release 3 V8.1.0 Setup.exe' package contains the ASD:Suite installer. All user documentation for this release can be found on the [Documentation pages](#) in the ASD:Suite Community. The documentation consists of:

- [ASD:Suite User Manual](#)
- [ASD:Suite Visual Verification Guide](#)
- [ASD:Runtime Guide](#)
- [ASD:Compare User Guide](#)
- [ASD:Suite Keyboard Shortcuts](#)

This release introduces the TinyC code generator, specifically targeted to resource constrained execution platforms, and resolves a number of reported issues. The complete list of resolved customer issues is included in the [Overview of Resolved Issues](#) below.

### Prerequisites

In order to make use of the new features and the resolved issues, you need to obtain access to the new version from your ASD Administrator.

### Compatibility with Previous Versions

The ASD:Suite Release 3 version 8.1.0 will read models that are created or changed with earlier versions of the ASD:Suite (version 7.x.x or earlier). Version 8.1.0 can upgrade these older model versions with automatic conversion.

Note: ASD:Suite Release 3 version 8.1.0 will not read 'MVR' files (containing the results of a verification session) created with earlier 7.x.x or 6.x.x versions of the ASD:Suite.

### New Features And Major Changes

This section describes the new features of the ASD:Suite Release 3 v8.1.0. All features are described in more detail in the User Guides.

1. The set of ASD code generators has been extended with a new language: TinyC. This is a compacted version of the C code generator specifically targeted for embedded, resource constrained platforms. To keep the executed code small and efficient, a number of restrictions apply when using the TinyC code generator:
  - Only the SingleThreaded Execution model can be used
  - Only Singleton components are allowed
  - The instance cardinality shall be one
  - State variables of type Used Service Reference are not allowed
  - Secondary Used Service References are not allowed
  - Component Construction Parameters are not allowed
  - ↳ For more specifics about how to apply TinyC see the [ASD:Runtime Guide](#)
2. The ASD:Commandline Client is extended:
  - ↳ wildcards and recursion can be used for commands (this applies to asdc and modelconverter)
  - ↳ the code for all models in a directory can now be generated with one "generate all" command
3. Enum parameters for user defined types are now supported in all languages.
4. Each conflict in the Conflicts window now contains a direct link to the corresponding explanation in the user manual.
5. The Start Page of the ASD:Suite is extended with a link to executable ASD examples that can be downloaded.
6. A check has been added to the ASD:Runtime to return an 'Illegal' when a handwritten Configurator returns a number less than one, to make it in line with the model verification.
7. ASD:Compare will load models faster (on average by 30%) which is especially noticable for larger models.

### KNOWN ISSUES

1. In some rare occasions the Visual Verification Sequence Diagram cannot display the error trace properly. In those situations, you should find the trace in the the Advanced View tab in the Visual Verification window. However, the stepping functionality of the sequence diagram is not available in the Advanced View.

### Older known ASD:Suite issues

1. Certain combinations of Standard and Singlethreaded execution models are not possible yet, the server will return an error when one of the following combinations is present in a model:
  - Implemented Service is Standard, one or more of the Used Services is Single-threaded.
  - ↳ Implemented Service is Single-threaded, one or more of the Used Services is Standard.
  - ↳ This is only allowed when the Used service does not contain any notification events.
2. When your interface model and/or design model has more than 14 actions on a specific rule case, then it is possible that during stepping the highlighted action goes out of view as the default row height size is exceeded. You have to manually increase the row height to get the remaining actions in view again.
3. For larger models, when the option to display 'internal states' is set on, it may take some time before the number of internal states is displayed. This is due to an internal 'compilation' phase that takes place before the actual 'state space exploration' is started.
4. Having multiple references to an API channel of a Singleton component (i.e. having multiple 'instances' of that used Singleton component defined in the design model) is only allowed under certain restrictions: the Singleton component may not have state (i.e. multiple states or any state variables), and the instances referring to the API channel may not also refer to any of its call-back channels. If you do create an architecture that violates this constraint, the correctness of the generated code cannot be guaranteed.

5. The following naming convention rules for ASD model are not automatically verified yet by the ASD:ModelBuilder, and need to be ensured by you:

- Model names, file names and interface names must be unique within the scope of the entire project.
- Interface or Modelling events in an Interface model should not have the same name as a transfer-interface name in the related Design model.
- Transfer-interface events in a Design model should not have the same name as a Modelling Interface in the related Interface models.

If the naming conventions are not met this could lead to model-checking, code generation or compilation errors.

6. It is not possible to assign an enumeration type state variable to another enumeration type state variable in the State Update column (e.g. EnumVar1 = EnumVar2). For boolean and integer type state variables this is not a problem.

## Overview of Resolved Issues in v8.1.0

CSR id	Summary
4904	I would like to have an ASDC which compiles all files from a design model
5367	Support for enums as parameter for C++ and Java
5369	Fix completely "Blocked is the only action..." conflict
6402	Overlapping cut-paste does not work for some columns
6409	Moving up the last action in an action list which does not have a new line, messes up the action list editor
6424	Single-threaded ASD interface generated code (C++ only) shall not depend on threading primitives
6431	Printing a State Diagram only prints the footer
6435	Difference between v7.1.0 and v8.0.0 modelcheck for singlethreaded execution model
6446	Document supported versions of Boost C++
6454	C# dependency injection code uses configurator count instead of construction parameter size