



Discover the Experience

EB tresos[®] Studio

release notes

product release 16.0



EB tresos® Studio

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1. Release notes EB tresos Studio

1.1. Version information

Release notes for EB tresos Studio 16.0.

1.2. Interpretation of version information

The EB tresos *product line release* schedule contains two product line releases per year. Product line releases are named after the year of release and a variant represented by a letter. Examples for product line release version numbers are *2009.a*, *2009.b*, *2010.a*, etc.

The EB tresos product line version number can be found on the splash screen, the commandline and the **EB tresos details** dialog.

EB tresos Studio is released as part of the EB tresos product line. Each product within the product line is assigned an individual *product version number*.

The EB tresos Studio product version number can be found on the splash screen and the **EB tresos details** dialog next to the keyword *Studio*.

The EB tresos Studio product version number scheme is made of three parts: the major, the minor and the patch number. The numbers are separated by dots in the following naming scheme: `<major>.<minor>.<patch>`.

- ▶ An increment of the *major* version number indicates that the release contains major new features and changes compared to the previous major version.
- ▶ An increment of the *minor* version number indicates that the release contains minor new features and changes compared to the previous minor version.
- ▶ An increment of the *patch* version number indicates that the release fixes known problems.

There may be a *qualifier* additionally to the product version number. This *qualifier* is provided in brackets and displayed after the product version number. Examples for qualifiers are: *alpha*, *beta*, *customer-exclusive pre-release*, ...

- ▶ If the qualifier is *alpha* (e.g. *10.0.3 (alpha)*), the release is a pre-release. Pre-release means that not all planned features are implemented (i.e. not *feature complete*) and the pre-release just fulfills basic quality tests.
- ▶ If the qualifier is *beta* (e.g. *10.0.4 (beta)*), the release is a pre-release that implements all planned features but only fulfills basic quality tests.

Examples for spelled out EB tresos Studio product versions are:

- ▶ *EB tresos Studio 10.0.0 (alpha)*
- ▶ *EB tresos Studio 10.0.4 (beta)*
- ▶ *EB tresos Studio 10.0.6*
- ▶ *EB tresos Studio 10.1.0 (exclusive for customer xyz)*

1.3. Limitations and restrictions

Summary:	SWTException with guided configuration wizards when using browser widgets inside expandable composites (Win7 only)
Description:	The problem only occurs on computers with OS Win7. An SWTException appears when running unattended wizards via the unattended wizard configuration dialog or when closing a Sidebar dialog (Finish/Cancel). The problem only occurs for wizards showing a browser widget located inside an expandable group section.
Rationale:	This is due to a bug inside eclipse SWT https://bugs.eclipse.org/bugs/show_bug.cgi?id=412706 .
Workaround:	If you are developing a guided configuration wizard and want to use a browser widget, then use for all parent groups <code>WidgetFactory.GroupDecoration.LINE</code> instead of <code>WidgetFactory.GroupDecoration.TITLE</code> .
ID:	TRESOS-3569

Summary:	Exported AUTOSAR system description files cannot always be validated against their schema files
Description:	If the EB tresos Studio system model is exported into an AUTOSAR system description file, it cannot be guaranteed that the file can be validated against its AUTOSAR schema file.
Rationale:	<p>Non AUTOSAR file formats, such as DBC, LDF, and Fibex do not provide all the data that AUTOSAR system models require. The importers for these file formats do not configure unavailable data in the EB tresos Studio internal system model, leaving it "incomplete". If such "incomplete" EB tresos Studio system models are exported to AUTOSAR system description files, these files won't validate against their AUTOSAR schema file due to the missing data.</p> <p>Similar validation problems will arise if an AUTOSAR system description file of an older revision, e.g. AUTOSAR 3.1 is exported into an AUTOSAR system description file of a more recent revision, e.g. AUTOSAR 4.0.</p>
ID:	TRESOS-3495

Summary:	The VSMD rule EcucSws_6046 is not always checked
Description:	The requirement EcucSws_6046 defines that the <code>DESTINATION-REF</code> of a reference shall start with <code>/AUTOSAR/EcucDefs</code> , if it points to a StMD. This is only checked by the command legacy vsmdcheck if the references point into a VSMD that is contained within one of the input files. Otherwise no violation is created.
Rationale:	EB tresos Studio does not support to define a file containing all available StMDs, so it is not possible to check this rule fully.
ID:	TRESOSWP-2050

Summary:	The preference General/Always run in background cannot be disabled in EB tresos Studio.
Description:	You cannot change the value of the Eclipse preference General/Always run in background . It is always forced to <i>true</i> by EB tresos Studio.
Rationale:	Setting this option to <i>false</i> would lead to the consumption of unnecessary resources in the operating system and eventually to a crash of EB tresos Studio

Summary:	The ADMIN-DATA tag is not supported in files prior to AUTOSAR 3.0.
Description:	EB tresos Studio ignores the <code>ADMIN-DATA</code> tag and all sub-tags in AUTOSAR files prior to AUTOSAR 3.0.
Rationale:	Support for files prior to AUTOSAR 3.0 has not been implemented.

Summary:	BSWModuleTemplate is no longer imported
Description:	EB tresos Studio no longer imports or exports the ARElement <code>BSWModuleTemplate</code> for AUTOSAR 3.x releases.
Rationale:	The information from the <code>BSWModuleTemplate</code> is not needed to configure BSW modules prior to AUTOSAR 4.0.

Summary:	The value of the DEST attribute is ignored
Description:	The value of the <code>DEST</code> attribute is ignored. If the appropriate reference-target does not match the type specified by the <code>DEST</code> attribute, no error or warning is created.
Rationale:	EB tresos Studio does not need the value of the <code>DEST</code> attribute to follow references. Support for the <code>DEST</code> attribute would waste memory.

Summary:	When you convert or merge files, the DEST attribute requires an appropriate reference-target
Description:	When converting or merging files, the <code>DEST</code> attribute for <code>REFERENCE</code> values and <code>CONFIGURATION-CLASS-AFFECTION</code> is only written correctly, if the appropriate reference-target exists. If the target does not exist, a default-value is written to ensure validity of the converted or merged XML file.

Rationale:	As EB tresos Studio does not store the value of the <code>DEST</code> attribute the value can only be determined from the reference-target.
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Summary:	If a configuration with missing values is converted or exported to an AUTOSAR file format, the XML tag <code>VALUE</code> is suppressed.
Description:	If a configuration lacks values and is converted or exported to an AUTOSAR file format, the XML tag <code>VALUE</code> is suppressed. Even though the file validates against the AUTOSAR XSD file, suppressing this tag is not allowed according to the <i>Specification of ECU Configuration</i> .
Rationale:	If the configuration lacks a value a valid value cannot be determined.
ID:	TRESOSWP-1063

Summary:	Only 64-bit signed integers are supported
Description:	Currently, only 64-bit signed integers are supported. Greater values such as 64-bit unsigned integers cannot be used.
Rationale:	EB tresos Studio uses native Java data types for storing values to get a better performance and a better memory footprint. The largest native integer format provided by Java is 64bit signed integer.

Summary:	EB tresos Studio can handle numbers only up to 56 bit in XPath expressions.
Description:	The XPath engine used in EB tresos Studio can handle numbers only up to 56 bit. However, the functions in the namespace <code>num:</code> are able to deal with 64-bit signed numbers if the input is provided as string.
Rationale:	This is a limitation introduced by the XPath engine, on which EB tresos Studio is built.

Summary:	The XPath function <code>num:order()</code> removes duplicate elements
Description:	The XPath function <code>num:order()</code> removes duplicate elements. This behavior is intended.
Rationale:	Although you may expect this function to be implemented in a different way, the EB tresos Studio implementation meets the XPath specification.

Summary:	The EB tresos Studio GUI fails to start when it is installed under the root directory
Description:	<p>If you have installed EB tresos Studio directly under the root directory, or if a drive letter is assigned to the EB tresos Studio base directory (e.g. <code>X:\bin\tresos_gui.exe</code>), you cannot start the EB tresos Studio GUI. In this case an error message appears saying that the Java Virtual Machine has been terminated.</p> <p>The EB tresos Studio command line applications are not affected by this issue.</p>

	<p>Two alternative workarounds are available:</p> <ol style="list-style-type: none"> To start the EB tresos Studio GUI with EB tresos Studio installed under the root directory, specify the EB tresos Studio base directory in the file <code>bin\tresos_gui.ini</code> with the EB tresos Studio command line: <ul style="list-style-type: none"> Right before line <code>-vm</code>, enter the line <code>-install</code>. After the line <code>-install</code>, enter a line containing your EB tresos Studio base directory and terminate the EB tresos Studio base directory with a slash. <p>E.g.:</p> <pre>-install X: /</pre> If you always start <code>tresos_gui.exe</code> from the <code>bin</code> directory, specify <code>..</code> as EB tresos Studio base directory.
Rationale:	This problem occurs, because the underlying Eclipse startup code that searches for the current installation location is inaccurate.
ID:	TRESOS-2364

Summary:	Parts of an AUTOSAR system description file may be ignored
Description:	There are several limitations to the System Description Importer since EB tresos Studio does not support all XML-tags defined by AUTOSAR. Additionally this depends on the AUTOSAR version of the input file. A warning is shown at the end of the import process for each element that is not imported.
Rationale:	

Summary:	Signal based gateway information cannot be imported from the AUTOSAR 3.1.4 format
Description:	EB tresos Studio does not support <code>SignalMapping</code> elements in AUTOSAR version 3.1.4 system description files. If you import an AUTOSAR version 3.1.4 system description file that contains <code>SignalMapping</code> elements into EB tresos Studio, these <code>SignalMapping</code> elements are skipped and a warning is reported.
Rationale:	In the system description files of AUTOSAR version 3.1.4, a major change was done to <code>SignalMapping</code> elements. Therefore, AUTOSAR version 3.1.4 <code>SignalMapping</code> elements are incompatible to older versions.

Summary:	System Description Importer: AUTOSAR version 3.1.4 <code>CanCommunicationController</code> elements are only partly supported
Description:	EB tresos Studio only supports parts of the AUTOSAR version 3.1.4 system description file elements <code>CanCommunicationController</code> . The subelement <code>CanCommuni-</code>

	cationControllerAttributes/CanControllerConfigurationRequirements and the subelement attribute CanCommunicationControllerAttributes/CanControllerConfiguration/propagationDelay are not supported. If you import an AUTOSAR version 3.1.4 system description file that contains one or more of the named elements into EB tresos Studio, these elements are skipped and a warning is reported.
Rationale:	In the system description files of AUTOSAR version 3.1.4, a major change was done to CanCommunicationController elements. Therefore, AUTOSAR version 3.1.4 CanCommunicationController elements are incompatible to older versions.

Summary:	Default buffer assignments may lead to high CPU load and to manually created hardware objects not receiving any CAN-IDs anymore
Description:	If you configure the modules Can and CanIf in a configuration import and select Create default buffer assignment in the Buffer Assignment in Can/CanIf drop-down list box, up to two CAN Rx and up to two Tx hardware objects are created. These default objects handle all standard and extended CAN-IDs your ECU is sending and receiving. The Rx hardware objects have their hardware filters turned off, which means the CanIf must filter for valid incoming CAN-IDs in software. This may lead to a high CPU load if your ECU receives many PDUs. Moreover, hardware objects that were created manually before the configuration import will no longer receive any CAN-IDs after the configuration import.
Rationale:	The configuration importer cannot make any assumptions on the properties of the CAN cells of your ECU and therefore creates this default assignment which works on virtually every CAN cell. In order to obtain a buffer assignment tailored to the CAN cells of your ECU, use the CAN Buffer Assignment Editor , which is described in the EB tresos AutoCore com stack users guide.

Summary:	During import, large integer values may be rounded for attributes of AUTOSAR type Numerical
Description:	EB tresos Studio can only handle values which can be represented as double precision float value according to IEEE 754-1985 for all AUTOSAR attributes of type Numerical. Values which cannot exactly be represented in this format will be rounded during import to the nearest representable value and an appropriate warning will be reported.
Rationale:	Numerical values may also hold floating point values and are internally stored with use of the native Java type double for performance reasons. The Java double type only supports the named precision.
ID:	TRESOS-3306

Summary:	The XPath engine evaluates calculations with infinity produce a non IEEE754 compliant result
Description:	If you get an infinite value as an intermediate result of a calculation in the XPath engine, further calculations with this value yield a result that is not conforming to the IEEE754

	<p>standard. Infinite values cannot be used directly in calculations, but you can get them as intermediate results, e.g. by computing <code>1 div 0</code>.</p> <p>Examples:</p> <ul style="list-style-type: none"> ▶ <code>[!(1 div 0) mod 1.0"!] returns 0.0 but should be NaN</code> ▶ <code>[!(1 div 0) mod 2.0"!] returns 1.0 but should be NaN</code> <p>The affected functions are:</p> <ul style="list-style-type: none"> ▶ the XPath function <code>mod</code> ▶ public API Custom XPath functions using methods <code>AbstractXPathFunctions.toInt</code> or <code>AbstractXPathFunctions.toInts</code> ▶ any public API Custom XPath functions with a long as parameter
Rationale:	<p>The XPath engine used in EB tresos Studio usually represents floating point numbers with the Java data type <code>double</code>. But for some calculations they are converted to integer numbers which are represented by the Java data type <code>long</code>. During this conversion, the "infinity" value is lost and accidentally replaced by the largest representable long value, which is <code>9223372036854775807</code>. This value is then used for the following calculations and thus yields in wrong results.</p>
ID:	TRESOS-3272

Summary:	In 32 bit mode you can only import Fibex files < ~22 MB
Description:	Larger files will yield an error during ECU retrieval in the import dialog.
Rationale:	The 32 bit mode restricts the amount of available heap space which prevents the XML parser to operate properly.
Workaround:	In 64 bit mode, you can import considerably larger Fibex files. On hosts that only support the 32 bit mode, you can convert files not much larger to AUTOSAR system description files when you use <code>tresos_cmd.bat/legacy convert</code> .

Summary:	Fibex importer always uses first conversion formula for configuring the upper and lower limits of a signal
Description:	<p>Fibex files offer the possibility to define more than one conversion formula for converting a signal value from its internal representation (representing the signal bistream on the bus) to its physical one (representing the actual physical value of the signal). These multiple functions are to be applied on different, non overlapping intervals of the signal value range. The Fibex specification refers to this as SCALE-LINEAR conversion.</p> <p>Since Fibex is specifying the upper and lower limits of a signal in their physical representation but AUTOSAR requires the internal one, the Fibex importer must apply the conversion itself. It however, only uses the first available conversion formula, even if two or more</p>

	formulas are provided. This may result in incorrectly imported upper and lower limits of a signal.
Rationale:	As for now, SCALE-LINEAR conversion functions have not been found in production Fibex files.
ID:	TRESOS-3269

Summary:	Limited upgrade support for AUTOSAR 3.1 END-TO-END-PROTECTION elements
Description:	AUTOSAR 3.1 END-TO-END-PROTECTION elements are upgraded to AUTOSAR 4.0.x in such a way that only the first contained END-TO-END-PROTECTION-VARIABLE-PROTOTYPE is available in AUTOSAR 4.0.x.
Rationale:	During the model upgrade, AUTOSAR 3.1 system models are converted to AUTOSAR 4.0.2, which allow at most one END-TO-END-PROTECTION-VARIABLE-PROTOTYPE sub element per END-TO-END-PROTECTION element.
Workaround:	After the AUTOSAR 3.1 system description file has been imported, re-export it to AUTOSAR 4.0.3 using the system description exporter, add the missing END-TO-END-PROTECTION-VARIABLE-PROTOTYPE elements per hand in the exported system description file, then repeat the import using the adapted AUTOSAR 4.0.3 system description file.
ID:	TRESOS-3138

1.4. Known problems

Summary:	Order of references gets broken if referenced elements are spread over different input files
Description:	<p>If you import ARXML files using the System Description Importer that contain references into each other, then the order of the references after the import will be different than in the input file. This occurs under the following conditions:</p> <ul style="list-style-type: none"> ▶ an entity contains an <i>ordered</i> list of references ▶ some of the referenced target entities are within the same file, some are in another file
Workaround:	Put the ordered list of references and all referenced elements into the same input ARXML file.
ID:	TRESOS-3741

Summary:	AUTOSAR system description files written by EB tresos Studio always use Windows line endings
Description:	AUTOSAR system description files that are written by EB tresos Studio, e.g. via the System Description Exporter , always use Windows line endings (<code>\r\n</code>). That is independent

	dent of which setting you choose for the option Use Unix line endings for configuration data files .
Workaround:	You can convert the file to use Unix line endings (<code>\n</code>) with the use of an external tool or editor, e.g. the free tool <code>dos2unix</code> .
ID:	TRESOS-2843

Summary:	If a function processes the result of an inner function, XPath computes the wrong value
Description:	<p>If a function processes the result of an inner function, XPath computes the wrong value under certain conditions. The conditions are:</p> <ul style="list-style-type: none"> ▶ The result of the inner function is a list, which is filtered by a predicate expression. ▶ Additionally the outer function is able to handle lists and single values at the same time. <p>If all these conditions apply, the result of the inner function is always the last element of the list result, instead of the correct result.</p> <p>An example of an XPath expression which computes the wrong result is e.g. <code>num:i(text split('1,2,3,4,5','(',')' [position() = 2])</code>. This expression returns '5' instead of '2'.</p>
Workaround:	No workaround is available.
ID:	TRESOS-1886

Summary:	You can only correctly import ECU configuration projects if the configuration XDM files are located beneath the project path of the imported project
Description:	You can only correctly import ECU configuration projects if the configuration XDM files are located beneath the project path of the imported project.
Workaround:	If you are adding modules to a project, either keep the default file location or make sure to select subdirectory of the project directory.
ID:	TRESOS-1343

Summary:	The System Description Importer and the tresosDB Importer cannot detect duplicate SHORT-NAMEs
Description:	The System Description Importer and the tresosDB Importer cannot detect duplicate SHORT-NAMEs. As a result, duplicate SHORT-NAMEs may cause you to lose configuration parameters. However, modules such as e.g. the <code>Rte</code> may rely on these parameters and may report problems due to the loss of parameters.
Workaround:	No workaround is available.
ID:	TRESOS-2016

Summary:	The <code>legacy convert</code> command of the EB tresos Studio commandline ignores the <code>output-path</code> option (<code>-o</code>)
Description:	If you use the command <code>legacy convert</code> on the EB tresos Studio command line to convert files, specifying an output-path with the <code>-o</code> switch has no effect.
Workaround:	Specify the output file with an absolute path or with a path relative to the current working directory.
ID:	TRESOS-2197

Summary:	The XPath engine uses not existing nodes in calculations
Description:	<p>In XPath expressions you may use node names that do not exist or that are optional and are disabled in the current module configuration. If you use such nodes in XPath expressions that do calculations based on the value of the nodes, the XPath engine assumes values for the nodes even if the nodes do not exist.</p> <p>For optional nodes this only leads to unexpected results, if the node in question is disabled in the module configuration on which the expression is executed. So, e.g. for the template-based code generator, this behavior is only observed, if the node in question is used in the code template, and if it is disabled in the current module configuration.</p> <p>The value of not existing nodes, which is strictly speaking <i>nothing</i>, is converted into the data type that is required by the expression operands and by the expression type:</p> <ul style="list-style-type: none"> ▶ If the expression is a mathematical operation, i.e. if the expression uses one of the operators: <code>+</code>, <code>-</code>, <code>div</code>, <code>*</code>, or <code>mod</code>, not existing nodes are treated as if they had the value <code>0.0</code>: <ul style="list-style-type: none"> ▶ If for example <code>NotExistingNode</code> is a not existing node, the expression <code>NotExistingNode + 3.0</code> returns <code>3.0</code>. ▶ If the expression is an equality check, i.e. if the expression uses the <code>=</code> operator, the result is always <code>false</code>: <ul style="list-style-type: none"> ▶ If, for example, <code>NotExistingNode</code> is a not existing node, the expression <code>NotExistingNode = 'somevalue'</code> returns <code>false</code>. In this case the second operand used for the comparison is not taken into account. Thus, the same node from the example before, the expressions <code>NotExistingNode = ''</code>, <code>NotExistingNode = true()</code>, <code>NotExistingNode = false()</code>, <code>NotExistingNode = NotExistingNode</code> all return <code>false</code>. ▶ If the expression is an inequality check, i.e. if the expression uses the <code>!=</code> operator, the result is always <code>true</code>: <ul style="list-style-type: none"> ▶ If, for example, <code>NotExistingNode</code> is a not existing node, the expression <code>NotExistingNode != 'somevalue'</code> returns <code>true</code>. The second operand used for the comparison is not taken into account. E.g. with the same node from the

	<p>example before, the expressions <code>NotExistingNode != NotExistingNode</code> also returns <code>true</code>.</p> <ul style="list-style-type: none"> ▶ If the expression is a relational expression, i.e. if the expression uses one of the operators <code><</code>, <code><=</code>, <code>></code> or <code>>=</code>, the value <code>0.0</code> is used in the calculations: <ul style="list-style-type: none"> ▶ If, for example, <code>NotExistingNode</code> is a not existing node, the expressions <code>NotExistingNode < 0</code> and <code>NotExistingNode > 0</code> both return <code>false</code>. However, the expressions <code>NotExistingNode <= 0</code> and <code>NotExistingNode >= 0</code> both return <code>true</code>. <p>Although the node behaves as being equal to <code>0.0</code>, please keep in mind that the equality check is not <code>true</code>, as is explained in the second item of this list.</p> <ul style="list-style-type: none"> ▶ If the expression is a unary expression, i.e. if the expression uses the unary operator <code>-</code>, the value <code>0.0</code> is used in the calculation. Therefore, the entire expression is evaluated as <code>-0.0</code>. ▶ If the expression is a union expression, i.e. if the expression uses the union operator <code> </code>, an empty node-set is used in the calculation. <p>If a not existing node is passed as a parameter to a function defined by the XPath standard, the value of the not existing node is converted into the data type that is required by the function (e.g. to <code>0.0</code>, to the empty node-set, or to <code>false</code>). Functions defined by the XPath standard are easy to recognize: either they have no namespace or the namespace is <code>fn</code>.</p> <p>If a node is passed as a parameter to the function supplied by EB tresos Studio as an extension of the XPath engine, an error message is shown. However, this only applies to nodes that are provided as parameter without any additional calculations. If an expression is passed as an argument, the expression is evaluated by the XPath engine.</p>
Workaround:	Use the <code>node:empty(...)</code> or <code>node:exists(...)</code> XPath functions to explicitly test whether a node exists. As you can see in the examples above, using not existing nodes can lead to unexpected results.
ID:	TRESOS-2453

Summary:	The EB tresos Studio legacy generate command line can only handle one configuration of one module type correctly in one session
Description:	<p>If you supply more than one configuration for one module type, e.g. <code>Can</code>, <code>CanIf</code>, <code>Com</code>, etc., to the legacy code generation commands legacy make, legacy generate, or legacy verify, you may receive incorrect verification results or even incorrect code.</p> <p>AUTOSAR allows you to supply more than one configuration for one module type for some driver modules, e.g. <code>Wdg</code>. In this case the command line could look as follows:</p> <pre>tresos_cmd legacy generate Wdg1.arxml@asc3.1 Wdg2.arxml@asc3.1</pre>

	<p>However, depending on which code generators the involved modules use, the code generators may access wrong configurations. This problem occurs when:</p> <ul style="list-style-type: none"> ▶ code generators access the variables <code>enabledConfigs</code> or <code>generateConfigs</code>, or ▶ when the code generators reference parameters via relative paths in XPath expressions and expect that XPath expressions can be resolved relative to the <code>MODULE-CONFIGURATION</code> node, or ▶ when code generators use the XPath function <code>as:modconf()</code> and always access the first returned module configuration. ▶
Workaround:	Generate configurations in separate runs of the command line.
ID:	TRESOS-2603

Summary:	Code generation does not work properly with modules in which <code>allowMultiple</code> is set to <code>true</code>
Description:	<p>Modules in which <code>allowMultiple</code> is set to <code>true</code> in the extension and which have more than one configuration in the project, cannot be properly generated with some code generators:</p> <ul style="list-style-type: none"> ▶ Template-based generators do not work at all with multiple configurations because you cannot change the output file name. This is a design limitation and no known problem. ▶ If you disable one of the configurations, the template-based code generator and the NG generation framework might operate on the wrong configuration node. E.g. if you have two configurations <code>Config_1</code> and <code>Config_2</code> and if you disable the configuration <code>Config_1</code>, the context node of the generators actually points to <code>Config_1</code> instead of to <code>Config_2</code>. However, you can still only access the nodes of <code>Config_2</code>. ▶ If you are using external generators and if you set the option <code>generateIntoOneFile</code> to <code>false</code>, only one configuration is generated. The generated configuration is the first enabled configuration that is listed in the <code>preferences.xdm</code> file. ▶ If you use multiple configurations on the legacy mode command line, only the first configuration is generated. The behavior is similar to a project with multiple configurations for all generators.
Workaround:	
ID:	TRESOS-2816

Summary:	Calling <code>DCtxt.opt.setExistingNodesOnly(true)</code> might have no effect
Description:	Calling the method <code>DCtxt.opt.setExistingNodesOnly(true)</code> has no effect, if the context currently points to a non-existing node or to an invalid node. However, if you

	do the opposite and call <code>DCTxt.opt.setExistingNodesOnly(false)</code> , the option is set to <code>false</code> .
Workaround:	Always check the return value of the method and implement code that handles <code>false</code> as return value.
ID:	TRESOS-2771

Summary:	The AUTOSAR element does not support the ADMIN-DATA attribute
Description:	If you import an AUTOSAR file, the <code>ADMIN-DATA</code> attribute of the <code>AUTOSAR</code> element is not imported.
Workaround:	No workaround is available.
ID:	TRESOS-2728

Summary:	The Compare editor for XDM files does not behave correctly when you close, rename or delete the project
Description:	<p>If you have changed an XDM file with the Compare editor for XDM files and then close, rename or delete the project in which this XDM file is stored, the Compare editor for XDM files does not handle those changes correctly:</p> <ul style="list-style-type: none"> ▶ When you close the project, the Compare editor for XDM files does not close, too. ▶ After you have renamed or deleted the project, the Compare editor for XDM files saves the edited file always under its former path, when you want to save the changes.
Workaround:	No workaround is available.
ID:	TRESOS-2956

Summary:	Some XPath functions are incompatible with the built-in XPath functions
Description:	<p>If you combine a built-in XPath function with an XPath function provided by EB tresos Studio, some combinations return <code>NaN</code> instead of the correct result. This is caused by incompatibilities in the internal number representation. If you print out the values, you will not see a difference between an incompatible and a compatible number.</p> <p>For example, the expression <code>num:mul(2,1.1)</code> returns <code>2.2</code>. But if you pass the result to the <code>floor</code> function, the expression <code>floor(num:mul(2,1.1))</code> returns <code>NaN</code> instead of <code>2.0</code>. Furthermore, in such cases the <code>round</code> function returns <code>0.0</code>. E.g. <code>round(num:mul(2,1.1))</code>.</p> <p>However, not all combinations of functions are affected. The affected built-in functions that return <code>NaN</code> when combined with a EB tresos Studio function are:</p> <ul style="list-style-type: none"> ▶ number, e.g. <code>number(num:mul(2,1.1))</code>

	<ul style="list-style-type: none"> ▶ floor, e.g. <code>floor(num:mul(2,1.1))</code> ▶ ceiling, e.g. <code>ceiling(num:mul(2,1.1))</code> <p>The affected EB tresos Studio functions that lead to NaN when passed to built-in functions are:</p> <ul style="list-style-type: none"> ▶ num:add, e.g. <code>floor(num:add(2,3))</code> ▶ num:div, e.g. <code>floor(num:div(2,3))</code> ▶ num:mod, e.g. <code>floor(num:mod(5,2))</code> ▶ num:mul, e.g. <code>floor(num:mul(5,2))</code> ▶ num:negate, e.g. <code>floor(num:negate(5))</code> ▶ num:sub, e.g. <code>floor(num:sub(4.8,2))</code> ▶ num:order, e.g. <code>floor(num:order(4.8))</code> <p>The round function always returns 0.0 if the argument is one of the broken EB tresos Studio functions.</p> <p>The following EB tresos Studio functions have been verified to work correctly:</p> <ul style="list-style-type: none"> ▶ num:i, e.g. <code>floor(num:i(4.8))</code> ▶ num:f, e.g. <code>floor(num:f(4.8))</code> ▶ num:min, e.g. <code>floor(num:min(4.8))</code> ▶ num:max, e.g. <code>floor(num:max(4.8))</code> ▶ num:hextoint, e.g. <code>floor(num:hextoint('0x22'))</code> ▶ num:octtoint, e.g. <code>floor(num:octtoint('022'))</code> ▶ num:bintoint, e.g. <code>floor(num:bintoint('b101'))</code> ▶ num:dectoint, e.g. <code>floor(num:dectoint('12'))</code> ▶ num:radixtoint, e.g. <code>floor(num:radixtoint('b1110'))</code>
Workaround:	Use the num:f function to convert a number into a compatible format, e.g. <code>ceiling(num:f(num:mul(2,1.1)))</code> .
ID:	TRESOS-3020

Summary:	The Compare editor for XDM files does not recognize intermediate changes of the edited file
Description:	If the file currently edited in the Compare editor for XDM files changes, the Compare editor for XDM files will overwrite those changes when you save your changes in the Compare editor for XDM files. For example, if you update the XDM file via your version control system, or edit the XDM file in a different text editor than the Compare editor for XDM

	files while having the same file opened in your Compare editor for XDM, the SVN update or the edit of the text editor are being overwritten when you save the XDM file from the Compare editor for XDM files.
Workaround:	No workaround is available.
ID:	TRESOS-2962
Summary:	The Save button is enabled for guided configuration wizards opened from the Sidebar view
Description:	Since EB tresos Studio version 13.0, the Save button is enabled by default, when you work on guided configuration wizards opened from the Sidebar view. However, clicking the Save button has no effect.
Workaround:	No workaround is available.
ID:	TRESOS-3407
Summary:	Expression language can only deal with defined variables
Description:	<p>Some parts of the EB tresos Studio Public APIs allow you to define Boolean expressions via XML tags in the <code>plugin.xml</code> file. These expressions can access the values of pre-defined variables. However, all variables that are used must be defined. If you access undefined variables, the associated expression immediately evaluates to <code>false</code> as soon as the parser encounters the access to the variable. The behavior of the parser is deterministic, but it contradicts usual programming conventions.</p> <p>For example, the order of nested expressions is important for the result. In the following example, the variable <code>FOO</code> is set to <code>enabled</code> and the variable <code>BAR</code> is undefined.</p> <p>The following code evaluates to <code>true</code>. The parser first encounters the variable <code>FOO</code>. Since the variable is defined and equals the value of the nested <code>equals</code> statement, the <code>or</code> expression evaluates to <code>true</code>. Due to the short-circuit evaluation, the second <code>with</code> statement is ignored and the parser never detects that <code>BAR</code> is undefined:</p> <pre><or> <with variable="FOO"> <equals value="enabled"/> </with> <with variable="BAR"> <equals value="enabled"/> </with> </or></pre> <p>However, the following code evaluates to <code>false</code> because the parser first encounters the access to the variable <code>BAR</code>, immediately exists and evaluates the complete expression to <code>false</code>:</p>

	<pre> <or> <with variable="BAR"> <equals value="enabled"/> </with> <with variable="FOO"> <equals value="enabled"/> </with> </or> </pre>
Workaround:	Do not access undefined variables.
ID:	TRESOS-3124

Summary:	Removing mandatory system models for a disabled module does not work
Description:	If you disable a module which requires a specific system model in the project, you cannot remove the system model.
Workaround:	Temporarily remove the module from the project without deleting the configuration.
ID:	TRESOS-3126

Summary:	The ASPath pointer in XDM files erroneously allows to define a relative AUTOSAR SHORT-NAME path
Description:	If you are using ASPath path expressions in XDM files, it is currently possible to use relative paths, e.g. ASPath:DcmDslBuffer_Rx_Func. This functionality is not deliberate and can be removed in the future. The ASPath path expressions are intended for AUTOSAR compatible paths and the relative path concept of AUTOSAR works in a completely different way.
Workaround:	No workaround is available, do not use relative paths in this way.
ID:	TRESOS-3152

Summary:	The Calulate Derivable Values wizard is executed for disabled modules
Description:	If you disable a module, this has no effect on the Calulate Derivable Values wizard. This means that the wizard also overwrites the parameters of disabled modules.
Workaround:	No workaround is available.
ID:	TRESOS-3223

Summary:	The parameters of macro functions in the template-based code generator are treated identically to global variables
Description:	If you define a macro with a parameter, the parameter is treated like a global variable. This means that if you defined a variable with the same name, changes to the parameter of the macro also change the global variable.

Workaround:	Make sure not to use the same name for macro parameters and global variables, e.g. by using a prefix for parameters.
ID:	TRESOS-3249

Summary:	Ecu Config Import selecting single Config Classes does not work as expected
Description:	When using the Autosar Importer for Ecu Configurations and using one of the options Replace specific config classes or Merge specific config classes , the import does not work as expected and may lead to unexpected results. It is therefore recommended not to use these options or to carefully check the result of the import process - e.g. when you export the ECU configuration before and after the import and then compare the exported files.
Workaround:	No workaround is available.
ID:	TRESOS-3560

Summary:	EB tresos Studio might hang in commandline mode if the workspace contains older Subversion working copy meta data
Description:	With EB tresos Studio 14.0 the built-in Subclipse (Eclipse team support provider for SVN) was updated to revision 1.8 for it's 64 bit support. This Subclipse version is built on SVN 1.7, which in turn uses a new file format for it's working copy meta data. The EB tresos Studio GUI provides an option for upgrading SVN managed workspace resources from older SVN revisions. But when running in commandline mode, EB tresos Studio might hang if there are older SVN managed workspace resources, due to a limitation within the Subclipse team support provider.
Workaround:	<p>Several workarounds exist:</p> <ol style="list-style-type: none"> 1. Upgrade the SVN metadata before running the EB tresos Studio in commandline mode. You can do this either with EB tresos Studio in the Project Explorer, context menu Team->Upgrade. Or just use any other SVN 1.7 client for that. 2. Disconnect the ECU configuration projects from team support (Project Explorer, context menu Team->Disconnect...). 3. Disable the built-in SVN support in EB tresos Studio. To achieve this, first copy the file <code>disableSVN.bat</code> from the <code>tools</code> directory to the <code>bin</code> directory of your EB tresos Studio installation. Make sure that EB tresos Studio is not running, and then run the batch file. You can use the file <code>reenableSVN.bat</code> in the same manner to reen-able the SVN support later on.
ID:	TRESOS-3646

Summary:	Instance references do not work as expected
Description:	Users cannot use the list of context references of an instance reference from a drop-down list box within the generic editor to choose one of the possible reference targets. Addi-

	tionally, the configured values are not verified and must therefore be checked by the code generator.
Workaround:	<p>As a workaround, the modules schema xdm file must be adapted as follows:</p> <pre><v:ref name="CONTEXT" type="REFERENCE"> <a:da name="REF" <a:v>ASTyped:ModeDeclarationGroupPrototype</a:v> <a:v>ASTyped:PortPrototype</a:v> </a:da> <a:da name="RANGE" type="IRefCtxt"> <a:tst expr="MODE-DECLARATION-GROUP-PROTOTYPE"/> <a:tst expr="PORT-PROTOTYPE*" /> </a:da> </v:ref></pre> <p>The example above defines the REF attribute to provide the possible reference targets for users. The RANGE attribute is required for a correct conversion back to the AUTOSAR format. Even with this workaround, the configured reference targets are not verified.</p>
ID:	TRESOS-3761

1.5. Incompatibilities to previous releases

Summary:	New scheme for the short-names of software component prototypes in the ECU extract
Description:	<p>In versions prior to 16.0, EB tresos Studio used a different scheme for creating short-names of software component prototypes in the ECU extract, which was non-deterministic and could lead to short-names, which did not comply to the AUTOSAR specification, and to short-name clashes.</p> <p>For EB tresos Studio 16.0 a new naming scheme was defined and implemented, which leads to different short-names. If your configuration project contains references into the ECU extract (e.g. within the Rte module), you will need to update those references to the new short-name paths.</p>
Workaround:	No workaround is available.
ID:	TRESOSWP-2673

Summary:	Removed obsolete batch files and executable from bin folder
Description:	In versions prior to 16.0, a EB tresos Studio installation included the files <code>cp.bat</code> , <code>move.bat</code> , <code>rm.bat</code> and <code>make.exe</code> within the subfolder <code>bin</code> of the installation directory.

	Those files are no more required by EB tresos Studio itself and hence are no more part of the delivery.
Workaround:	No workaround is available.
ID:	TRESOSWP-2701

Summary:	Corrections of the evaluation of attributes with type <code>Range</code>
Description:	<p>In versions prior to 12.1 of EB tresos Studio, the interpretation of XDM attributes with the type <code>Range</code> was corrupt. This led to wrong or even missing range checks.</p> <p>This problem is fixed for EB tresos Studio 12.1.0. Please check the EB tresos Studio developer's guide for the detailed description of <code>Range</code> type attributes.</p>
Workaround:	No workaround is available.
ID:	TRESOSWP-1958

Summary:	The option <code>Opt.OPT_USE_NODE_OPERATION</code> has been removed from the RCtxt of the Resource Public API for EB tresos Studio 12.0.0
Description:	The option <code>Opt.OPT_USE_NODE_OPERATION</code> was used to wrap changes on a model in operations, which could be undone. Since the RCtxt is not working on a project-data-model, this option was superfluous. Therefore, the option <code>Opt.OPT_USE_NODE_OPERATION</code> has been removed from the RCtxt of the Resource Public API. This leads to a better performance and a clean undo/redo stack.
Workaround:	To ensure that your code works correctly, check your Java code for the usage of the option <code>Opt.OPT_USE_NODE_OPERATION</code> and compare your expected result with the behavior described above.
ID:	TRESOSWP-1715

Summary:	There have been incompatible changes of the Public API between EB tresos Studio 2008.b and 2009.a.
Description:	<p>The <code>ECUConfigContext</code> API class in the Java package <code>dreisoft.tresos.guided-config.api.context</code> changed between EB tresos Studio 2008.b and EB tresos Studio 2009.a.</p> <ul style="list-style-type: none"> ▶ The attribute <code>relVersion</code> now returns an instance of the Java class <code>ProjectVersion</code> instead of <code>ModuleVersion</code>. ▶ The attribute <code>generationPath</code> now returns an instance of the class <code>java.io.File</code> instead of <code>java.lang.String</code>. <p>In the <code>plugin.xml</code> file, the equations that control the visibility of wizards changed between EB tresos Studio 2008.b and EB tresos Studio 2009.a. The changes concern how to make wizards visible in the Sidebar view and the Auto Configure toolbar. To make a wizard visible only if a project has an ECU configuration, set the property <code>ECUConfig-</code></p>

	Context to <code>true</code> in the visibility equation of the extension-point of the trigger that registers the wizard.
Workaround:	Adapt your Java code and the <code>plugin.xml</code> file in the way described above.
ID:	TRESOSWP-791

Summary:	The <code>setEnabled(...)</code> methods of the Public API class <code>dreisoft.tresos.data-model2.api.model.Any</code> only work for optional nodes since EB tresos Studio 10.0.
Description:	<p>From EB tresos Studio 10.0 on, the methods <code>setEnabled(boolean)</code> and <code>setEnabled(String, boolean)</code> of the Public API class <code>dreisoft.tresos.data-model2.api.model.Any</code> only have an effect on optional nodes. This is so, because the enablement state of non-optional nodes cannot be changed. Therefore non-optional nodes are now ignored by these methods.</p> <p>If you call one of these methods for a non-optional node, the consequence is as follows:</p> <ul style="list-style-type: none"> ▶ If the current enablement of the node equals the enablement provided as parameter to the method, the Boolean return value will be <code>true</code>. ▶ If the current enablement of the node does not equal the enablement provided as parameter to the method, the Boolean return value will be <code>false</code>.
Workaround:	Check your Java code especially when invoking the named methods on non-optional nodes. The return value may differ compared to executions of the code with older EB tresos Studio versions. The same applies to calls of the <code>isEnabled()</code> or <code>isEnabled(String)</code> methods after calling one of the <code>setEnabled(...)</code> methods.
ID:	TRESOS-2268

Summary:	The behavior of the methods <code>equals(Object)</code> of the Public API class <code>dreisoft.tresos.launcher2.api.module.EcuType</code> has been changed
Description:	<p>Prior to EB tresos Studio 10.0, the implementation of the method <code>equals(Object)</code> in the class <code>dreisoft.tresos.launcher2.api.module.EcuType</code> did not comply to the common Java coding guidelines. The current implementation now ensures that an <code>EcuType</code> equals the given <code>java.lang.Object</code> only, if:</p> <ul style="list-style-type: none"> ▶ the <code>EcuType</code> and the given <code>Object</code> both are the same object, or ▶ the given <code>Object</code> is not <code>null</code>, and ▶ the given <code>Object</code> is an instance of <code>dreisoft.tresos.launcher2.api.module.EcuType</code>, and ▶ the target (see <code>EcuType.getTarget()</code>) strings of both <code>EcuTypes</code> are equal, and ▶ the derivative (see <code>EcuType.getDerivate()</code>) strings of both <code>EcuTypes</code> are equal.
Workaround:	To ensure that your code works correctly, check your Java code for the usage of the named method and compare your expected result with the behavior described above.

ID:	TRESOS-2455
Summary:	Limited support for AUTOSAR 3.2.1 since EB tresos Studio 13.1.0
Description:	Due to the implementation of AUTOSAR 3.2.2, the support for AUTOSAR 3.2.1 had to be reduced. Starting with EB tresos Studio 13.1.0, the import of AUTOSAR 3.2.1 ECU configuration files is no longer possible with validation of the input data turned on.
Workaround:	Since there are large similarities between AUTOSAR 3.2.1 and AUTOSAR 3.2.2 ECU configuration files, the import can usually be done with validation turned off. In this case, the data is not validated against the AUTOSAR XML schema. The importer tries its best to import that data into the 3.2.2 model, but might not be able to import all data.
ID:	TRESOSWP-2159
Summary:	Warning ID for unresolved references in AUTOSAR system description files has changed
Description:	The ID of the warning that is reported if an AUTOSAR system description file contains references that can not be resolved has changed for some use cases. While in earlier releases of EB tresos Studio <code>SYSDI_204</code> was reported in all cases, this partly has changed to <code>TRESOSDB_75</code> .
Workaround:	If you do not want to receive warnings for open references in AUTOSAR system description files, please suppress the message ID <code>TRESOSDB_75</code> in addition to <code>SYSD_204</code> now.
ID:	TRESOS-3510

1.6. Changes in version 16.0.0

1.6.1. Fixed problems

Summary:	Conversion to file content type @tdb produces an error
Description:	In previous EB tresos Studio releases, the conversion of a file using legacy convert to the file content type @tdb could lead to the error Cannot load merge properties file . This bug is fixed now.
ID:	TRESOS-3697
Summary:	An error occurs when using Copy to clipboard within the Properties view
Description:	In previous EB tresos Studio releases, an error occurred when choosing Copy to clipboard from the context-menu within the Information tab of the Properties View if a category node (e.g. General) was selected. This bug is fixed now.

ID:	TRESOS-3700
Summary:	Generator variable projectDir not available
Description:	The external generator variable projectDir which points to the location of the generated project was not available in previous EB tresos Studio releases. This bug is fixed now.
ID:	TRESOS-3789
Summary:	Error Log messages are not filtered correctly in EB tresos Studio GUI
Description:	The commandline parameter <code>-Dmsg<Error Code></code> can also be used to filter messages in the EB tresos Studio GUI. To do so, just add <code>-Dmsg<Error Code></code> into the <code>tresos_gui.ini</code> file of the EB tresos Studio installation. In previous EB tresos Studio releases filtering messages in the GUI did not work correctly. This bug is fixed now.
ID:	TRESOS-3772
Summary:	System description importer silently merged two elements within different containers due to UUID match
Description:	The system description importer silently merged two elements with the same UUID, but different parent elements. This behavior occurred if the merge algorithm based on AUTOSAR stereotype <code>atpSplitable</code> and UUID matching was used. Now EB tresos Studio reports a warning for each moved or renamed element during import.
ID:	TRESOS-3712
Summary:	Behavior of System Model verifier changed for mandatory elements
Description:	The behavior of EB tresos Studio changed between previous EB tresos Studio releases when importing system model files. Affected were parameters which were or got mandatory between the imported files AUTOSAR release and the last release which is supported by EB tresos Studio. This verifier is provided as public API and can therefore be used by any EB tresos Studio extension. It is e.g. called when opening the Rte Editor and could prevent opening it due to a wrong verifier error. This bug is fixed now.
ID:	TRESOS-3787
Summary:	Suppress messages for certain unsupported tags when importing system description files
Description:	In previous EB tresos Studio releases, a message is shown for every occurred LONG-NAME, ADMIN-DATA and DESC xml-tag when importing a system description file of the latest supported AUTOSAR version. This bug is fixed now. Those messages are suppressed in the same ways as they get suppressed for older AUTOSAR versions.
ID:	TRESOS-3738
Summary:	Long tooltips get linebreaks

Description:	In previous EB tresos Studio releases, tooltips may become very large and may cut across the visible screen border. This bug is fixed now. If a tooltip gets too large, it will be separated by line breaks.
ID:	TRESOS-3773
Summary:	No deadlock anymore when using selection dependent variables in Generation Path
Description:	<p>In previous EB tresos Studio releases, the GUI locked up if you used a selection dependent variable (e.g. <code>\${workspace_loc}</code>, <code>\${project_loc}</code>) in the project preference Generation Path and selected a node other than the project node in the Project explorer. This bug is fixed now.</p> <p>Do not use selection dependent variables as they will not work for all selections (see also following entry).</p>
ID:	TRESOS-3766
Summary:	Parameter substitution for selection dependent variables
Description:	<p>In rare cases where paths are used in EB tresos Studio (e.g. the Generation path) it is possible to use variables (e.g. <code>\${workspace_loc}</code>, <code>\${project_loc}</code>). Some of these variables depend on the current selection, e.g. <code>\${project_loc}</code>. Therefore it can occur that the path cannot be resolved, e.g. if there is a configuration file selected in the Project Explorer instead of the project node. In those cases an error is logged into the Error Log. Hint: You may replace occurrences of <code>\${project_loc}</code> with <code>\${project_loc:<project-name>}</code>.</p>
ID:	TRESOS-3779
Summary:	Spaces in paths are removed
Description:	<p>In previous EB tresos Studio releases, paths with trailing or leading spaces were accepted without removing these spaces. Therefore, an export again contained these spaces and even the code generator was able to get them. This bug is fixed now. All leading and trailing spaces are automatically removed from paths.</p>
ID:	TRESOS-3652
Summary:	Properties view got empty after selecting or opening another EB tresos Studio view
Description:	<p>When selecting nodes inside the Project explorer, Outline view or Generic configuration editor, then the Properties view shows information about the current selection. In the previous EB tresos Studio release, the Properties view got empty after selecting or opening another EB tresos Studio view, e.g. Workflows view. This bug is fixed now.</p>
ID:	TRESOS-3640
Summary:	No default ADMIN-DATA attribute created when deriving a StMD

Description:	In previous EB tresos Studio releases, the command legacy vsmd did not create a default ADMIN-DATA attribute for the module definition if the target file was an <code>.xdm</code> file or an 3.2 AUTOSAR <code>arxml</code> file. This bug is fixed now.
ID:	TRESOS-3237

Summary:	VSMD rule EcucSws_1014 erroneously reports a violation
Description:	In previous EB tresos Studio releases the legacy vsmdcheck command erroneously reported a violation if a vendor-specific parameter was added in <i>case-insensitive</i> alphabetical order. This bug is fixed now. For compatibility reasons, it is now allowed to add vendor-specific parameters either in <i>case-sensitive (ASCII-order)</i> or in <i>case-insensitive</i> alphabetical order.
ID:	TRESOS-3538

Summary:	VSMD rule EcucSws_1008 erroneously reports a violation
Description:	In previous EB tresos Studio releases the legacy vsmdcheck command erroneously reported a violation under certain circumstances. The involved nodes were not mentioned in this case. This bug is fixed now.
ID:	TRESOS-3403

Summary:	Autosar Importer configuration mask logs an Exception
Description:	In previous EB tresos Studio releases an error was logged to the Error Log view when the user typed the path to a file into the Importer/Exporter configuration mask. This bug is fixed now.
ID:	TRESOS-3748

Summary:	VSMD checker falsely reported a violation for rule 6051
Description:	In previous EB tresos Studio releases vsmd checker rule 6051 reported an error that the implementationConfigClass in VSMD must be the same as in StMD, although the scope of the ConfigParameter or ConfigReference in StMD was not ECU. This bug is fixed now.
ID:	TRESOS-3052

Summary:	Errors logged when using the Licenses dialog
Description:	In EB tresos Studio 15.0, after you e.g. installed a new license file using the Licenses dialog, EB tresos Studio may have logged an error message like Cannot start a write-operation (Installing Licenses) from a read-operation (-) . This bug is fixed now.
ID:	TRESOS-3658

Summary:	Fibex importer now imports PDU-TIMING of one PDU-TRIGGERING if multiple PDU-TRIGGERING elements refer to the same PDU
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Description:	In earlier versions of EB tresos Studio all <code>PDU-TIMING</code> elements of PDUs got lost due to a limitation of AUTOSAR version 4.x, where <code>PDU-TIMING</code> elements are not aggregated by <code>PDU-TRIGGERING</code> elements anymore. This behavior occurred if you imported Fibex files which contained <code>PDU-TRIGGERING</code> elements that referred to these PDUs. Fibex importer now imports the <code>PDU-TIMING</code> of one of the <code>PDU-TRIGGERING</code> elements.
ID:	TRESOS-3736

Summary:	EB tresos Studio now preserves the order of child aggregations during merge
Description:	In earlier versions, EB tresos Studio did not preserve the order of the elements from the input file if the existing model already contained some of the elements. This behavior occurred if you imported <code>arxml</code> files using the System Description Importer which contained ordered elements, This bug is fixed now.
ID:	TRESOS-3711

Summary:	DEST attribute not required when loading AUTOSAR ECU Configuration files
Description:	In earlier versions of EB tresos Studio, it was not possible to load an AUTOSAR ECU Configuration file if the <code>DEST</code> attribute of a parameter was not defined. This bug is fixed now.
ID:	TRESOS-3615

Summary:	Problems entering negative float values in scientific notation
Description:	In earlier versions of EB tresos Studio, it was not possible to enter negative float values in scientific notation in the Generic Configuration Editor or the Guided Configuration wizard (e.g. - 1.5 E -12). This bug is fixed now.
ID:	TRESOS-3607

Summary:	Properties view shows empty page
Description:	In earlier versions of EB tresos Studio, the Properties view did not display the properties of the currently selected parameter anymore but became empty instead. This behavior occurred if you opened or selected a view, e.g. the Workflows view). This bug is fixed now.
ID:	TRESOS-3640

Summary:	Sporadic error during project load
Description:	In earlier versions, EB tresos Studio sporadically reported an error message if you tried to load a project: (11071) The file(s) <file name> do(es) not contain a module definition at path <path> as defined in Module <module-name> of plugin <plugin-name>. This bug is fixed now.
ID:	TRESOS-3636

Summary:	Saving changes in the ECU configuration took longer than necessary
Description:	In EB tresos Studio 15.0, due to a performance bug, saving changes in your ECU configuration project may have taken longer than necessary. This bug is fixed now.
ID:	TRESOS-3689

Summary:	Public API Java Documentation not available in the Java editor of the Eclipse IDE
Description:	In former releases of EB tresos Studio the Public API Java Documentation was not available from within the Java editor (only within the help window). This behavior occurred after you set up an Eclipse environment for developing extensions to EB tresos Studio as described in the EB tresos Studio developer's guide. This problem is fixed and now you have the EB tresos Studio Public API Java Documentation directly at hand within the Eclipse Java editor.
ID:	TRESOS-3590

Summary:	EB tresos Studio does not delete temporary TDB files
Description:	In former releases, EB tresos Studio did not delete some temporary <code>TresosDB</code> files under certain circumstances. This problem is fixed and now these files are deleted when you exit EB tresos Studio.
ID:	TRESOS-3699

1.6.2. Changes/new features

Summary:	EB tresos Studio supports Provided and Required Ports
Description:	EB tresos Studio now supports <code>PRPortPrototypes</code> in the <code>SystemModel</code> which combine the functionality of <code>PPortPrototypes</code> and <code>RPortPrototypes</code> . As a drawback of this change, the API got incompatible. Anywhere the interface <code>IPPortPrototype</code> or <code>IRPortPrototype</code> is used, the appropriate <i>abstract interface</i> (<code>IAbstractProvidedPortPrototype</code> or <code>IAbstractRequiredPortPrototype</code>) must be used now. The convenient method <code>getInterface</code> has been introduced to be able to access the required/provided interface without the need to cast to the right interface (<code>IPPortPrototype</code> , <code>IRPortPrototype</code> or <code>IPRPortPrototype</code>).
ID:	TRESOSPF-148

Summary:	EB tresos Studio supports AUTOSAR 4.1.3 system model version
Description:	EB tresos Studio provides support for the relevant parts of the system model of AUTOSAR release 4.1.3. You may now import and export system description and ECU configuration <code>arxml</code> files up to AUTOSAR 4.1.3.
ID:	TRESOSPF-140

Summary:	EB tresos Studio supports a preliminary AUTOSAR 4.2.1 system model
Description:	EB tresos Studio provides support for the relevant parts of the system model of a preliminary AUTOSAR 4.2.1 revision.
ID:	TRESOSPF-139

Summary:	Defined naming conventions for the ECU extract creation
Description:	EB tresos Studio now provides defined naming conventions for the creation of the ECU extract (for AUTOSAR 3.2 and above). This applies to the short-names of software component prototypes, as well as to other elements in the ECU extract. For details see the EB tresos Studio User's guide, chapter 8.2. <i>Creation of the ECU Extract</i> .
ID:	TRESOSWP-2673

Summary:	ECU Configuration Search now supports parameter comments
Description:	EB tresos Studio now provides the possibility to search for parameter comments (summary, description, status, language) in the ECU Configuration Search .
ID:	TRESOSWP-2706

Summary:	ECU Configuration Search now supports config classes
Description:	EB tresos Studio now provides the possibility to search for parameters with a specific config class.
ID:	TRESOSWP-2066

Summary:	The Properties view shows information about selected nodes in the Project Explorer
Description:	The Properties view now shows information about ECU configuration nodes (e.g. AUTOSAR release version, target and derivate) or Module configuration nodes (e.g. Module-ID, selected pre-configuration, etc.) when you select those in the Project Explorer view.
ID:	TRESOSWP-2704

Summary:	Import and export of special datagroups now supported
Description:	Special data groups (SDGS) in ADMIN-DATA tags are now imported and can also be exported via the System description im- and exporter. The order of special data groups of the exported file can vary from the order of the import file. EB tresos Studio does not support SDG elements inside SD elements. Only the following hierarchy depth is supported: ADMIN-DATA/SDGS/SDG/SD.
ID:	TRESOSWP-2769

Summary:	Behavior of DCtxt method <code>opt.setNoSchema(true/false)</code> changed
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Description:	<p>In previous EB tresos Studio releases, the method <code>opt.setNoSchema</code> acted differently if the parameter was true or false. In case the parameter was true, the option to also accept DataNodes without a schema was simply set to true. In the case when the parameter was false, the node was checked if it was already bound to a schema. If it was not bound, then a <code>CtxtException</code> was thrown and setting the option to false failed. It was only possible to set the option to false, by navigating to a bound node via <code>DCtxt</code> and call the <code>opt.setNoSchema(false)</code> there.</p> <p>Now it is always possible to set or unset the option on every node, whether the node is bound to a schema or not. The method is always successful and returns true. No exception is thrown anymore.</p>
ID:	TRESOS-3753

Summary:	Project-specific workflows supported
Description:	<p>Until now it was only possible to register workflow files via extension point or Java API. These commonly registered workflows are available for all projects in the workspace. Now EB tresos Studio also supports to register project-specific workflows by just copying the workflows description file into the project. For details, see the <i>EB tresos Studio new and noteworthy</i> document.</p>
ID:	TRESOSWP-2759

Summary:	New workflow command for ECU extract creation
Description:	<p>EB tresos Studio now supports a new workflow command to create an ECU extract for a configuration project. The command with the ID <code>dreisoft.tresos.workflow.api.-plugin.EcuExtractCreatorCommand</code> starts the ECU extract creation. For further information see the EB tresos Studio developer's guide chapter <i>Ecu extract creator command</i>.</p>
ID:	TRESOSWP-2796

Summary:	Multiple instances of unattended wizard configurations supported
Description:	<p>Until now there was only one instance available for each registered unattended wizard. Therefore if a task (e.g. Calculate Handle IDs) was necessary in different configurations to support several use-cases, it was necessary to change the configuration each time before running it. The Unattended Wizards configuration dialog now provides the possibility to create several instances for each registered unattended wizard. You can run these instances from the GUI (either via the Unattended Wizards dialog or via a workflow command) or the command line. For details, see the <i>EB tresos Studio new and noteworthy</i> document.</p>
ID:	TRESOSWP-2749

Summary:	New unattended wizard for execution of multiple tasks introduced
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Description:	<p>EB tresos Studio now provides the new unattended wizard Execute multiple tasks, where it is possible to arrange several actions in a specified order. Possible actions are the following:</p> <ul style="list-style-type: none"> ▶ Run importer ▶ Run exporter ▶ Run unattended wizard ▶ Run code generation ▶ Run an external command <p>You can also control the execution of the wizard by telling the wizard that the execution shall stop if an action returns with errors or warnings. You can use the Execute multiple tasks wizard to define a set of actions which must be performed several times in project lifecycle. For details, see the <i>EB tresos Studio new and noteworthy</i> document.</p>
ID:	TRESOSWP-2771, TRESOSWP-2794

1.7. Changes in version 15.0.0

1.7.1. Fixed problems

Summary:	The IMPLEMENTATION-CONFIG-VARIANT is now automatically converted if an ECU Configuration is exported
Description:	<p>The IMPLEMENTATION-CONFIG-VARIANT is now automatically converted to VARIANT-POST-BUILD if the following conditions apply:</p> <ul style="list-style-type: none"> ▶ The IMPLEMENTATION-CONFIG-VARIANT of a module configuration is set to either VARIANT-POST-BUILD-SELECTABLE or VARIANT-POST-BUILD-LOADABLE. ▶ The configuration is exported to an AUTOSAR format that does not support these values (prior AUTOSAR 3.2 and prior AUTOSAR 4.0.3). <p>Previous EB tresos Studio releases lacked this value conversion and the exported file violated the AUTOSAR schema in those cases. This problem is now fixed.</p>
ID:	TRESOS-3631

Summary:	EB tresos Studio does not freeze anymore while it verifies the configuration
Description:	In former releases, EB tresos Studio might freeze while it verified the configuration. This problem is fixed now.

ID:	TRESOS-3693
Summary:	Improved speed of model upgrade of AUTOSAR 3.1 files to AUTOSAR 4.0
Description:	In earlier releases of EB tresos Studio the upgrade of imported AUTOSAR 3.1 system description files to AUTOSAR 4.0 took very long if the imported files contained a large number of <code>INTERFACE</code> and <code>DATA-ELEMENT-PROTOTYPE</code> elements. This problem is fixed now.
ID:	TRESOS-3682
Summary:	The Fibex Importer imports <code>INTERNAL-CONSTR[@VALIDITY="VALID"]</code> elements
Description:	The Fibex Importer did not import <code>INTERNAL-CONSTR[@VALIDITY="VALID"]</code> elements. This is fixed now.
ID:	TRESOS-3672
Summary:	EB tresos Studio no longer deletes existing output files on error if you call <code>legacy convert</code>
Description:	In previous versions of EB tresos Studio if e.g. a validation error occurred during the commandline call to legacy convert , EB tresos Studio deleted output files even if they already existed before. This is fixed now.
ID:	TRESOS-3661
Summary:	System Description Importer and System Description Exporter failed to handle special numerical values
Description:	<p>If you tried to import data with the System Description Importer that contained the special numerical values <code>NaN</code>, <code>INF</code>, or <code>-INF</code>, the import failed. The following error message was reported: Failed to set the attribute "value" of type Double to the value "NaN", (invalid_issue.arxml, line 24).</p> <p>If you used the System Description Exporter, the special numerical values <code>INF</code> or <code>-INF</code> were exported erroneously (as <code>Infinity</code> or <code>-Infinity</code> respectively).</p> <p>Both issues are fixed now.</p>
ID:	TRESOS-3664,TRESOS-3681
Summary:	Fixed keyboard navigation in Outline view
Description:	In some cases (lists with choice and ref containers) keyboard navigation (up/down) did not work inside the Outline view. This is fixed now.
ID:	TRESOS-3503,TRESOS-3599
Summary:	Fixed disappearing window after sending EB tresos Studio to background and then to foreground again

Description:	When an error was shown during project load then after sending EB tresos Studio to background and to foreground again, the modal dialog to choose the behavior after the load error did not appear again. As it was not possible to confirm the modal dialog, the EB tresos Studio process hang and it was necessary to kill the EB tresos Studio process. This is fixed now.
ID:	TRESOS-3657

Summary:	Fixed hyperlinks in Java Public API documentation
Description:	When you opened the Java Public API from <code><tresosInstallpath>\doc\2.0_-EB_tresos_Studio\Studio Public API Java</code> several hyperlinks in package <code>dreisoft.tresos.datamodel2.api.model</code> did not work. This is fixed now.
ID:	TRESOS-3633

Summary:	Fibex Importer no longer creates undefined content for elements that contain empty strings
Description:	If an element contains an empty string (if allowed by the schema or if validation is turned off), the Fibex Importer creates undefined content instead of an empty string. This is fixed now.
ID:	TRESOS-3630

Summary:	Improved performance of filtered tables
Description:	In some cases working with filtered tables in the Generic Configuration Editor or a sidebar wizard took very long. Now refreshing applied values within filtered tables is improved.
ID:	TRESOS-3629

Summary:	A warning is logged when a module defines duplicate attributes that are ignored
Description:	If a module definition schema file defines an attribute twice for the same parameter, EB tresos Studio tries to merge them into one attribute that provides the same functionality of both single attributes. If a merge is not possible, a warning is logged and one of the attributes is skipped.
ID:	TRESOS-3627

Summary:	References are no longer lost during a merge with the atpSplitable merge algorithm
Description:	Up to this version of EB tresos Studio references with a cardinality of n to 1 were lost when two system models were merged and the atpSplitable merge algorithm was used. This applies e.g. for the reference from InternalBehavior to AtomicSoftwareComponent-Type in the AUTOSAR 3.2 system model. These references are merged correctly now.
ID:	TRESOS-3625

Summary:	EB tresos Studio falsely reported an error when executing a step in the Workflows view
Description:	Under certain circumstances, when you tried to execute a step in the Workflows view, EB tresos Studio did not execute the command but falsely reported an error. In this case, a message dialog with the message The chosen operation is not enabled. was shown. This is fixed now.
ID:	TRESOS-3593

Summary:	Dependencies between module configuration plugins are now considered correctly
Description:	Starting with EB tresos Studio 14.1.0, as a module developer you can define dependencies between your module plug-ins if a read-only ECU configuration parameter with a calculated default value refers to another module definition (e.g. when using subderivatives with ECU resource properties). EB tresos Studio may have failed to compute these default values correctly in certain cases when the project was loaded. This is fixed now.
ID:	TRESOS-3520

Summary:	ECU configuration and system data may share the same package base path
Description:	In former releases of EB tresos Studio an error was reported if you tried to use the same AUTOSAR package base path (e.g. <code>/SomeVendor/...</code>) for ECU configuration and system data. This is fixed now.
ID:	TRESOS-3596

Summary:	Relative path in reference bases does work now, global references are not supported anymore
Description:	According to AUTOSAR constraint <code>constr_2538</code> , global references may only be used for documentation-related elements and are therefore not supported anymore in EB tresos Studio. The reference base used by a relative reference may now also be relative.
ID:	TRESOS-3586

Summary:	Fixed processing of <code>SwDataDefProps</code> elements in system model upgrade
Description:	In previous versions of EB tresos Studio the system model upgrade incorrectly moved source model AUTOSAR 3.x <code>SwDataDefProps</code> elements contained in <code>RecordElements</code> , <code>ArrayElements</code> , or <code>InterRunnableVariables</code> into arbitrary <code>VariableDataPrototypes</code> in the generated AUTOSAR 4.0 model. If the <code>VariableDataPrototypes</code> already contained an <code>SwDataDefProps</code> element, the upgrade terminated and an error was issued. This problem is fixed now.
ID:	TRESOS-3620

Summary:	Fixed processing of <code>UID</code> values in system model upgrade
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Description:	In previous versions of EB tresos Studio the system model upgrade incorrectly duplicated <code>UUID</code> attributes of several AUTOSAR 3.x source model elements. This duplication resulted in an error if you selected <i>improved merge algorithm based on UUID matching</i> in an import configuration for a Fibex, LDF, or AUTOSAR 3.x system description file. This problem is fixed now.
ID:	TRESOS-3623

Summary:	Fixed handling of initial values and invalid values of signals during model upgrade
Description:	In earlier versions of EB tresos Studio, the system model upgrade from AUTOSAR 3.x to 4.0 did not support opaque literals as invalid and initial values of signals. This restriction is now removed.
ID:	TRESOS-3582

Summary:	Fixed error during generation of unique container names for ECU configuration import
Description:	In earlier versions of EB tresos Studio the configuration import terminated with the error message Could not generate mangled name for <identifier_name> , where <code><identifier_name></code> was a <code>SHORT-NAME</code> that ended with an underscore followed by a numerical value equal to or above 10000. This problem is fixed now.
ID:	TRESOS-3637

Summary:	LDF Importer imports <code>AssignNAD</code> frames in LDF 2.0 files correctly now
Description:	In earlier versions of EB tresos Studio, the LDF Importer terminated with an error message if an imported LDF 2.0 file contained an <code>AssignNAD</code> frame in which the <code>oldNad</code> field did not match the <code>configured_NAD</code> of any of the slave nodes of the file. This incorrect behaviour is fixed now. The <code>newNad</code> field of an <code>AssignNAD</code> frame is compared with the <code>configured_NAD</code> field of the slaves.
ID:	TRESOS-3645

Summary:	The System Description Importer now always evaluates file availability before an import
Description:	In previous EB tresos Studio releases you could run a System Description Importer even if one or more of the input files did not exist anymore. This was possible if you launched an existing System Description Importer without inspecting the file list on the All Models tab before. In this case, the importer was executed without indicating the missing files. This problem is fixed now.
ID:	TRESOS-3523

Summary:	The template-based code generator now can include files with arbitrary relative paths
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Description:	In earlier versions of EB tresos Studio the <code>INCLUDE</code> command in a generator template failed to resolve files with arbitrary relative paths, i.e. ones that started with more than one <code>../</code> section, or contained <code>../</code> sections in between (not normalized paths). This problem is fixed now.
ID:	TRESOS-3505

Summary:	The System Description Exporter no longer deletes existing output files if an export fails
Description:	In previous versions of EB tresos Studio the System Description Exporter deleted already existing output files if an error occurred during an export. Thus, a file that was created by a previous exporter run was deleted if e.g. the schema validation during a subsequent exporter run failed. This issue is fixed now. The System Description Exporter now only overwrites existing files if the export is completed successfully.
ID:	TRESOS-3080

Summary:	Fixed inappropriate error message from XPath function <code>node:value</code>
Description:	If a schema node referred to a node with a later configuration class in a call to the XPath function <code>node:value</code> (e.g. in an INVALID test expression), earlier versions of EB tresos Studio reported a wrong error message in the Problems View : "(1818) No value found for object" . This problem is fixed. EB tresos Studio now issues the right error message for this situation: "(1822) Attempt to read value of node {0} with config class {1} which is not allowed in this context" .
ID:	TRESOS-3643

Summary:	Several small handling improvements in the GUI
Description:	The behavior of the EB tresos Studio GUI is improved. Several small handling problems like wrong enablement of GUI buttons are corrected.
ID:	TRESOS-3026, TRESOS-3029, TRESOS-3398, TRESOS-3501, TRESOS-3583, TRESOS-3594, TRESOS-3609

Summary:	Fixed <code>NullPointerException</code> when you convert to an unknown tresosDB content type version
Description:	When you tried to convert some input files to an unknown tresosDB file content type version (e.g. <code>tdb:2.6</code>) on the command line, earlier versions of EB tresos Studio issued a <code>NullPointerException</code> . This problem is fixed. Now EB tresos Studio reports a proper error message in this case.
ID:	TRESOS-3648

Summary:	The System Description Importer can now import the AUTOSAR XML tag <code><P-TRIGGER-IN-ATOMIC-SWC-TYPE-INSTANCE-REF></code>
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Description:	In previous versions of EB tresos Studio if you tried to import an AUTOSAR XML file using the System Description Importer which contained the XML tag <code><P-TRIGGER-IN-ATOMIC-SWC-TYPE-INSTANCE-REF></code> (within a <code><TRIGGER-IREF></code>) the import failed with the warning message "P-TRIGGER-IN-ATOMIC-SWC-TYPE-INSTANCE-REF is not supported within TRIGGER-IREF" . This bug is now fixed and the data is imported.
ID:	TRESOS-3521

Summary:	The Select a workflow dialog displays long descriptions completely
Description:	In previous versions of EB tresos Studio it may occurred that the workflow description was not displayed correctly if you opened the dialog to select a workflow. This problem is fixed now.
ID:	TRESOS-3644

Summary:	The import customization of different importers was removed silently if not existing anymore
Description:	In previous versions of EB tresos Studio it may occurred that when selecting an existing importer in the Im- and Exporters dialog, the import customization was removed without notification if it did not exist anymore in the EB tresos Studio installation. Now the user will be notified and needs to check the import customization, before being able to run the importer.
ID:	TRESOS-3613

1.7.2. Changes/new features

Summary:	EB tresos Studio supports AUTOSAR 4.1.1 and 4.1.2 system models
Description:	EB tresos Studio provides support for the relevant parts of the system model as of AUTOSAR releases 4.1.1 and 4.1.2. You may now import and export system description files up to AUTOSAR 4.1.2.
ID:	TRESOSPF-96

Summary:	EB tresos Studio does not log errors about missing optional plug-ins any more
Description:	Executable extensions on one of the specific extension points that EB tresos Studio provides can declare that the implementing class shall be loaded from another plugin. This plugin may not be available at runtime, if it is only optionally required by your plugin. Earlier versions of EB tresos Studio reported an error in this case, now the executable extension is silently ignored.
ID:	TRESOSWP-1836

Summary:	The LDF Importer supports LDF 2.1 and LDF 2.2 files
Description:	The LDF Importer now supports the import of LDF versions 2.1 and 2.2.
ID:	TRESOSWP-2658

Summary:	The LDF Importer supports <code>Signal_encoding_types</code> section
Description:	The LDF Importer now uses the content of the <code>Signal_encoding_types</code> section in LDF files to generate corresponding AUTOSAR data types. A signal that is assigned to one of the encodings in the <code>Signal_encoding_types</code> section in the LDF file is imported as an AUTOSAR signal. This AUTOSAR signal references the corresponding AUTOSAR data type.
ID:	TRESOSWP-2690

Summary:	The Element Outline views are replaced by a standard Eclipse Properties view
Description:	<p>Former versions of EB tresos Studio used three separate proprietary Element Outline views to show details about the currently selected parameter: Description, Information, and Errors. These proprietary views are replaced by a standard Eclipse Properties view that displays the same information. For further information about the new Properties view, refer to the chapter <code>Properties view</code> in the EB tresos Studio Users guide.</p> <p>Although the new Properties view is now used in the default perspective, you can still switch back to the old Element Outline views. For further instructions how to do this, refer to section <code>Opening a view</code> in the EB tresos Studio Users guide.</p>
ID:	TRESOSPF-51

Summary:	EB tresos Studio supports the import of ECU configuration data with arbitrary package structure
Description:	<p>Up to this release, the AUTOSAR Importer of EB tresos Studio could not import ECU configuration data with a package structure different from the one that is used within the project. This problem occurred in some cases where third-party tools were used to create the configuration files. The AUTOSAR Importer is improved and can now import such files regardless of the package structure.</p> <p>You can enable and customize the path mapping of elements within the input file to elements in the project model on the Path Mapping tab in the importer configuration.</p> <p>It is also possible to specify path mappings on the command line for legacy generate and legacy convert.</p>
ID:	TRESOSPF-33

Summary:	Verify Project and Generate Project are now enabled for arbitrary selections
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Description:	<p>In former releases of EB tresos Studio you needed to select specific nodes for your Configuration Project in the Project Explorer to enable the menu items Verify Project, Generate Project and Build Project, and their respective counterparts in the tool bar.</p> <p>Now you can select any node of a Configuration Project to enable those items.</p>
ID:	TRESOSWP-2045

Summary:	Improved consistency checks of the NLS/OS builder config files
Description:	<p>The NLS/OS builder (part of the EB tresos Studio Eclipse tooling) does now apply more consistency checks and report errors also if a localized message (e.g. some <code>L-en</code> property)</p> <ul style="list-style-type: none"> ▶ contains an invalid placeholder (e.g. a parameter index that is out of range, or <code>'{0}'</code> that requires a quotation: <code>' '{0}' '</code>), or ▶ does not refer to all configured parameters. <p>For further details about the config file format and the NLS/OS builder, refer to the EB tresos Studio developer's guide, chapter <code>How to use the National Language Support (NLS)/Operation Status (OS)</code>.</p>
ID:	TRESOSWP-1937

Summary:	The XPath function <code>node:name</code> may not return the correct name of an AUTOSAR data node
Description:	<p>For containers with <code>UPPER-MULTIPLICITY=1</code> the XPath expression <code>node:name(container)</code> returns the AUTOSAR schema node name instead of the data node name.</p> <p>New XPath(<code>as:name</code>) and DCtxt(<code>getShortName()</code>) functions are introduced as a solution. They return the SHORT-NAME of the context node or null on error if the context node does not have a SHORT-NAME (this is e.g. the case for list nodes and variable data nodes).</p> <p>The SHORT-NAME of a node might be different from the name, e.g. when the user manually changes the SHORT-NAME via the editor or the SHORT-NAME is changed during an import.</p>
ID:	TRESOS-3598

Summary:	Behavior change for confirmation dialogs
Description:	<p>There are now two different types of confirmation dialogs:</p> <ol style="list-style-type: none"> 1. Confirmation dialog with Do not show this dialog again check box. If the check box is checked and the action is performed, then the decision persists. If you perform

	<p>the same action again, the confirmation dialog will not appear again. If, however, the action was cancelled although the Do not show this dialog again check box was checked, the action will not persist and the confirmation dialog will appear again.</p> <p>2. Confirmation dialog with Remember my decision check box. For some actions the check box is renamed to Remember my decision. If the check box is checked then your choice persists and is used for all further executions of this action. This is independent of whether you choose to apply or discard your changes.</p> <p>You can re-enable both types of dialogs in the EB tresos Studio preferences.</p>
ID:	TRESOSWP-2608

Summary:	Improved tooltips for the Error Log view and the Problems View view
Description:	The tooltips shown in the Error Log view and the Problems View view do now contain line breaks to not exceed the maximum available space of the screen and to provide better readability.
ID:	TRESOSWP-2691, TRESOSWP-1938

Summary:	Values in reference combo boxes are sorted alphanumerically
Description:	In previous EB tresos Studio releases the items in reference combo boxes were sorted lexicographically. This lead to a strange behavior when using a <code>NAME_PATTERN</code> , e.g. 'MyContainer_?'. The values were not sorted in ascending order, for instance 'MyContainer_10' was placed before 'MyContainer_2'. Now the items are sorted alphanumerically in ascending order.
ID:	TRESOSWP-2605

1.8. Changes in version 14.2.0

1.8.1. Fixed problems

Summary:	Undo was not possible after changing a value within a table in the Generic Configuration Editor
Description:	In EB tresos Studio version 14.1, after you changed a value within a table cell in the Generic Configuration Editor, you could not revert the change by pressing the Undo button. This bug is now fixed.
ID:	TRESOS-3571

Summary:	An error message is shown when you try to rename a project to an invalid name
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Description:	<p>In previous versions of EB tresos Studio, you could rename a project to an invalid name. An invalid name is a name that is not a valid AUTOSAR SHORT-NAME, e.g. a name that contains spaces. In that case the project was not fully usable and e.g. displayed errors during code generation.</p> <p>This is fixed now. If you try to rename a project to an invalid name, an error message is shown and you cannot complete the rename action.</p>
ID:	TRESOS-1119

Summary:	No more outdated entries in tables of the Generic Configuration Editor after the execution of a guided configuration wizard
Description:	<p>In previous versions of EB tresos Studio, sometimes multiple entries with the same index value were visible in the Generic Configuration Editor after you executed a guided configuration wizard.</p> <p>This is fixed now.</p>
ID:	TRESOS-3488

Summary:	The display of Published Information parameters and containers has been fixed
Description:	<p>In previous versions of EB tresos Studio, containers with a name that ends in <code>PublishedInformation</code> were rendered incorrectly. Previously only the first element of lists was shown and all parameters were shown on the Published Information tab.</p> <p>This has been fixed now. The items with a name that ends in <code>PublishedInformation</code> are now treated equally to normal editor items with respect to the location in the editor. Also all elements of lists are displayed. Only the container named <code>CommonPublishedInformation</code> is treated specially. This is required by AUTOSAR.</p>
ID:	TRESOS-3154

Summary:	Module Configuration Editor only shows valid reference targets
Description:	<p>In previous releases of EB tresos Studio, the Module Configuration Editor offered invalid reference targets for references that point into a choice container. This led to subsequent errors during model validation, if such an invalid node was selected.</p> <p>This problem is fixed now. Only valid reference targets are shown now.</p>
ID:	TRESOS-3307

Summary:	Compare editor for XDM files no longer hangs up
Description:	<p>In previous releases of EB tresos Studio, the EB tresos Studio GUI may have hung up when you compared XDM files with the Compare editor for XDM files which contained lists with many nodes that were moved to another position.</p>

	This is fixed now.
ID:	TRESOS-3406

Summary:	The XPath function <code>substring()</code> logs a warning message if it is used with 0 as start position
Description:	<p>If you use the XPath function <code>substring()</code> with three arguments and provide 0 as start position, EB tresos Studio now displays a warning message every time the function is executed. The function is not defined for start position 0 in the XPath standard. In the implementation provided by EB tresos Studio the function returns a result but the result is clearly wrong because it is shorter than the specified length.</p> <p>In previous releases of EB tresos Studio, the identical value was returned, but no warning was shown.</p>
ID:	TRESOS-3242

Summary:	<code>tresos_cmd.bat</code> legacy command line does not report erroneously unresolved references any more
Description:	<p>In EB tresos Studio 14.1.0, the <code>tresos_cmd.bat</code> legacy command line under certain circumstances reported that references defined in AUTOSAR system description files could not be resolved although the references were resolved. Additionally, warnings about unresolved references may have been reported multiple times. This also was the case for the falsely reported ones stated above.</p> <p>Those problems are fixed now. EB tresos Studio now only reports actually unresolved references once.</p>
ID:	TRESOS-3509

Summary:	Resolved delays before code generation
Description:	<p>In EB tresos Studio 14.1.0, configuration code generation started with a significant delay when WibuKey dongles were employed for license authentication and a large number of module configurations were generated in parallel.</p> <p>The causes for these delays have been removed now.</p>
ID:	TRESOS-3548

Summary:	Your choice is now persistent when you apply changes in confirmation dialogs
Description:	<p>In previous releases of EB tresos Studio the check box to apply changes in confirmation dialogs for several actions was named Do not show this dialog again.. Regardless whether you checked or unchecked the check box, your choice was not persistent and a default action was performed when you applied the same change again.</p>

	Now the check box is renamed Remember my decision , and your choice is persistent and used for all same applied changes. You can revoke your choice in the EB tresos Studio preferences.
ID:	TRESOS-2668

1.8.2. Changes/new features

Summary:	Configurable multiple configuration support for AUTOSAR 4.1.1 post-build scenarios
Description:	<p>EB tresos Studio now features enhanced support for the Multiple Configuration Container (MCC) approach for post-build ECU configuration scenarios as specified by AUTOSAR 4.1.1.</p> <p>With the help of a specific post-build configuration management module, you can now aggregate selected MCCs of your project into named MCC sets and select one of those sets to be the current working set. After you switch such a configuration project into post-build only mode, EB tresos Studio on the one hand will perform additional checks of the consistency of the configuration data in the different MCCs. On the other hand, EB tresos Studio will hinder you from changing certain ECU configuration parameters that were already configured. For details, refer to the <i>EB tresos Studio new and noteworthy</i> document.</p>
ID:	TRESOSPF-44

Summary:	New rules implemented for the legacy vsmdcheck command regarding AUTOSAR 4.1.1 post-build
Description:	<p>EB tresos Studio 14.2 provides new rules for checking Vendor Specific Module Definitions (VSMD) against the refined AUTOSAR 4.1.1 specification for post-build capable modules.</p> <p>The new rules cover the following AUTOSAR constraints and requirements: <code>[constr_5500]</code>, <code>[TPS_ECUC_02132]</code>, <code>[TPS_ECUC_06051]</code>, <code>[TPS_ECUC_08005]</code> and <code>[TPS_ECUC_08007]</code>.</p> <p>Additionally EB tresos Studio 14.2 provides a new rule set named <code>asc:4.0.3.RFCs</code> which complements the existing <code>asc:4.0.3</code> ruleset according to the changed AUTOSAR requirements.</p>
ID:	TRESOSPF-91

Summary:	Post-build verification of function names (<code>[constr_5502]</code>)
Description:	In compliance to the AUTOSAR constraint <code>[constr_5502]</code> , EB tresos Studio now also verifies that you do not accidentally introduce new function names during post build time, and creates entries in the Problems View accordingly.

ID:	TRESOSWP-2532
Summary:	Selectable AUTOSAR XML schema variant in System Description Importer
Description:	<p>For AUTOSAR releases that come with different XML schema variants (e.g. AUTOSAR 4), you may now choose the AUTOSAR schema variant that EB tresos Studio shall use to validate the XML file when you import system data with the System Description Importer.</p> <p>In previous releases, this choice was not available and the strict schema supplied by AUTOSAR was always used.</p>
ID:	TRESOSPF-30
Summary:	Limitations section cleaned up
Description:	<p>The <i>Limitations</i> section of the EB tresos Studio release notes has been cleaned up. Some long open limitations have been moved into the matching places in the EB tresos Studio user's guide or developer's guide.</p>
ID:	n/a
Summary:	Workflows view is now project-specific
Description:	<p>In previous releases of EB tresos Studio, the Workflows view had one globally saved state. This was problematic when users performed one single workflow for several projects. They did not know anymore where they interrupted their work for each project.</p> <p>Now the Workflows view is project-specific and the state information is stored in each project. When users select the open project now, the state information gets restored and is displayed in the Workflows view.</p>
ID:	TRESOSPF-42
Summary:	Parameters within optional containers are displayed now in GUI tables
Description:	<p>In previous releases of EB tresos Studio, the parameters inside an optional container could only be seen in the Generic Editor.</p> <p>Now the tables in the GUI also display these parameters as columns. If the container element is disabled, the parameters are not editable. The parameters inside optional containers also appear in the Column Selection Dialog and the Bulk Change Editor.</p>
ID:	TRESOSWP-2599
Summary:	Enhancements for Bulk Change Editor - displaying optional parameters
Description:	<p>In previous releases of EB tresos Studio, the Bulk Change was possible only for configuration parameters that were not optional, were not in a subcontainer (list in list), and were visible as column in the corresponding table.</p>

	Bulk Change now also supports enabling and disabling optional parameters. The Bulk Change of all parameters in the container including optional parameters is possible. The parameters inside optional containers are also visible in the Bulk Change Editor, however their modification is only possible if the parent container is enabled.
ID:	TRESOSPF-32

1.9. Changes in version 14.1.0

1.9.1. Fixed problems

Summary:	Dependencies between module configuration plugins are now considered
Description:	<p>In former releases of EB tresos Studio, if you created an ECU configuration project with modules, where one module definition contained a read-only parameter with a calculated default value that referred to another module definition (e.g. when using subderivatives with ECU resource properties), EB tresos Studio may not have calculated the value correctly.</p> <p>EB tresos Studio now considers any defined dependencies between the Eclipse bundles that contain the module definitions when calculating such parameter values.</p> <p>If you are a module developer, and your module refers to some other module for calculating default values of read-only parameters, please make sure to define this dependency in the MANIFEST.MF file of your module plugin (within the <code>Require-Bundle:</code> manifest header).</p>
ID:	TRESOS-3318

Summary:	API methods <code>DataModelAccess.getEntityBy[AS]Path</code> failed
Description:	<p>In former releases of EB tresos Studio, if there was ECU configuration data within an AUTOSAR package with the same SHORT-NAME as a package within the system model (tresosDB), the API methods <code>DataModelAccess.getEntityByPath</code> and <code>DataModelAccess.getEntityByASPath</code> failed to retrieve any system model entities from within that package. This is fixed now.</p>
ID:	TRESOS-3427

Summary:	It is now possible to edit SHORT-NAMEs of choices in lists
Description:	<p>In former releases of EB tresos Studio, pages in the Generic Configuration Editor via which you can edit the choice container of a choice in a list did not let you change the SHORT-NAME of the choice. This is fixed now.</p>

ID:	TRESOS-1931
Summary:	The name of top level container was editable in the Generic Configuration Editor
Description:	In former releases of EB tresos Studio, e.g. after you selected another tab in the Generic Configuration Editor, the name textfield for the toplevel container became editable although it should stay read-only. This is fixed now.
ID:	TRESOS-3462
Summary:	API class <code>CodeGeneratorContext</code> lost variable values between generation steps
Description:	In EB tresos Studio 14.0, the API class <code>dreisoft.tresos.generator.api.generator.CodeGeneratorContext</code> did not preserve custom variables between generation steps (e.g. added by <code>CodeGeneratorContext.setVariable(String, Object)</code>). This is fixed now.
ID:	TRESOS-3418
Summary:	Error if comparing XDM files in the Commit dialog
Description:	In former releases of EB tresos Studio, if you double clicked on an XDM file to see it's changes within the Commit dialog, an error message appeared and no differences were shown. This is fixed now.
ID:	TRESOS-3447
Summary:	Improved performance of Generic Configuration Editor when adding many elements to a list
Description:	In former releases of EB tresos Studio, when you added many new elements (e.g. 2.000) to a list at once while the Generic Config Editor was currently showing the table, e.g. by using a custom Guided Configuration dialog, EB tresos Studio hung up for some time (e.g. 5 minutes). This is fixed now. EB tresos Studio will now be responsive again after a few seconds in the given example.
ID:	TRESOS-3435
Summary:	The EB tresos Studio Public API Java documentation is now visible in the Eclipse Help
Description:	In former releases of EB tresos Studio, the EB tresos Studio Public API Java documentation was not visible in the the Eclipse Help, after you had set up the Eclipse IDE as described in the EB tresos Studio developer's guide. This is fixed now.
ID:	TRESOS-3424

Summary:	Guided configuration wizard IDs with underscore characters are now handled without error
Description:	<p>In former releases of EB tresos Studio, the tool displayed errors to the Error Log if you used underscore characters in the ID of the guided configuration wizard in the file plugin.xml.</p> <p>This is fixed now.</p>
ID:	TRESOS-3433

Summary:	Solved duplicate short names when upgrading AUTOSAR 3.2 system description files
Description:	<p>Previous releases of EB tresos Studio created duplicate short names for the elements <code>ResourceConsumption</code> and <code>Code</code> when you upgraded AUTOSAR 3.2 system description files which contained <code>Implementation</code> elements having the same short name as the aggregated <code>Code</code> element.</p> <p>This issue has been solved as the short name of each <code>ResourceConsumption</code> element is suffixed with <code>"_resourceConsumption"</code>.</p>
ID:	TRESOS-3448

Summary:	Conversion from XMD to EPD for AUTOSAR 3.2 files fixed
Description:	<p>In previous releases of EB tresos Studio, the writing of epd files stopped with an <code>NullPointerException</code> error message for AUTOSAR version 3.2 if the input file contained <code>ADMIN-DATA</code> elements. This is now fixed and AUTOSAR 3.2 files with the <code>ADMIN-DATA</code> tag can be written.</p>
ID:	TRESOS-3440

Summary:	Choice container tabs are displayed in the available editor window
Description:	<p>In previous releases of EB tresos Studio, the tabs displayed in the editor for choice containers were not stacked and thus made the editor window as wide as needed to display all tabs. If there were many choice options, scrollbars appeared for the editor view.</p> <p>In some cases, as e.g. in the <code>BswM</code> module, this could lead to subsequent problems, e.g. unusable drop-down boxes for references because of an extremely large editor width.</p> <p>This is now fixed and the tabs of choice containers only take up the available width. If the width is not enough for all tabs, the tabs are stacked and a button appears that displays the remaining tabs as a list.</p>
ID:	TRESOS-3444

Summary:	Copy to clipboard is now possible in the Error Log and Problems view dialogs
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Description:	The detail dialogs for Error Log and Problems view entries now display a button with the label Copy to Clipboard which enables you to copy the entry into the system clipboard.
ID:	TRESOS-3451

Summary:	Fibex support in 64 bit mode has been added
Description:	EB tresos Studio now provides the possibility to import Fibex files also in its 64 bit mode.
Workaround:	Import Fibex files in 32 bit mode.
ID:	TRESOSWP-2364

Summary:	Fibex support for conditional timings has been added
Description:	It is now possible to import multiple CYCLIC-TIMINGS and EVENT-CONTROLLED-TIMINGS which contain START/STOP/SEND-CONDITIONs and SIGNAL-TRIGGERS.
ID:	TRESOS-3348

Summary:	The Error Log view now displays all entries
Description:	<p>In previous releases of EB tresos Studio not all messages were shown in the Error Log view. If you had enabled the option Clear error log view on startup, the Error Log view had not been cleared during startup of Studio. Instead, it was cleared after the initialization of the error log, which happens when you click the Error Log view tab and make it visible. This means that if a EB tresos Studio component reported an error message, then</p> <ul style="list-style-type: none"> ▶ the error log was not marked as modified because the title was not rendered in bold font ▶ messages that had been logged before you opened the log view were not visible <p>This is now fixed and all messages are displayed in the Error Log view even if you did not open it. Along with the fix, some speed optimizations are introduced and the maximum amount of log entries displayed is increased to 100.000 entries.</p>
ID:	TRESOS-3360

1.9.2. Changes/new features

Summary:	Improved merge behavior of System Description Importer
Description:	Besides the already known (legacy) merge algorithm of the system description importer, a new improved merge algorithm is now provided. You can still decide which merge algorithm to use. For newly created system description importers, the new merge algorithm is used by default.

	<p>The new merge algorithm is based on the <code>atpSplitable</code> concept of AUTOSAR. The AUTOSAR meta model stereotypes <code><splitable></code> (ASR 3.x) / <code><atpSplitable></code> (ASR 4.x) define which elements can be split up over several physical files. The new improved merge algorithm merges the input files accordingly.</p> <p>Additionally, the new merge algorithm uses UUID matching to find e.g. renamed elements. For example, you imported a file into the existing project model and rename an element in the file afterwards. If the element still has the same UUID, the merge algorithm will find the correct entity and rename it in the project model when you import the file again using the new algorithm.</p>
ID:	TRESOSWP-2151

Summary:	Import order of input files inside the System Description Importer can now be specified
Description:	<p>In previous EB tresos Studio versions, the list of files was sorted alphabetically and could not be changed. The system description importer now provides the possibility to change the import order of the selected input files. Newly added files are always inserted at the end of the list. With the new Up and Down buttons, it is now possible to change the order of the input files. It is only possible to move exactly one file at a time.</p> <p>Through the import order, you can specify the priority of the files. When you import several files containing the same element, the import order is important to specify which file has the highest priority while it is being imported. The topmost file in the list always has the highest priority.</p>
ID:	TRESOSWP-2118

Summary:	Support to edit the <code>SHORT-NAME</code> of containers with upper multiplicity=1
Description:	You can now edit the <code>SHORT-NAME</code> of containers which have up to one occurrence (including optional containers) using the Generic Configuration Editor.
ID:	TRESOSWP-2441

Summary:	Undo/Redo buttons are now configurable for guided configuration dialogs
Description:	<p>For guided configuration dialogs by default Undo/Redo buttons are shown on top of the dialog. With the newly added optional attribute <code>undoRedo</code> of extension point <code>dreisoft.tresos.guidedconfig.api.plugin.trigger</code> it is now possible to display the dialog without Undo/Redo buttons. If the attribute is not set, then by default the Undo/Redo buttons are displayed. This attribute is only relevant for triggers with <code>wizardType="dialog"</code>.</p>
ID:	TRESOSWP-1874

Summary:	Support for <code><atpSplitable></code> stereotype during TresosDB merge
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Description:	EB tresos Studio now can use the <atpSplitable> stereotypes from the AUTOSAR meta model when merging TresosDBs. This allows to merge arbitrary system models in a generic way.
ID:	TRESOSWP-2410
Summary:	Parallel code generation
Description:	In former versions of EB tresos Studio all code generators were executed sequentially. Now code generators are launched in parallel if this is supported by the generators.
ID:	TRESOSWP-2407
Summary:	Parallelization of configuration verification
Description:	The verification of the ECU configuration values was done sequentially in former versions of EB tresos Studio. This task is parallelized now to improve performance.
ID:	TRESOSWP-2320
Summary:	The window title now shows more information
Description:	The window title now shows the product version, the workspace directory and the installation directory.
ID:	TRESOSWP-2447

1.10. Changes in version 14.0.0

1.10.1. Fixed problems

Summary:	Not able to reference sub-package nodes
Description:	In previous release, references always created a warning, if the reference-target is contained within a module containing sub-packages in case the referencable nodes are defined by using the path-prefix "/AUTOSAR/EcucDefs". This is fixed now.
ID:	TRESOS-3368
Summary:	Performance of system model description import
Description:	When importing a system model description, the performance was very slow if an ecu extract has been created. This part of the import process is 6 times faster now.
ID:	TRESOS-3292
Summary:	False warnings about inconsistent patch versions of modules

Description:	In previous versions, under certain circumstances EB tresos Studio reported false warnings like <code>CommonPublishedInformation</code> parameter <code>"ArPatchVersion"</code> default in schema XDM of module <code>"<SomeModule>"</code> does not match module registration in its <code>plugin.xml</code> . Fixed value in schema. " This is now fixed and such warnings are not reported falsely any more.
ID:	TRESOS-3022

Summary:	Import of DBC files with messages containing signals and/or signal groups with equal names
Description:	In previous versions of EB tresos Studio, the DBC Importer issued an error message if signals and/or signal groups with equal names were encountered in one and the same CAN message. Such name conflicts are now resolved by adding suffixes to the signal and signal group names.
ID:	TRESOS-3376

Summary:	Import of Fibex files containing references to custom schema files
Description:	In previous versions of EB tresos Studio, the Fibex importer reported a parser error when Fibex files, which contained references to custom sub schema files, were imported. When you turn off the option Validate against XML schema , you can import such files now.
ID:	TRESOSWP-2337, TRESOS-3199

Summary:	Incorrect display of errors and warnings in Problems view when loading several projects at once is fixed now
Description:	In previous versions of EB tresos Studio, the Problems view did not show errors and warnings correctly when you loaded several projects at once. All errors and warnings were shown, but accumulated in the same project node. This issue is fixed now.
ID:	TRESOS-3310, TRESOS-3354

Summary:	EB tresos Studio now reports warnings if large integral values cannot be imported from ARXML files without a loss of precision
Description:	<p>In previous releases of EB tresos Studio, when you imported AUTOSAR XML files which contained overly large numbers (e.g. of AUTOSAR primitive type <i>Numerical</i>), EB tresos Studio did not inform you about a loss of precision. This loss of precision occurred when you transformed the string value into the internal IEEE-754-1985 double-precision format.</p> <p>Now you will receive a warning message like the following in the case of the loss of precision:</p> <p>The value <code>"9223372036854775806"</code> of the attribute <code>MAX</code> can not exactly be represented in the internal format and will be rounded to <code>"9.223372036854776E18"</code>.</p>

ID:	TRESOS-3369, TRESOS-3306
Summary:	Auto-detection of AUTOSAR version failed for UTF-16 or UTF-32 encoded files
Description:	Previous versions of EB tresos Studio sometimes failed to auto-detect the AUTOSAR version of unicode ECU configuration files and system description files. This problem occurred for AUTOSAR files which used the encoding UTF-16 or UTF-32 containing a <i>byte order mark (BOM)</i> . This problem has been resolved.
ID:	TRESOS-3356
Summary:	Create ECU extract dialog failed to create the expected ECU extract
Description:	In previous releases of EB tresos Studio, you could not use the Create ECU extract dialog to create the ECU extract for the system model, when there was more than one system imported which had ECU instances with equal SHORT-NAMES. This is fixed now.
ID:	TRESOS-3331
Summary:	No configuration XDM file after re-adding a module configuration using the project Properties dialog
Description:	In previous releases of EB tresos Studio there was a problem when you used the Modules page of the project Properties dialog. If you removed an existing module configuration together with its XDM file and re-added it again without applying the changes in between, the XDM file did not exist afterwards. This problem only appeared when you had opened the page Configuration Project of the project Properties dialog first. This is fixed now.
ID:	TRESOS-3320
Summary:	Subpackages support did not work in legacy generate mode
Description:	In previous releases of EB tresos Studio, an error was reported when you tried to run code generation for a module with subpackages. The error indicated that the MODULE-DEFINITION could not be found. This is fixed now.
ID:	TRESOS-3311
Summary:	Foreign references are now correctly converted
Description:	<p>In previous releases of EB tresos Studio, if you derived a VSMD from a StMD with use of the <code>legacy vsmd</code> command from the command line, foreign references were not converted correctly. Thus these foreign references may have lead to wrong warning messages in the problems view such as like <i>The node "... may not refer to the node "...</i>. Additionally, the user could not choose the reference from a list of existing targets because the references drop box stayed empty. This is fixed now.</p> <p>If you are a module developer and your module uses foreign references, please convert the StMD again and merge the differences into your VSMD module schema XDM file.</p>

ID:	TRESOS-3215
Summary:	EB tresos Studio ignored the <code>outputDir</code> option for <code>ng.extgen</code> generators
Description:	In previous releases EB tresos Studio ignored the <code>outputDir</code> option for code generators that used the <code>ng.extgen</code> Ant task of the NG Generator API. This regards the Java API method <code>dreisoft.tresos.launcher2.api.project.Project.generate(String, Map<GenerateOption, String>, APIOperationStatus)</code> as well as the command line option <code>-o <Output-Path></code> . This bug is fixed now.
ID:	TRESOS-3295
Summary:	Fixed hang up during start
Description:	In previous releases EB tresos Studio sometimes did not start and hung up while showing the splash screen without showing any further progress. This is fixed now.
ID:	TRESOS-3143
Summary:	Fixed performance issue with progress dialog
Description:	When using EB tresos Studio under Windows 7, performance issues occurred, when EB tresos Studio showed up progress dialogs. Those are fixed now.
ID:	TRESOS-3187
Summary:	Progress dialogs open with some delay to avoid flickering in the GUI
Description:	For long running actions, the progress dialog is now displayed after some delay. This reduces flickering in the GUI.
ID:	TRESOS-2626
Summary:	Instance references are now correctly converted
Description:	<p>In previous releases of EB tresos Studio, if you derived a VSMD from a StMD using the <code>legacy vsmd</code> command from the command line, instance references were not converted correctly. Thus these instance references may have lead to wrong warning messages in the problems view such as <i>The node "... " may not refer to the node "... "</i>. Additionally, the user could not choose the reference from a list of existing targets because the references drop box stayed empty. This is fixed now.</p> <p>If you are a module developer and your module uses instance references, please convert the StMD again and merge the differences into your VSMD module schema XDM file.</p>
ID:	TRESOS-3232
Summary:	Service component generation in Rte Editor no longer fails if a project with AUTOSAR version <code>mixed</code> is used

Description:	In previous releases of EB tresos Studio, if you used a project with AUTOSAR version <i>mixed</i> and AUTOSAR 3.x modules, the service component generation in the Rte Editor failed with an error message. This is fixed now.
ID:	TRESOS-3175

Summary:	ECU-local system descriptions are handled correctly
Description:	In previous releases of EB tresos Studio, ECU-local system descriptions (<i>system extracts</i>) were not handled correctly in AUTOSAR 4.0 projects. All delegation connector chains leading to the outside of the top level composition were ignored. This problem is fixed now.
ID:	TRESOS-3137

Summary:	Invalid <code>SHORT-NAME</code> input now leads to an error marker
Description:	<p>In previous releases of EB tresos Studio, when you set the <code>SHORT-NAME</code> of a node in the Generic Configuration Editor to some invalid value, the change was ignored and EB tresos Studio logged an error in the Error Log view. An invalid value is for example the use of a trailing blank character.</p> <p>Now EB tresos Studio shows the invalid name with an error marker instead and reports the invalid <code>SHORT-NAME</code> in the Problems View.</p>
ID:	TRESOS-3150

Summary:	Fixed Sidebar view when displaying several triggers with the same path inside the same category
Description:	In previous releases of EB tresos Studio, there has been a problem if several triggers have been registered with the same path inside the same category of the Sidebar view. In this case, if one of these triggers was not visible due to the visibility restriction in the <code>plugin.xml</code> , all other triggers with the same path were invisible, too. This behavior is fixed now.
ID:	TRESOS-3129

Summary:	No rule violation 6051 is reported incorrectly any more
Description:	In previous releases of EB tresos Studio, if you implemented a VSMD which only supports one configuration variant, the <code>vsmdcheck</code> command incorrectly reported the VSMD <i>rule violation 6051</i> for the node <code>IMPLEMENTATION_CONFIG_VARIANT</code> . This problem is fixed now.
ID:	TRESOS-3111

Summary:	Fixed exception in system model upgrade when opaque literals are processed
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Description:	Previous releases of EB tresos Studio failed to upgrade AUTOSAR 3.2 system description files containing opaque literals to AUTOSAR 4.0 and issued an error message as follows: "cannot DETACH database within transaction". The processing of opaque literals has been fixed.
ID:	TRESOS-3322

Summary:	Fibex Importer now does not write ARLimits in case of an overflow
Description:	In previous releases of EB tresos Studio, the value of ARLimits created for LOWER/UPPER-LIMITs of PHYS-CONSTR was wrong if the conversion to the coded value resulted in a value exceeding the largest valid int64 value. In case of such an overflow no ARLimit is now created at all.
ID:	TRESOS-3345

Summary:	The Results view now shows removed nodes
Description:	When a guided config wizard removes <code>DCtxt</code> nodes, they are now shown in the Results view.
Workaround:	
ID:	TRESOS-3267, TRESOS-2456

Summary:	Existing attributes of parameters are lost during ECU configuration import
Description:	In previous releases of EB tresos Studio, under some circumstances, existing attributes of parameters were lost when importing the ECU configuration via DBC Importer, LDF Importer, FIBEX Importer, System Description Importer or tresosDB Importer. Now the problem is fixed and the attributes of the existing and imported configuration are merged correctly.
ID:	TRESOS-3343, TRESOS-3363

1.10.2. Changes/new features

Summary:	Performance optimizations
Description:	Several performance optimizations have been done, for example when accessing the internal datamodel via XPath. This affects a lot of operations, e.g. code generation, epc file export and verifying the configuration values. An overall performance improvement of 13% has been measured using internal tests.
ID:	TRESOSWP-2265

Summary:	64 bit support
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Description:	It is now possible to run EB tresos Studio as a 64 bit application by simply using <code>tresos_gui_64.exe</code> for gui mode or <code>tresos_cmd_64.bat</code> for command line mode. This is especially useful for huge projects where the maximum usable memory of a 32 bit application is restricted and therefore might not run properly.
ID:	TRESOSWP-2356

Summary:	Specific menu items for generator modes
Description:	EB tresos Studio is now able to show the menu items for specific generator modes which use translatable labels and specific icons, instead of just showing the symbolic name of the generator mode. For further details refer to the description of the new <code>modeMenuItem</code> element of the <code>dreisoft.tresos.generator.api.plugin.generator</code> extension point.
ID:	TRESOSWP-2319

Summary:	Eclipse platform updated to version 3.8
Description:	The platform on which EB tresos Studio is developed has changed with this release. EB tresos Studio is now based on the Eclipse 3.8.0 platform.
ID:	TRESOSWP-2225

Summary:	Error Log view now supports Ctrl + C
Description:	In EB tresos Studio it is possible to copy the selected Error Log entry to the clipboard via the context menu Copy . Now it is also possible to use keyboard shortcut Ctrl + C .
ID:	TRESOSWP-543

Summary:	New dialog when re-adding a module configuration
Description:	When you delete an existing module configuration together with its configuration file, and re-add the same module configuration without applying the change in between, EB tresos Studio will now prompt you with a dialog. The dialog will ask you whether you want to re-use the still existing file or not and sets the Load existing file option accordingly. The dialog contains an option Remember my decision to make your answer the default behavior so the dialog will not appear again. You can adjust the behavior on the Configuration page in the Preferences dialog of EB tresos Studio.
ID:	TRESOSWP-2303

Summary:	Optimized runtime and memory footprint of system model
Description:	In previous releases of EB tresos Studio, all system model classes were loaded immediately when you opened the first configuration project or when EB tresos Studio automatically re-opened projects during startup. Now EB tresos Studio lazily loads those classes as required. This significantly reduces the time for opening the first project, as well as the memory footprint.

ID:	TRESOSWP-2287
Summary:	Loading of module configurations is now done in parallel
Description:	If you load a project, the loading of the module configurations is now done in parallel in multiple threads. This enables the system to use all available cores of the computer and reduces the time to load a project considerably.
ID:	TRESOSWP-2264
Summary:	Removed confirmation dialog when canceling a wizard dialog
Description:	In previous releases of EB tresos Studio, a confirmation dialog appeared when you clicked the Cancel button inside a guided configuration dialog. The confirmation dialog asked you if you really wanted to cancel or return to the dialog again. Since the wizard dialog will always be saved automatically, this confirmation dialog is not necessary and was now removed.
ID:	TRESOSWP-2179
Summary:	Reference combo boxes now use the available width in the Generic Configuration Editor
Description:	In previous releases of EB tresos Studio, reference combo boxes had a fixed width which often made it hard to identify the values, as the node paths usually are too long to fit into. Now reference combo boxes use the available width and resize when you widen the editor within the workbench.
ID:	TRESOS-3141
Summary:	Project builder for generating National Language Support (NLS) and Operation Status (OS) Java source and property files
Description:	An automatic project builder replaces the former Generate NLS menu item and toolbar button (part of the EB tresos Studio Eclipse tooling). For further details, refer to the EB tresos Studio developer's guide, chapter <i>The NLS/OS builder</i> .
ID:	TRESOSWP-2163
Summary:	Hyperlink support in the details dialog of the Error Log view.
Description:	It is now possible to follow links in the details dialog of the Error Log view to get directly to the node in the Configuration Editor.
ID:	TRESOSWP-2023
Summary:	Hyperlink support in the details dialog of the Problems view.
Description:	It is now possible to follow links in the details dialog of the Problems view to get directly to the node in the Configuration Editor.

ID:	TRESOSWP-2023
Summary:	Improved processing of <code>UnqueuedReceiverComSpec.invalidationPolicy</code> in System Model Upgrade
Description:	In previous versions of EB tresos Studio the system model upgrade generated AUTOSAR 4.0 models that could not be processed by the RTE if the AUTOSAR 3.x source model contained <code>UnqueuedReceiverComSpec</code> elements that yielded different <code>invalidationPolicy</code> values, but referred to the same <code>DataElementPrototype</code> . An extension was added so that in such cases the <code>invalidationPolicy</code> can now be retrieved from the <code>UnqueuedReceiverComSpec</code> elements in the upgraded AUTOSAR 4.0 model. In all other cases, the <code>invalidationPolicy</code> is retrieved from the common <code>Interface</code> element.
ID:	TRESOSWP-2334

1.11. Changes in version 13.1.0

1.11.1. Fixed problems

Summary:	The System Description Exporter no longer merges multiple instances of clusters and controllers
Description:	For AUTOSAR 4.x, the System Description Exporter merged the following elements to one element each, and thus did not export their SHORT-NAME: <code>CanCluster</code> , <code>CanCommunicationController</code> , <code>FlexRayCluster</code> , <code>FlexRayCommunicationController</code> , <code>LinCluster</code> , <code>LinMaster</code> , <code>LinSlave</code> , <code>TtcanCluster</code> , <code>TtcanCommunicationController</code> , <code>EthernetCluster</code> and <code>EthernetCommunicationController</code> . This is fixed now.
ID:	TRESOS-3211

Summary:	Commandline call to <code>legacy make contract</code> reported an unknown error
Description:	If you called <code>legacy make contract</code> on the commandline, under certain circumstances the following error occurred in previous releases of EB tresos Studio: "An unknown error occurred: Unknown reference type <code>_package</code> " This is fixed now.
ID:	TRESOS-3170

Summary:	The rule violation 6051 is now reported correctly
Description:	If you implement a VsMD which only supports one configuration variant, the <code>vsmdcheck</code> command now correctly reports the VSMD <i>rule violation 6051</i> for the node <code>IMPLEMENTATION_CONFIG_VARIANT</code> .
ID:	TRESOS-3111

Summary:	Saving a second time in the Compare Editor for loaded configuration XDM files
Description:	When you tried to save an XDM file that you edited within the Compare Editor for XDM files for a second time, and the XDM file contained a module configuration of a loaded project, a "no data available" error message was shown, and your changes were not saved. This bug is fixed now.
ID:	TRESOS-3230

Summary:	Service component generation in Rte editor no longer fails if a project with AUTOSAR version <code>mixed</code> is used
Description:	In previous releases of EB tresos Studio, the service component generation in the Rte Editor failed with an error message if you used a project with AUTOSAR version <code>mixed</code> and AUTOSAR 3.x modules. This is fixed now.
ID:	TRESOS-3175

Summary:	System Description Importer no longer removes existing <code>SwcToEcuMappings</code> and <code>RootSwCompositionPrototypes</code>
Description:	When importing system description files into AUTOSAR 3.2 or higher system models, EB tresos Studio falsely removed existing <code>SwcToEcuMappings</code> and <code>RootSwCompositionPrototypes</code> if you enabled certain options. This bug is fixed now.
ID:	TRESOS-3213

Summary:	When reading or writing an AUTOSAR 3.2 parameter definition file containing a parameter with the config class <code>PUBLISHED-INFORMATION</code>, EB tresos Studio reported an error with code 1649
Description:	When you tried to load an AUTOSAR 3.2 parameter definition file via commandline or export such e file, EB tresos Studio falsely reported the error (1649) <code>Autosar 2.1 features are only allowed for content type asc:2.1: PUBLISHED-INFORMATION</code> . This bug is fixed now.

ID:	TRESOS-3233
Summary:	Commandline now handles Autosar 3.2 System Description correctly as input files for legacy commands.
Description:	<p>Now the EB tresos Studio commandline does not show an error anymore when using Autosar 3.2 System Description files as input for</p> <ul style="list-style-type: none"> ▶ legacy make ▶ legacy generate/verify ▶ legacy tree ▶ legacy vsmd
ID:	TRESOS-3197
Summary:	AUTOSAR 3.x system description files are verified immediately during import
Description:	<p>From EB tresos Studio 12.0 onwards, AUTOSAR 3.x system description files have not been verified immediately during import. Therefore, the internal stored data might have been incomplete if the imported files would not contain required elements. As a result, editors and generators that rely on this data might not work correctly. For example, the behavior of the Rte Contract Phase Generator was undefined in this case.</p> <p>This problem has been fixed.</p>
ID:	TRESOS-3178
Summary:	ECU-local system descriptions are now handled correctly
Description:	<p>In previous releases of EB tresos Studio, ECU-local system descriptions (also known as <i>system extracts</i>) were not handled correctly in AUTOSAR 4.0 projects. All delegation connector chains leading to the outside of the top level composition were ignored. This problem is fixed now.</p>
ID:	TRESOS-3137
Summary:	The performance of verifying the ECU configuration has been improved
Description:	<p>Due to an error in its caching mechanism, the verification of the ECU configuration wasted a lot of memory and took recognizable more time than actually needed. Since this effect grew exponentially with the size of the project, this problem especially came into account when e.g. huge system description files have been imported. This problem has been fixed.</p>
ID:	TRESOS-3206
Summary:	The DBC Importer now supports variable value tables

Description:	In previous releases, the DBC Importer issued an error when parsing DBC files which contained environment variable value tables. The DBC Importer is now able to parse such files without issuing an error.
ID:	TRESOSWP-2176

Summary:	The Fibex Importer creates dedicated <code>ISignal</code>s for each PDU
Description:	In previous releases, the Fibex Importer for Fibex 3.x files used to create for each signal in the Fibex file exactly one <code>ISignal</code> object in the system model. This <code>ISignal</code> object in the system model then used to be referenced by all <code>ISignalPDUs</code> that contained the signal. As required by AUTOSAR, the Fibex Importer now creates one dedicated <code>ISignal</code> object for each <code>ISignalPDU</code> that contains the corresponding signal.
ID:	TRESOS-3156

Summary:	<code>DataTypeMappingSets</code> are now set up correctly during the AUTOSAR 3.x to 4.0 model upgrade
Description:	Prior to this release, <code>DataTypeMappingSets</code> were set up incorrectly during the AUTOSAR 3.x to 4.0 model upgrade: Not all required <code>DataTypeMappingSet</code> elements were actually created. Moreover, not all required references from <code>SwcInternalBehavior</code> elements to these <code>DataTypeMappingSets</code> were created. <code>DataTypeMappingSets</code> and the references from <code>SwcInternalBehavior</code> elements are now set up correctly.
ID:	TRESOS-3200

Summary:	Referrable elements in AUTOSAR 4.0 models are handled correctly now
Description:	In former versions of EB tresos Studio, entities that are derived from <code>Referrable</code> but not from <code>Identifiable</code> were not handled correctly. For those entities, the <code>shortName</code> attribute was not set by the System Description Importer and they could not be referenced using their AUTOSAR path. This problem is fixed now.
ID:	TRESOS-3158

Summary:	Fixed DBC importer handling of enumeration attributes
Description:	<p>In previous releases the DBC importer processed enumeration attributes, i.e. attributes restricting their values to one within a predefined value list, in a special way:</p> <p>When the DBC importer encountered ("") as an enumeration attribute value, it issued a warning and replaced this value by the first value contained in the attribute's predefined value list.</p> <p>This special handling of "" has been removed. When the DBC importer encounters an enumeration attribute value that is contained in the enumeration's predefined value list, it imports this value. When the attribute value is not contained, the DBC importer reports a warning and does not import the value.</p>

ID:	TRESOS-3173
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Summary:	Editors and dialogs do not access wrong data anymore
Description:	<p>In former versions of EB tresos Studio, wizards which did not use transactions for accessing the data model could read the wrong values if they had written data to the model before. This is now fixed.</p> <p>Please note: the effect caused depended on the implementation of each wizard. The wizards delivered as part of the EB tresos Autocore were not affected.</p>
ID:	TRESOS-3192

Summary:	Optional choice containers are no longer disabled after import
Description:	<p>In former versions of EB tresos Studio, if you imported an AUTOSAR 4.0.x ECU configuration file choice containers stayed disabled. This happened if the module contained an optional choice which is disabled by default. The inner values, however had been imported correctly.</p> <p>This is now fixed, and the choice container is enabled as expected.</p>
ID:	TRESOS-3236

Summary:	Existing service port mappings stay valid when using the System Description Importer
Description:	<p>In earlier versions of EB tresos Studio, existing Service Port mappings were invalidated under some conditions when a System Description Importer was run. The problem occurred, if the importer option Enable system model import was selected and the option Add software component ECU extract was not set to Do no import software components and mappings.</p> <p>This issue has been resolved, existing Service Port mappings are preserved during import.</p>
ID:	TRESOS-3165

1.11.2. Changes/new features

Summary:	EB tresos Studio supports the Ethernet and TCP/IP parts of AUTOSAR 4.1.0
Description:	EB tresos Studio provides support for the Ethernet and TCP/IP relevant parts of the system model as of AUTOSAR 4.1.0 (snapshot from 2012-08-09, XSD document version 4.-3.0, revision 0). You may now import and export AUTOSAR 4.1.0 system description files.

ID:	TRESOSWP-2219
Summary:	EB tresos Studio provides support for Measurement and Calibration data
Description:	EB tresos Studio now supports the AUTOSAR model parts required for Measurement and Calibration as defined in the AUTOSAR release 4.0.3. You can now import and export AUTOSAR system description files containing those entities.
ID:	TRESOSWP-2204
Summary:	EcuExtract is now created with a FlatMap
Description:	The EcuExtractCreator now additionally creates a FlatMap where all corresponding data prototypes, port prototypes and software component prototypes from the EcuExtract and the hierarchical system model are mapped together.
ID:	TRESOSWP-2214
Summary:	The system model upgrade from AUTOSAR 3.1/3.2 to 4.0 now stores platform data types in different packages
Description:	According to http://www.autosar.org/bugzilla/show_bug.cgi?id=52928#c11 , the AUTOSAR 3.1/3.2 to 4.0 system model upgrade stores the AUTOSAR 4.0 platform data types and their related entities in /AUTOSAR_Platform/ImplementationDataTypes, /AUTOSAR_Platform/BaseTypes and /AUTOSAR_Platform/DataConstrs. In previous releases, these entities were stored in /AUTOSAR/Platform/ImplementationDataTypes, /AUTOSAR/Platform/BaseTypes and /AUTOSAR/Platform/DataConstrs.
ID:	TRESOSWP-2153
Summary:	Sub-packages are now allowed for module definitions
Description:	In previous versions it has not been possible to define modules within any sub-package structure. This is required by AUTOSAR, when a vendor defines multiple complex device driver modules. You may now define modules within any sub-package structure. For backwards-compatibility reasons, the usage of sub-packages above module configurations is still not allowed.
ID:	TRESOSWP-2115
Summary:	System description importer can now import files with different meta model versions
Description:	Now it is possible to import files with different meta model versions. A new feature has been introduced to autodetect the meta model version of each file. For further information please visit the new and noteworthy document .
ID:	TRESOSWP-2207

Summary:	EB tresos Studio now supports AUTOSAR 3.2.2
Description:	<p>EB tresos Studio now supports AUTOSAR 3.2.2. This includes:</p> <ul style="list-style-type: none"> ▶ You may now import of AUTOSAR 3.2.2 system descriptions as ARXML files (new content type <code>sysd:3.2.2</code>). ▶ You may now import and export AUTOSAR 3.2.2 ECU configuration data from/into ARXML files (content type <code>asc:3.2</code>). ▶ The AUTOSAR 3.2.2 standard module definitions are installed together with EB tresos Studio within the sub directory <code>autosar\3.2</code>.
ID:	TRESOSWP-2159

1.12. Changes in version 13.0.0

1.12.1. Fixed problems

Summary:	The TresosDB Importer does not cause GUI freezes anymore
Description:	When you had created a TresosDB Importer in EB tresos Studio version 12.1, the GUI became unresponsive (i.e. frozen for some 10 seconds) after you had set the name of the file to import . This problem is fixed now.
ID:	TRESOS-3121

Summary:	The Generic Configuration Editor now always shows the menu item Go to referenced node
Description:	In EB tresos Studio version 12.1, the Generic Configuration Editor did not provide the menu item Go to referenced node when the module had used a reference expression of the path-type <code>XPathDataOfSchema</code> . This problem is fixed now.
ID:	TRESOS-3119

Summary:	AUTOSAR 3.1 to 4.0 system model upgrade now correctly upgrades system models with transport layer configuration references
Description:	In EB tresos Studio release 12.1, when you had upgraded an imported system model from AUTOSAR 3.1 to 4.0 that contained two or more communication clusters containing transport layer data, this resulted in two or more transport layer configuration elements in the 4.0 system model. The reference from the system element to these configuration elements, however, was set incorrectly. This defect has been resolved.

ID:	TRESOS-3090
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Summary:	AUTOSAR 3.1 to 4.0 system model upgrade now correctly upgrades initial values of inter-runnable variables
Description:	In EB tresos Studio release 12.1, when you had upgraded an imported system model from AUTOSAR 3.1 to 4.0 that contained inter-runnable variables owning initial values, those values were not converted correctly. This defect has been resolved.
ID:	TRESOS-3101

Summary:	The DBC Importer now processes DAD files
Description:	Prior to fixing this problem, the DBC Importer had ignored DAD files that had been added to an importer configuration. This defect has been removed.
ID:	TRESOS-3095

Summary:	The tresosDB-API does not allow to reference from a persistent to a non-persistent entity anymore
Description:	The tresosDB-API allowed to set a reference from a persistent entity to a non-persistent entity. When saving the persistent entity, the reference pointing to the non-persistent entity was then silently ignored. This problem has been fixed: The API now throws an exception.
ID:	TRESOS-3092

Summary:	Mixing the configuration variants <code>VariantPostBuild</code> and <code>VariantPostBuild-Loadable</code> within one module definition does not cause a VSMD check failure anymore
Description:	The vsmd check falsely reported a violation of the rule <code>[ecuc_sws_6051]</code> , when you had mixed the configuration variant <code>VariantPostBuild</code> and <code>VariantPostBuild-Loadable</code> within one module definition. This problem has been fixed.
ID:	TRESOS-3094

Summary:	Reuse of file locations in the <code>RCtxt</code> API do not lead to unexpected results anymore
Description:	Prior to fixing this problem, when an <code>RCtxt</code> object had been created several times for the same file location, EB tresos Studio would not dispose the resource. In other words, new <code>RCtxt</code> objects were not empty, when created for a location pointing to a file path that had been used before. This problem has been fixed.
ID:	TRESOS-2929

Summary:	The <code>RCtxt</code> API now considers the correct content type
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Description:	Prior to fixing this problem, when a resource with the same file name had been created several times in a row with a different content type, EB tresos Studio would not set the new content type correctly, but would export the file as XDM instead. This problem has been fixed.
ID:	TRESOS-2930

Summary:	The options <code>-u</code> and <code>-a</code> do not swallowed the next item on the EB tresos Studio command line anymore
Description:	The EB tresos Studio command line offers the options <code>-u</code> (“Use Unix line endings”) and <code>-a</code> (“Verify all modules, also those that are not generated”) to be used with several commands. Those options are toggle options, i.e. they require no further parameters. In previous EB tresos Studio versions, the option <code>-u</code> when used with the commands <code>legacy convert</code> or <code>legacy vsmd</code> , and the option <code>-a</code> when used with the command <code>generate</code> had been parsed as parameter option. Therefore, the next command line parameter beneath these option was swallowed. This problem has been fixed.
ID:	TRESOS-2846

Summary:	The performance problems when saving projects and generating code has been fixed
Description:	In the previous version of EB tresos Studio, saving the project or generating code took too long whenever the project contained many files. This problem is fixed now.
ID:	TRESOS-3075

Summary:	Fibex 3.x Importer now creates correct E2E entities, if E2E PDUs are referenced by PDU-triggerings of different channels
Description:	In previous version of EB tresos Studio, the Fibex 3.x Importer created faulty E2E entities when E2E PDUs had been referenced by <code>PDU-TRIGGERINGS</code> of different <code>CHANNELS</code> . This resulted in E2E signal groups that were not received as defined in the Fibex file. This problem is fixed now.
ID:	TRESOS-3044

Summary:	AUTOSAR 3.1 to 4.0 system model upgrade converts <code>ParameterRequireComSpec</code> and <code>ParameterProvideComSpec</code> elements correctly now
Description:	In EB tresos Studio version 12.1, when you had upgraded an imported system model from AUTOSAR 3.1 to 4.0 that contained <code>ParameterRequireComSpec</code> s or <code>ParameterProvideComSpec</code> s the model upgrader issued an error message <code>Failed to upgrade database: Error in insertion statement: Code: 0 Message: SWC2_RPortComSpec.RPortComSpec_Type may not be NULL in _File: commandfiles/swcd/20_SWCompPortsInterfacesDetails.sql....</code> This problem is fixed now.

ID:	TRESOS-3041
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Summary:	The DEST attribute in ECU configuration files now contains the correct value
Description:	In previous versions of EB tresos Studio, if you used EB tresos Studio to create AUTOSAR 4.0.2 and 4.0.3 ECU configuration files contained a wrong value for the <code>DEST</code> attribute when these ECU configuration files contained a foreign reference, e.g. <code>ECUC-REFERENCE-VALUE</code> . The value of the <code>DEST</code> attribute in the <code>VALUE-REF</code> XML tag would then be always <code>IDENTIFIABLE</code> . This problem is fixed now.
ID:	TRESOS-3051

Summary:	ECU configuration files are not written with mixed line endings anymore
Description:	In previous version of EB tresos Studio, ECU configuration files could have been written with a mix of Unix line endings (<code>\n</code>) and Windows line endings (<code>\r\n</code>) when the configuration option Use Unix line endings for configuration data files had been disabled. This problem is fixed now.
ID:	TRESOS-2837

Summary:	The label of the continuous verification setting has been improved
Description:	<p>In previous versions of EB tresos Studio, the preference setting for <i>continuous</i> verification was labeled Enable verifier. This label was ambiguous as it could have been misunderstood as an option for disabling the verification as a whole. This misunderstanding was aggravated by the fact, that the setting Verify readonly nodes could not be changed, when the Enable verifier setting was disabled.</p> <p>Now the continuous verification setting is labeled Enable continuous verification, and you can always change the Verify readonly nodes setting.</p>
ID:	TRESOS-2588

Summary:	The misleading preference setting Automatically close projects that cannot be loaded has been removed
Description:	<p>In previous versions of EB tresos Studio, when the user had tried to open a project with a corrupt <code>.prefs/preferences.xdm</code> file, the project would either be left open or closed afterwards, depending on the preference setting Automatically close projects that cannot be loaded. This preference was misleading as it could also be understood in a way that projects with invalid module configuration files would be closed when they could not have been loaded.</p> <p>The preference is now removed and the project will be in an open state, in which the users have a chance to manually fix the corrupt <code>.prefs/preferences.xdm</code> file, and then close and reopen the project themselves.</p>

ID:	TRESOS-3001
Summary:	Loading and reloading a project with an error in the configuration file now both prompt a confirmation dialog
Description:	<p>In previous versions, EB tresos Studio showed a different behavior for loading or reloading a project with an error in a configuration file. During the reload of a project, EB tresos Studio always removed the faulty module, while loading such a project opened a confirmation dialog.</p> <p>The behavior is now unified, EB tresos Studio now also prompts the user with a confirmation dialog when reloading a faulty module configuration.</p>
ID:	TRESOS-3012
Summary:	Loading a project does not result in unsaved module configurations anymore
Description:	<p>In previous versions of EB tresos Studio, when you had loaded a newly created project, some module configurations might have falsely shown unsaved changes.</p> <p>This problem has been fixed.</p>
ID:	TRESOS-3036
Summary:	The vendor-specific module definition (VSMD) checker no longer throws a null pointer exception for the content type asc : 4 . 0 . 3
Description:	<p>When using the vendor-specific module definition (VSMD) checker of EB tresos Studio version 12.1.0, a null pointer exception could have been thrown. This error only occurred, when you had used the rules for AUTOSAR version 4.0.3 and the vendor-specific module definition (VSMD) had been missing a mandatory element. This problem has been fixed, the appropriate rule violation is reported now.</p>
ID:	TRESOS-3039
Summary:	The default selection of system models has been changed for the AUTOSAR release version mixed in the New Project Wizard
Description:	<p>In previous versions of EB tresos Studio, EB tresos Studio had reported warning or error messages about not existing AUTOSAR elements even though the elements did exist in the input data. These error messages could occur in all parts of EB tresos Studio, and even in other EB tresos products based on EB tresos Studio, from which the system model was accessed.</p> <p>The error message occurred when you had selected Autosar Release Version: mixed in the New Project Wizard. EB tresos Studio would then select both system models for AUTOSAR version 3.x and AUTOSAR version 4.x by default. If you had then imported DBC, Fibex or AUTOSAR system description files, the content of the files might have ended up in the wrong system model instance. Products that use the EB tresos Studio APIs to ac-</p>

	<p>cess the system model might not have been able to deal with both instances. In this case, the error message was shown.</p> <p>To solve this problem, the default selection for projects with Autosar Release Version: mixed has been changed. If you now choose Autosar Release Version: mixed, only the AUTOSAR 4.x system model is chosen by default. However, you may change this default setting so that other configuration files are selected, too. Additionally, warnings are now displayed when you import different system model versions that may lead to problems with third-party products.</p>
ID:	TRESOS-3060

Summary:	You may now import files with a relative path with the Autosar Importer
Description:	Prior to fixing this problem, when you had run an Autosar Importer with a relative path to the imported file, an error message would occur informing that relative paths cannot be resolved. This problem has been fixed: Now the relative path is converted into an absolute path to the working directory.
ID:	TRESOS-3053

Summary:	EB tresos Studio now validates still uncommitted user input when closing guided configuration editors
Description:	<p>Prior to fixing this problem, when you had changed values in a guided configuration editor without committing them (e.g. by pressing <code><keycab>Return</keycab></code> or by selecting another GUI widget) and you had then directly closed the guided configuration editor, the change was not validated. That way EB tresos Studio may have run the guided configuration editor on an erroneous configuration. This problem has been fixed.</p>
ID:	TRESOS-3116

1.12.2. Changes/new features

Summary:	The Fibex 3.x Importer can derive a communication controller's bus type from the connected cluster
Description:	The Fibex 3.x Importer now also imports communication controllers which do not contain any information concerning the bus type the controllers support, e.g. CAN or FlexRay. If no such information is available, the Fibex 3.x Importer derives the bus type from the <code>PROTOCOL</code> parameter of the cluster the communication controller is connected to.
ID:	TRESOSWP-2122

Summary:	EB tresos Studio now supports AUTOSAR 3.2
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Description:	<p>EB tresos Studio now supports AUTOSAR 3.2. The support for AUTOSAR revision 3.2.1 in EB tresos Studio includes:</p> <ul style="list-style-type: none"> ▶ You may now import of AUTOSAR 3.2.1 system descriptions as ARXML files (new content type <code>sysd:3.2.1</code>). ▶ You may now import and export AUTOSAR 3.2.1 ECU configuration data from/into ARXML files (new content type <code>asc:3.2</code>). ▶ EB tresos Studio now provides a new VSMD rule set named <code>asc:3.2</code> for validating vendor-specific module definitions against the AUTOSAR 3.2.1 standard. ▶ The maximum <code>SHORT-NAME</code> length for AUTOSAR 3.2 projects is restricted to 128 characters, which conforms to the AUTOSAR specification. However, for earlier AUTOSAR versions, you may still disable the length check. ▶ The AUTOSAR 3.2.1 standard module definitions are installed together with EB tresos Studio within the sub directory <code>autosar\3.2</code>.
ID:	TRESOSWP-1900
Summary:	AUTOSAR 3.1 to 4.0 system model upgrade now allows the upgrade of frames transmitted on different bus systems
Description:	<p>In EB tresos Studio release 12.1, when you had upgraded an imported system model from AUTOSAR 3.1 to 4.0 that contained one or more frames that were sent over different bus systems, e.g. CAN and FlexRay, an error message was issued indicating that an upgrade is not possible due to these frames. In EB tresos Studio 13.0, the system model upgrade has been extended to support the upgrade of AUTOSAR 3.1 system models that contain such frames.</p>
ID:	TRESOSWP-2084
Summary:	The ECU extract creation for AUTOSAR 4.0 system models now handles signal mappings
Description:	<p>The mechanism for creating the ECU extract now determines all signal mappings that are relevant for the delegation port of the ECU extract composition and adds theses signal mappings to the system of the ECU extract.</p>
ID:	TRESOSWP-1857
Summary:	The C-data-structures-generator now supports separate generation of the identifier and the initializer for the definition of variables
Description:	<p>The C-data-structures-generator now supports separate generation of the identifier and the initializer for the definition of variables. To generate just the identifier, you can use the method <code>CBackend.typedIdentifier()</code>. To generate the initializer, you can use the method <code>CBackend.initializer()</code>. For more information about these methods, refer to the Public API JavaDoc description of the class <code>CBackend</code>.</p>

ID:	TRESOSWP-2123
Summary:	EB tresos Studio now supports configuration classes
Description:	<p>EB tresos Studio now supports configuration classes. This has the following effects:</p> <ul style="list-style-type: none"> ▶ In the New Project Wizard and in the Properties for <project_name> dialog you can now change the configuration time setting of the project. ▶ The Generic Configuration Editor GUI now disables parameters of not editable configuration classes. ▶ In the VSMD checks a new EB tresos Studio-specific rule checks the attribute <code>post-BuildChangeable</code> according to [ecuc_sws_2006]. ▶ The AUTOSAR Importer and Exporter allows a limitation to specific configuration classes. ▶ The code generators take the configuration time and the configuration class of parameters into account. ▶ All API functionalities that access parameter values take the configuration time and the configuration class of parameters into account. The API functionalities can also query the configuration class and the configuration time of parameters. <p>For detailed information on the configuration class support, refer to the EB tresos Studio documentation.</p>
ID:	TRESOSWP-1899
Summary:	User documentation XPath API examples and description have been revised
Description:	The description and example of the XPath API functions have been revised. Incorrect examples have been replaced with examples that match the implementation.
ID:	TRESOSWP-2132

1.13. Changes in version 12.1.0

1.13.1. Fixed problems

Summary:	The XPath bit functions now check for allowed bit values
Description:	The XPath functions <code>bit:bitset</code> , <code>bit:bitclear</code> , and <code>bit:getbit</code> now check whether the provided bit number is in the range <code>[0, 55]</code> . If the bit number is not in this range, the functions now produce an error message.

ID:	TRESOS-3096
Summary:	Opening <code>preferences.xdm</code> project files in read-only mode is now possible
Description:	<p>In previous versions of EB tresos Studio, the attempt to open a project with <code>preferences.xdm</code> set to a <code>readonly</code> failed. In this case the project was closed again and an error was reported.</p> <p>This behavior has been changed. Now, the project opens up and the configuration can be loaded. However, an error is reported to you nonetheless, as all changes to the preferences cannot be saved.</p>
ID:	TRESOS-3002
Summary:	References pointing from the <code>EcuC</code> configuration to the system model now work correctly
Description:	<p>Prior to fixing this problem, <i>foreign references</i> - as defined by AUTOSAR - that point from the <code>EcuC</code> configuration into the system model did not work and therefore caused a warning message to open up in the Generic Configuration Editor.</p> <p>This problem has been fixed.</p>
ID:	TRESOS-2834
Summary:	Default values of memento attributes are no longer overwritten
Description:	<p>In previous releases of EB tresos Studio, when you had subclassed <code>AbstractMementoFactory</code> and had initialize attributes of mementos with default values inside the <code>getMemento</code> method and if the memento was used inside a table or tree-table, these values would have been overwritten by the column description default values.</p> <p>This problem has been fixed. The column description default values are now only used, if the memento attribute is not set.</p>
ID:	TRESOS-2963
Summary:	You can now register guided configuration triggers and push services only with the major version number of an AUTOSAR release
Description:	<p>In the previous version of EB tresos Studio, it was not possible to register guided configuration triggers or push services for one specific AUTOSAR major version number without also specifying the minor version number.</p> <p>This problem has been fixed.</p>
ID:	TRESOS-3008
Summary:	The Generic Configuration Editor is now in sync with the Outline view

Description:	In the previous version of EB tresos Studio, under certain circumstances the selected node in the Generic Configuration Editor was not in sync with the selected node in the Outline view. This problem has been fixed.
ID:	TRESOS-2923

Summary:	Generic Configuration Editor now disposes GUI handles correctly
Description:	In the previous version of EB tresos Studio, the Generic Configuration Editor did not dispose user interface handles in the Calculate button. This led to the error message <code>org.eclipse.swt.SWTError: No more handles</code> that opened up after you have worked with EB tresos Studio for some time. This problem has been fixed
ID:	TRESOS-2979

Summary:	NaN, INF and -INF are now allowed values for the MIN and MAX attribute of float parameter definitions
Description:	According to the AUTOSAR specification, the values NaN, INF and -INF are allowed values for the float parameter attributes MIN, MAX or DEFAULT. In previous EB tresos Studio releases, an error was reported when a file containing these values was loaded into EB tresos Studio. This problem has been fixed. You may now load an AUTOSAR 2.x and 3.x file containing NaN, INF and -INF as values for the parameter attributes MIN, MAX or DEFAULT into EB tresos Studio without errors.
ID:	TRESOS-2333

Summary:	Files are now generated for custom generation modes
Description:	In the previous version of EB tresos Studio, when you had started code generation for a custom generation mode such as <code>generate_swcd</code> and the Project Explorer view was currently not active, no files were generated. This is fixed now.
ID:	TRESOS-2954

Summary:	Now, the ORIGIN attribute is written correctly for ECUC-ENUMERATION-LITERAL-DEFS
Description:	In the previous version of EB tresos Studio, the ORIGIN attribute for ECUC-ENUMERATION-LITERAL-DEF was always set to the value <code>unknown</code> . Now, the correct value is written for the ORIGIN attribute.
ID:	TRESOS-2848

Summary:	Corrupt projects can now be deleted directly after creation
Description:	In the previous version of EB tresos Studio, when you had accidentally created a corrupt project e.g. by using a module with an invalid configuration schema XDM file, the project could not be deleted without restarting EB tresos Studio. This is fixed now.
ID:	TRESOS-2854

Summary:	Disabling or enabling modules from the Project Explorer view is now possible
Description:	In previous versions of EB tresos Studio, when you had disabled or enabled a module configuration using the Project Explorer context menu, this change has not been saved when you closed the project and opened it again. This problem is fixed now.
ID:	TRESOS-2997

Summary:	When you open an importer/exporter from the command line, the importer's/exporter's configuration is now validated
Description:	<p>Previous versions of EB tresos Studio did not validate the configuration of an importer or exporter that was launched from the command line with the commands tresos_cmd.bat import export <project> <importer exporter name>. This could lead to unexpected behavior of the importer/exporter.</p> <p>Now, the configuration of every importer/exporter is validated before it is launched via the command line. If an error is found, it is reported to you and the execution is aborted.</p>
ID:	TRESOS-2710

Summary:	The INFO message about system description files being read is not printed multiple times on the command line anymore
Description:	When working with AUTOSAR system description files on the command line, the INFO message that informed that the system description file is read, was printed multiple times under some circumstances. This error is fixed now.
ID:	TRESOS-2827

Summary:	Studio does not swallow command line options in legacy mode anymore
Description:	<p>Prior to fixing this problem, when you had called EB tresos Studio in command line mode, several command line options were swallowed and therefore their default was used. As one possible consequence, the given configuration files were loaded in a wrong way and therefore generation may have led to a different result than in previous EB tresos Studio releases. Affected of this problem were the commands legacy convert, legacy generate, legacy make and legacy verify if they were equipped with at least one the options overwriteAttributes, mergeAttributes, mergeConfigs, verifyReadOnly or suppress-ReadOnlyWarnings.</p>

	This problem has been fixed.
ID:	TRESOS-2998

Summary:	Calculation of default configuration parameters do not use outdated input anymore
Description:	Prior to fixing this problem, when a calculated default value had referred to another field on the same page of the Generic Configuration Editor, the last user input was ignored if you had clicked the Calculate button immediately after changing the value in the referred input field without pressing Enter . This problem has been fixed.
ID:	TRESOS-2921

Summary:	AUTOSAR ECU Configuration Exporter does not write disabled parameters anymore
Description:	Prior to fixing this problem, the AUTOSAR ECU Configuration Exporter wrote parameters of the AUTOSAR module <code>ECU Configuration</code> even if they had been disabled. This problem concerned parameters that were disabled via an XPath expression in the module at the associated parameter definition. The EPC Exporter was not affected by this problem. This problem is fixed now.
ID:	TRESOS-2940

Summary:	The ContentType <code>asc:4.0</code> has been renamed to <code>asc:4.0.2</code>
Description:	<p>The ContentType <code>asc:4.0</code> has been renamed to <code>asc:4.0.2</code>. This was necessary, because ever since the introduction of the ContentType <code>asc:4.0.3</code>, AUTOSAR did not change the namespace between these two versions but introduced incompatible changes to the meta model.</p> <p>To distinguish between version 4.0.2 and 4.0.3 in exported ARXML files, the XML attribute <code>xsi:schemaLocation</code> is used. When exporting files in the AUTOSAR format, EB tresos Studio sets the <code>xsi:schemaLocation</code> to <code>http://autosar.org/schema/r4.0 AUTOSAR_4-0-2.xsd</code> for an AUTOSAR 4.0.2 file and to <code>http://autosar.org/schema/r4.0 AUTOSAR_4-0-3.xsd</code> for an AUTOSAR 4.0.3 file.</p> <p>If you want to read an AUTOSAR file with the namespace <code>http://autosar.org/schema/r4.0</code> that does not contain one of the strings <code>4-0-2</code> or <code>4-0-3</code> in the <code>xsi:schemaLocation</code>, you have to specify the correct ContentType manually. Otherwise an error will occur.</p> <p>The EB tresos Studio command line no longer supports the ContentType <code>asc:4.0</code>. Instead you have to specify either <code>asc:4.0.2</code> or <code>asc:4.0.3</code>.</p> <p>Existing configurations of the AUTOSAR Importer and Exporter automatically switch from ContentType <code>asc:4.0</code> to <code>asc:4.0.2</code>.</p>
ID:	TRESOS-2945

Summary:	The attribute <code>ConditionalChangeNad.id</code> in the AUTOSAR 4.0.2 system template is handled correctly now
Description:	The attribute <code>ConditionalChangeNad.id</code> in the AUTOSAR 4.0.2 system template was not correctly imported in former versions of EB tresos Studio. This error is fixed now. Note that this attribute will be reset to the default value when the model is loaded if it has been imported with an earlier version of EB tresos Studio.
ID:	TRESOS-2949

Summary:	The presentation of children of added/removed container nodes in the Compare editor for XDM files has been improved
Description:	When comparing XDM files in EB tresos Studio, the Compare editor for XDM files did not properly display nodes that had been added or removed as children of some added/removed containers, especially when the container had more children that fitted into the currently visible area of the editor. This problem is fixed now.
ID:	TRESOS-2922

Summary:	The Sidebar view is now up-to-date after loading the first project
Description:	Prior to fixing this problem, when you had loaded the first project after starting EB tresos Studio, the Sidebar view only showed contents after you selected the project in the Project Explorer view once again. This problem is fixed now.
ID:	TRESOS-2675

Summary:	References to existing elements in the AUTOSAR system model are not annotated with a warning anymore
Description:	Prior to fixing this problem, references to some types of entities in the AUTOSAR system model were always annotated with a warning marker although the referenced element did exist. For those references, no targets were offered in the drop-down list box either. This problem is fixed now.
ID:	TRESOS-2935

Summary:	The attribute <code>DEST</code> does not have a wrong value anymore when converting AUTOSAR 4.0 ECUC files
Description:	Prior to fixing this problem, when you used the <code>legacy convert</code> command to convert a configurations file to the AUTOSAR 4.0 file format, the <code>DEST</code> attribute was not written correctly for reference nodes. In these cases, the static value <code>IDENTIFIABLE</code> was used instead of the correct value. This problem is fixed now
ID:	TRESOS-2914

Summary:	A parameter value whose <code>DEFAULT</code> value is calculated with an erroneous calculation formula can now be set manually
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Description:	Prior to fixing this problem, when a parameter did not have a value and its <code>DEFAULT</code> value had been calculated with a calculation formula that led to an error, the value of this parameter could not be set. In this case, you could not set the value of the parameter neither via public API nor in the GUI. This problem has been fixed.
ID:	TRESOS-2909

Summary:	Warnings do not appear anymore when loading a module with a Pre-configuration
Description:	Prior to fixing this problem, when you loaded a module with a <i>Pre-configuration</i> , two warnings appeared stating that the EDITABLE and the READONLY attribute would be removed. Now, these warnings do not appear anymore.
ID:	TRESOS-2908

Summary:	A <code>NullPointerException</code> does not occur in class <code>ModuleConfigContext</code> anymore when switching the focus back and forth in different views
Description:	Prior to fixing this problem, when you switched the focus back and forth between different views, a <code>NullPointerException</code> occurred in the class <code>ModuleConfigContext</code> . This problem has been fixed.
ID:	TRESOS-2895

Summary:	Renaming <code>SHORT-NAMES</code> of AUTOSAR 4.0 models using the public API is now possible
Description:	In EB tresos Studio release 12.0, attempts to change <code>SHORT-NAMES</code> of AUTOSAR 4.-0 data models by using the public API always resulted in the error code 3112 (<code>SHORT-NAME_CASESENSITIVE_CLASH_CANNOT_ADD</code>). This problem is fixed now.
ID:	TRESOS-2883

Summary:	The Problems View does not report errors for disabled module configurations anymore
Description:	Prior to fixing this problem, the Problems View sometimes reported errors for disabled module configurations. This problem is fixed now.
ID:	TRESOS-2897

Summary:	When importing or loading a system description 3.x file, no <code>NullPointerException</code> is thrown anymore
Description:	Prior to fixing this problem, a <code>NullPointerException</code> might have been thrown during import or when loading such a file. This depended on the content of the AUTOSAR 3.x system description file. This problem has been fixed.
ID:	TRESOS-2847

Summary:	In the Module Configuration dialog, no false confirmation dialog appears anymore
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Description:	In the Module Configurations dialog, when you disable a mandatory module configuration or when you disable the code generation for a mandatory module configuration, a confirmation dialog is shown. Prior to fixing this problem, this confirmation dialog was also shown if you had not selected a mandatory module configuration selected, or if the selected mandatory module configuration had already been disabled. This problem is fixed now.
ID:	TRESOS-2879

Summary:	The AUTOSAR 3.1 to AUTOSAR 4.0 system model upgrade has been improved
Description:	<p>The AUTOSAR 4.0 parameters <code>NmEcu.nmComControlEnabled</code>, <code>NmEcu.nmMultipleChannelsEnabled</code>, <code>NmEcu.nodeDetectionEnabled</code>, <code>CanNmCluster.nmRepeatMessageTime</code>, <code>NmPdu.nmVoteInformation</code>, and <code>NmPdu.nmDataInformation</code> are now converted correctly from their counterparts in the AUTOSAR 3.1 system model.</p> <p>The AUTOSAR 4.0 entities <code>FlexrayNmClusterCoupling</code> and <code>CanNmClusterCoupling</code> are now also created for clusters that are not connected to other clusters. Thus, the parameters <code>FlexrayNmClusterCoupling.nmControlBitVectorEnabled</code>, <code>FlexrayNmClusterCoupling.nmDataDisabled</code>, <code>FlexrayNmClusterCoupling.nmScheduleVariant</code>, <code>CanNmClusterCoupling.nmBusloadReductionEnabled</code>, and <code>nmImmediateRestartEnabled</code> become available for these clusters.</p> <p>The parameters <code>CanNmCluster.nmCbvPosition</code>, and <code>CanNmCluster.nmNidPosition</code> are now converted correctly from bit offset in AUTOSAR 3.1 to byte offset in AUTOSAR 4.0.</p> <p>The <code>FlexrayCluster</code> custom parameter <code>FrNmRepeatMessageBitEnabled</code> in the AUTOSAR 3.1 system model is now converted to the <code>FlexrayNmCluster</code> custom parameter <code>NmRepeatMessageBitEnabled</code> in the AUTOSAR 4.0 system model.</p>
ID:	TRESOS-2886

Summary:	In the Project Explorer view, no false confirmation dialog appears anymore
Description:	When you disable a mandatory module configuration via the context menu of the Project Explorer view, a confirmation dialog is shown. Prior to fixing this problem, this confirmation dialog was also shown, if the mandatory module configuration had already been disabled. This problem is fixed now.
ID:	TRESOS-2887

Summary:	The Fibex 3.x Importer does not create superfluous PDU triggering for Nm-PDUs and N-PDUs anymore
Description:	Prior to fixing this problem, the Fibex 3.x Importer created <code>PDUTriggering</code> elements for Nm-PDUs and N-PDUs, if the send/receive relationships of an <code>EcuInstance</code> was modeled using the <code>COMPLETE-FRAME</code> FIBEX XML tag. However, the AUTOSAR 3 system

	model does not define <code>PDUTriggering</code> elements for these PDU types. This problem has been solved.
ID:	TRESOSWP-1917

Summary:	The Fibex 3.x Importer does not ignore duration parts equal to or greater than one minute
Description:	In previous releases, the Fibex 3.x Importer configured durations by only taking the duration part into account that is less than one minute. Parts equal to or greater than one minute were implicitly ignored during the importer run. This problem has been solved.
ID:	TRESOS-2905

Summary:	The code generator now waits for the model verification to be finished
Description:	<p>In previous versions of EB tresos Studio, when you started the code generator, it did not wait for a currently running model verification to be finished. This potentially caused two types of misbehavior:</p> <ul style="list-style-type: none"> ▶ If there had been errors in your project that were already fixed, you were still asked whether code generation should be continued. ▶ In other cases, if there were still existing errors in your project that have not been fixed, you were not asked whether code generation should be continued. <p>These problems are fixed now.</p>
ID:	TRESOS-2899

Summary:	No stack overflow in XPath public API occurs anymore
Description:	In EB tresos Studio version 12.0.0, a stack overflow occurred if the XPath functionality of the <code>DCtxt</code> API was used too often (i.e. about 13.000 to 14.000 times). This problem is fixed now.
ID:	TRESOS-2892

Summary:	XDM files of removed module configurations are now deleted
Description:	In EB tresos Studio release 12.0, when you removed a module configuration with unsaved changes, the configuration XDM files were not deleted. This problem is fixed now.
ID:	TRESOS-2889

Summary:	The Element Outline views now show the selected element, if you open the Generic Configuration Editor from the Problems View
Description:	Prior to fixing this problem, when you opened the Generic Configuration Editor via the Problems View , the Element Outline views were showing the root-element of the editor

	and not the selected element. This problem is fixed now and the Element Outline views show the selected element.
ID:	TRESOS-2863
Summary:	AUTOSAR 3.1 to 4.0 system model upgrade converts mapping elements correctly now
Description:	In EB tresos Studio release 12.0, when you upgraded an imported system model from AUTOSAR 3.1 to 4.0, the contained <code>SwCompToImplMappings</code> were upgraded in such a way that they removed previously upgraded <code>SwcToEcuMappings</code> in the 4.0 model. This problem is fixed now.
ID:	TRESOS-2904
Summary:	New public API class informs about events cleared from the SWTTable
Description:	With the new public API class <code>dreisoft.tresos.guidedconfig.api.gui.event-ing.TableDeselectionEvent</code> you are now informed about events cleared from the SWTTable.
ID:	TRESOS-2737
Summary:	System description verification messages now appears in a more detailed dialog
Description:	Messages created during a system description verification are now presented as tree in which errors, warnings and infos are separated.
ID:	TRESOS-2924
Summary:	System description verification messages provide more information now
Description:	Messages created during a system description verification now inform you about the nearest identifiable entity in which the verification error occurred.
ID:	TRESOS-2919
Summary:	The Workflows view now shows project-dependent actions even if a file resource is selected
Description:	In previous versions of EB tresos Studio, if you had selected a file resource e.g. the <code>. - project</code> file, in the Project Explorer view, the Workflows view would display project-dependent actions as not available. Now the actions are available and can be performed.
ID:	TRESOS-2999
Summary:	Undo/Redo support now works correctly when deleting multiple entries in guided configuration tables
Description:	In previous versions of EB tresos Studio, problems occurred with undoing/redoin some operations. In these cases, an error message opened up after multiple entries were deleted from a table in a guided configuration editor. This issue has been fixed.

ID:	TRESOS-2985
Summary:	The component generating the ECU extract of the software component description can now handle nested compositions without reporting a <code>ClassCastException</code>
Description:	Previous versions of EB tresos Studio reported a <code>ClassCastException</code> during the generation of the flat ECU extract model from a AUTOSAR 4 software component description with nested software compositions. The ECU extract is typically generated after a system description import. This issue has been fixed and the error is not reported anymore.
ID:	TRESOS-3014

1.13.2. Changes/new features

Summary:	EB tresos Studio now provides support for AUTOSAR 4.0.3
Description:	EB tresos Studio now provides support for AUTOSAR 4.0.3 (XSD document version 4.2.-1, revision 3). You may now create AUTOSAR 4.0.3 compliant modules, configure them within EB tresos Studio and import and export AUTOSAR 4.0.3 files.
ID:	TRESOSWP-1975

Summary:	The Compare editor for XDM files now displays warnings if nodes are ignored
Description:	In previous versions of EB tresos Studio, the Compare editor for XDM files silently ignored nodes that did not match the structure of the original file. Now it displays warnings for all ignored nodes.
ID:	TRESOSWP-1944

Summary:	Improved rendering of choices in the Generic Configuration Editor
Description:	The rendering of choice containers within in the Generic Configuration Editor has been revised for better usability and performance. For details, please refer to the <i>EB tresos Studio new and noteworthy</i> document.
ID:	TRESOSWP-1925

Summary:	Team collaboration: automatic reload
Description:	In previous versions of EB tresos Studio, you had to manually trigger a reload of a loaded project whenever one of the relevant files had changed, e.g. after applying an update from your version control system. Now EB tresos Studio detects changes on those files and triggers the reload of a loaded project automatically.
ID:	TRESOSWP-1747

Summary:	A new public API class is now available to invoke arbitrary code generators
Description:	With the new public API class <code>dreisoft.tresos.launcher2.api.project.-Project</code> you can now invoke any arbitrary code generators on demand.
ID:	TRESOSWP-1913

Summary:	Team collaboration: The Compare editor for XDM files now supports comparing attributes
Description:	In previous versions of EB tresos Studio, the Compare editor for XDM files did not consider differences in node attributes except for changes of the <code>ENABLE</code> attribute of optional nodes. Now the Compare editor for XDM files supports comparing and merging differences in arbitrary XDM attributes.
ID:	TRESOSWP-1844

Summary:	Registration of target/derivative-independent ECU resource properties is possible now
Description:	In previous versions of EB tresos Studio, you had to declare a specific target and derivative in the registration of ECU resource properties. Now it is possible to register ECU resource properties that apply for any target and derivative for a specific module.
ID:	TRESOSWP-1908

Summary:	The Fibex 3.x Importer now supports signals in NM-PDUs
Description:	The Fibex 3.x Importer has been extended to support the import of signals that are residing in NM-PDUs.
ID:	TRESOSWP-1939

Summary:	XPath expressions with automatic attributes with the type Range are now supported
Description:	You can now use automatic attributes with the type <code>Range</code> with variable schema nodes to restrict the allowed values. In previous versions of EB tresos Studio, only constant values were allowed for comparison. Now you can also use XPath expressions that are evaluated at runtime.
ID:	TRESOSWP-1958

Summary:	The Com Importer now supports the configuration of arbitrary modules
Description:	Previous versions of EB tresos Studio only supported the configuration of a restricted set of AUTOSAR module types. Especially the configuration of OEM-specific modules was not possible. This restriction has been lifted.
ID:	TRESOSWP-1982

Summary:	DBC Importer support for signal groups and signal data types
Description:	The DBC Importer now supports the import of signal groups using the <code>SIG_GROUP_</code> token. Moreover, the DBC Importer now also supports the specification of signed integral data types as well as IEEE single and double precision data types for signals contained in the imported DBC file via the <code>SIG_VALTYPE_</code> token.
ID:	TRESOSWP-1946

Summary:	A new context menu for references is available
Description:	The new context menu List referenceable nodes has been introduced for references in the Generic Configuration Editor. If you select this new context menu, all referenceable nodes are listed in the Search view. If only one referenceable node exists, the command navigates directly to the node. This helps you to e.g. add new referenceable nodes to a list.
ID:	TRESOSWP-386

Summary:	Vendor-specific module definition (VSMD) rules for AUTOSAR 4.0.3 are available
Description:	New Vendor-specific module definition (VSMD) rules for AUTOSAR 4.0.3 have been introduced to check supported configuration variants, reference destinations and alphabetical ordering.
ID:	TRESOSWP-1987

Summary:	Adaptable undo history size for Guided configuration framework
Description:	You can undo/redon operations that have been done via the <code>MementoOperationHandler</code> . Now you can also adapt the undo history size via the Preferences dialog. To change the undo history, open the EB tresos Studio Preferences dialog, navigate to General/Editors/Text Editors and change the value for the Undo history size .
ID:	TRESOSWP-1992

Summary:	ECU extract for AUTOSAR 4.0.2 and 4.0.3 now supports port interface mappings
Description:	The creation of an ECU extract for AUTOSAR version 4.0.2 and 4.0.3 now handles the port interface mappings. The connectors of the resulting ECU extract contain the merged mappings.
ID:	TRESOSWP-1977

Summary:	ECU extract for AUTOSAR 4.0.2 and 4.0.3 now preserves service components and connectors between service ports
Description:	If you create an ECU extract for AUTOSAR version 4.0.2 and 4.0.3, all service components and connectors between service ports are now kept when you update the ECU ex-

	tract, if the service components and connectors are not already contained in the newly created ECU extract.
ID:	TRESOSWP-1998