
ETAS INTECRIO Integrated Prototyping Environment V4.7.3

Release Notes

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1 Introduction

ETAS INTECRIO is an integration platform for prototyping of automotive embedded control systems. It allows for the integration of application software on embedded control units. This document describes the properties, prerequisites, and conventions for INTECRIO, especially a general product overview, how INTECRIO is installed, new features, and known issues.

The document is valid for the INTECRIO V4.7.3 product family consisting of the following products:

INTECRIO Integration Platform

The integration platform includes

- Connectivity for Matlab®/Simulink®¹
- Connectivity for Matlab®/Simulink® Embedded Coder

A license for the INTECRIO connector for ASCET (INTECRIO-ASC) is included. INTECRIO-ASC is shipped on the ASCET installation medium.

INTECRIO-RP

INTECRIO for Rapid Prototyping

With this add-on, INTECRIO supports real-time prototyping on ES800 and ES900 systems.

Note

The support of ES1000 and RTPRO-PC is discontinued with this version. Corresponding systems cannot be built with INTECRIO V4.7.3 anymore. Future INTECRIO versions will completely remove hardware systems containing ES1000 or RTPRO-PC configurations from workspaces automatically, when they are opened in INTECRIO. If you want to continue using corresponding configurations on ES800 or ES900 hardware, it is highly recommended to export them from INTECRIO V4.7.3 to the file system so that they can later be imported and reused on ES800 or ES900.

INTECRIO-VP

INTECRIO for Virtual Prototyping on Windows PCs

With this add-on, INTECRIO supports non-real-time prototyping on Windows PCs

Licenses for RTA-OSEK and RTA-OSEK for PC are included. The product installations are contained on the INTECRIO installation medium and need to be installed separately.

ETAS Experiment Environment

ETAS Experiment Environment supports experimenting with INTECRIO projects on ETAS prototyping hardware and with virtual prototyping on Windows PC.

1.1 Definitions and Abbreviations

Term/Abbreviation	Definition
PR	Problem Report

¹ MATLAB and Simulink are registered trademarks of The MathWorks, Inc.

For MATLAB and Simulink product information, please contact:
The MathWorks, Inc.
3 Apple Hill Drive
Natick, MA, 01760-2098 USA
info@mathworks.com
<https://www.mathworks.com>

Term/Abbreviation	Definition
RP	Rapid Prototyping
VP	Virtual Prototyping
Target	The hardware a program or an experiment runs on
KIR	Known Issue Report – For severe Problem Reports which occur after a release, ETAS has introduced the Known Issue Report to inform affected customer immediately. The current Known Issues of former versions can be found on the ETAS website: http://www.etas.com/kir

1.2 Conventions

The following typographical conventions are used in this document:

Choose **File → Open**.

Click **OK**.

Press <ENTER>.

The "Open File" dialog box is displayed.

Select the file `setup.exe`

A *distribution* is always a one-dimensional table of sample points.

Menu commands are shown in boldface.

Buttons are shown in boldface.

Keyboard commands are shown in angled brackets.

Names of program windows, dialog boxes, fields, etc. are shown in quotation marks.

Text in drop-down lists on the screen, program code, as well as path- and file names are shown in the Courier font.

General emphasis and new terms are set in italics.

1.3 User Documentation

The ETAS INTECRIO V4.7.3 documentation in PDF format can be found on the DVD and is also installed with the product.

It serves as an overview of the available INTECRIO functionality. The detailed instructions for use can be found in the online help of INTECRIO after the installation.

2 **Product Definition**

2.1 **Functions at a glance**

ETAS INTECRIO is an integration platform for prototyping of automotive embedded control systems. It allows for function validation and verification through integration and configuration of application software modules on real-time prototyping hardware targets, such as ES910 and ES830. INTECRIO also supports the Windows®-PC as a non-real-time target. INTECRIO closely interoperates with the modeling tools ASCET and Simulink, the measurement and calibration tools INCA and INCA-EIP, as well as with RTA-OSEK, RTA-OS, and RTA-RTE.

2.2 **General Description**

2.2.1 **Safety Notice**

Please read and observe the safety hints during the startup of the software and included with the documentation on the DVD carefully.

2.2.2 **Privacy Notice**

Your privacy is important to ETAS so we have created the following Privacy Statement that informs you, which data is processed in INTECRIO, which data categories INTECRIO uses, and which technical measure you have to take to ensure the users privacy.

Additionally, we provide further instructions where this product stores and where you can delete personal or personal-related data.

Data Processing

Note that personal or personal-related data respectively data categories are processed when using this product.

The purchaser of this product is responsible for the legal conformity of processing the data in accordance with Article 4 No. 7 of the General Data Protection Regulation (GDPR). As the manufacturer, ETAS GmbH is not liable for any mishandling of this data.

Data and Data Categories

Please note that this product creates files containing file names and file paths, e.g. for purposes of error analysis, referencing source libraries, or for communicating with third party programs. The same file names and file paths may contain personal data, if they refer to the current user's personal directory or subdirectories (e.g., C:\Users\UserId\Documents\...).

Furthermore, using ETAS Rapid Prototyping solutions in test vehicles connected to real sensors, busses or ECUs, the ETAS tools may get access to personal data of the driver. This data can also be stored using data loggers as provided by INCA-EIP or the ETAS Experiment Environment.

When using the ETAS License Manager in combination with user-named licenses, particularly the following personal or personal-related data respectively data categories can be recorded for the purposes of license management:

- Communication data: IP address
- User data: UserID, WindowsUserID

Technical and organizational measures

This product does not itself encrypt the personal or personal-related data respectively data categories that it records. Ensure that the data recorded is secured by means of suitable technical or organizational measures in your IT system.

Personal or personal-related data in log files can be deleted by tools in the operating system.

2.2.3 System Prerequisites

The following minimum system prerequisites have to be met:

Required Hardware	1.5 GHz PC, 2 GB RAM DVD-ROM drive Ethernet Adapter 10/100BaseT Graphic Adapter with 32 MB RAM, 16bit colour, DirectX 7 Screen resolution 1024 x 768
Required Operating System	Windows 8.1 (x64), Windows 10 (x64)
Required Free Disk Space	1.8 GB (not including size for application data)

The following system prerequisites are recommended for average usage.

Note

ETAS has discontinued the development and maintenance of Windows 7 support for the INTECRIO Product family for releases after the 14th of January 2020!
Please migrate to newer Windows versions.

Note that extremely demanding applications (e.g. virtual prototyping with extraordinarily large workspaces) may demand high-end workstations).

Recommended Hardware	2.0 GHz Multicore PC, 8 GB RAM DVD-ROM drive 2nd Ethernet Adapter 10/100BaseT Graphic Adapter 256 MB RAM, 32 bit colour, DirectX 7 or higher, and hardware acceleration Screen resolution 1600 x 1200
Recommended Operating System	Windows 10 (x64)
Recommended Free Disk Space	> 2.0 GB

2.2.4 Software and Firmware Prerequisites

The following versions of ETAS software products are recommended for usage with ETAS INTECRIO V4.7.3:

- ASCET-MD V6.4.4
- ASCET-RP V6.4.4
- Experiment Environment V3.7.10
- INCA V7.2.17 and INCA-EIP V7.2.17
- MDA V7.2.17 (provided on the installation medium)
- HSP V12.1.1
- INTECRIO-VPSsystem V1.5.3 (as provided on the installation medium)

- Daisy Chain Configuration Tool V7.2.8.20 for ES4xx, ES63x, and ES930, downloadable on the ETAS website [here](#).
- ETAS License Manager (LiMa) V1.7.3 (as provided along with INTECRIO V4.7.3)

Note

The INTECRIO-VPSsystem (formerly known as ETAS Virtual OS Execution Platform) is now automatically installed with INTECRIO-VP. Standalone installation is also possible.

To use INTECRIO V4.x models on ES910 systems, a firmware update with HSP V12.1.1 is recommended. At least HSP V9.4.0 is mandatory.

The following products can be used in connection with INTECRIO:

ASCET

In order to use the INTECRIO with ASCET, one of the ASCET-MD versions V5.1 to V6.4 needs to be present on the system.

Simulink

In order to use INTECRIO with Matlab®/Simulink®, Matlab®, Simulink®, and Real-Time Workshop or Simulink® Coder must be installed. In addition, INTECRIO supports Simulink® Embedded Coder.

Note

INTECRIO supports the 64bit versions of the above-mentioned MathWorks products starting with R2014a.

Earlier Simulink releases are no longer supported.

In total, INTECRIO V4.7.3 supports the following Simulink versions:

- Simulink R2014a and R2014b
- Simulink R2015a and R2015b
- Simulink R2016a and R2016b
- Simulink R2017a and R2017b
- Simulink R2018a and R2018b
- Simulink R2019a and R2019b
- Simulink R2020a

Note

The data type `Simulink.LookupTable` introduced with ML/SL 2016 versions is currently not supported. Please contact ETAS product management if you rely on this functionality.

Note

Once the IRT/IER target for Simulink is installed in version 4.7.1 or a later version, the generated output can no longer be used in previous INTECRIO versions, if referenced models are involved.

As there is no explicit check, the build of such Simulink models will fail when used in older INTECRIO versions.

Virtual Prototyping

To use INTECRIO-VP, the INTECRIO VPSystem is required. It is included on the installation DVD and gets installed with INTECRIO-VP.

ES4xx/ES63x/ES930 support with the Microcontroller Connector for ES830/ES910

To use daisy chain measurement modules for rapid prototyping with ES830/ES910 and INTECRIO, the corresponding configuration tool is needed. It is included on the installation DVD or can be obtained [here](http://www.etas.com) from <http://www.etas.com>.

INCA and INCA-EIP

For experimenting with executable prototypes built with INTECRIO, INCA and INCA-EIP can be used. INCA versions starting with V7.0 are supported.

Note

The use of INCA V6.x with ES910 can lead to a hardware driver lock on the ES910, which requires a hardware reset then.

The use of INCA Versions older than INCA 7.1.10 can cause problems in the execution of virtual prototypes generated by INTECRIO-VP.

Note

The INCA Tool Connector (providing Simulink back animation without INTECRIO installation) is no longer delivered with the INTECRIO installation DVD. The functionality will be discontinued with the next INTECRIO release. In case you are still using this functionality, please contact the ETAS hotline or INTECRIO product management.

AUTOSAR Software Components

INTECRIO V4.7.3 supports *.arxml files based on the AUTOSAR Versions R4.0.3, R4.0.2, R3.1, R3.0 & R2.0.

2.2.5 Release Test Configuration

The release tests have been performed on Windows 10 (x64). INTECRIO V4.7.3 has been tested together with HSP V12.1.1, INCA V7.2.17, INCA-EIP V7.2.17, Experiment Environment V3.7.10 and V3.7.11 as well as all supported Simulink versions.

2.2.6 Restrictions

For configurations other than recommended in section 2.2.4, compatibility restrictions may apply. Please read this document carefully for details.

INTECRIO makes use of some third party products. They are listed in section 2.3.1. These products are installed with INTECRIO automatically. The usage of the products is permitted under the respective licenses.

2.3 Delivery

The software is delivered with an installation routine on a DVD including ETAS INTECRIO software, documentation, tools, utilities, and further information. All software documentation is available in the Portable Document Format (PDF), which requires Adobe® Reader®. You find the installation link on the installation DVD.

See the Getting Started Manual for details on the delivery.

See the DVD main menu for an overview over all DVD contents.

2.3.1 Used 3rd Party Software

INTECRIO as well as the additional ETAS software make use of 3rd party software products released under their respective licenses. For details, please see the documents located on the DVD in the `.\Documentation\Manuals\Open Source Information' Folder. The DVD also contains the sources themselves in the `.\Documentation\OSS_Sources' directory.

2.4 Installation

To run ETAS INTECRIO, you will need a software license certificate. See section 2.5. ETAS also offers free and fully functional time-limited evaluation licenses. The installation is possible independent from the license key as described below.

To install INTECRIO V4.7.3:

- Insert the installation DVD into the drive of your computer.
- If the DVD does not start automatically, double-click on `autostart.exe`.
- The installation dialog appears. Please follow the instructions of the installation dialog.

During the installation process of ETAS Experiment Environment, the user has the choice to configure the setup for simultaneous use (e.g. in a bypass application) with INCA. Compatibility restrictions apply in combination with the ES830/ES910 compact rapid prototyping hardware and virtual prototyping.

Note

On some systems, a message like the following may appear during the installation of the Experiment Environment:

"The Windows Installer service cannot update the system file C:\WINNT\System32\asycfilt.dll because the file is protected by Windows. You may need to update your operating system for this program to work correctly."

Click **OK** to continue the installation. No further action is required.

Section 2.5 describes the activation of your software license certificate. Please read this section carefully and follow its instructions.

To uninstall INTECRIO V4.7.3:

- Open the Windows Control Panel
- Locate the Software entry and open it
- Search for the INTECRIO entry in the list of installed software products and select it
- Select the change/Delete entry. An uninstall dialog appears. Please follow its instructions.

2.5 Licensing

Besides the perpetual product licenses that you obtain when you purchase INTECRIO, ETAS offers free and fully functional time-limited evaluation licenses.

In order to obtain your software license certificates, please start the 'Obtain License Info' command in the Tools menu of the ETAS license manager (Start → ETAS → License Management → ETAS License Manager).

It will provide you with a list of network adapters installed in your system. Please choose an adapter from the list. This adapter will later be referenced by your license certificates to

ensure that they are valid for the respective machine. We recommend you to choose an adapter that is always present in your system (e.g. the main company network adapter). Please make sure, that this adapter is also present, if you remove e.g. your laptop from the docking station.

After selecting the network adapter, the tool will provide you with information on the used MAC address and the user name.

During the ordering process, ETAS provides you with a license activation number (the so-called entitlement ID). With this information, the MAC address and the user name, please do one of the following:

- Visit <http://www.etas.com/support/licensing> and generate your license certificate based on the information mentioned above.
- Return the `licenseinfo.txt` generated by the 'Get license info' application to `licenses.de@etas.com` or one of the contact addresses provided in section 6. The `licenseinfo.txt` file can also be generated after the INTECRIO installation.

The information that you submit permits ETAS to generate the software license certificate, i.e. the actual license key. It will not be used for any other purpose.

Please copy the key into a text file with the extension `*.lic` (e.g. `INTECRIO.lic`) and store it on your hard disk. When starting INTECRIO, INTECRIO will ask you for the location of this file. If you have further questions regarding the installation procedure, please regard the installation manual or contact ETAS for assistance.

Note

Without a valid license key, INTECRIO can be started for a limited number of times. Please observe the recent change in the behavior of the "grace mode".

3 Changes

This chapter describes changes of INTECRIO V4.7.3 with respect to earlier versions. Some of them are not mentioned in the documentation.

3.1 New Functionality in ETAS INTECRIO V4.7.3

INTECRIO V4.7.3 provides the following new features:

- Simulink R2019a, R2019b and R2020a Support
- Configuration of ES800 stacks with up to 5 devices

Please observe section 3.11.1 regarding changed hardware device naming.

Notes

The support of Windows 7 is discontinued with this version of INTECRIO.
ES1000 hardware systems can no longer be configured with INTECRIO V4.7.3.
Simulink versions older than R2014a are no longer supported by this version.

Future INTECRIO versions will *completely remove* hardware systems containing ES1000 or RTPRO-PC configurations from workspaces automatically, when these workspaces are opened in INTECRIO. If you want to continue using corresponding configurations on ES800 or ES900 hardware, it is highly recommended to export them from INTECRIO V4.7.3 to the file system so that they can later be imported and reused on ES800 or ES900.

3.2 New Functionality in ETAS INTECRIO V4.7.2

INTECRIO V4.7.2 provides the following new features:

- Support of XCP V1.5 and XCPplus
- Support of XCP on CAN-FD
- Support of XCP on Fast Ethernet on ES830
- Support of ES830 LIN on ES8xx
- Support of Default Rasters for usage with INCA-EIP

Note

The support of RTPRO-PC is discontinued with this version of INTECRIO.

3.3 New Functionality in ETAS INTECRIO V4.7.1

INTECRIO V4.7.1 provides the following new features:

- Support of 'model referencing' in Simulink® Models
- Support of Simulink® R2018a/b
- Support of ES882 Hardware device
- Support of up to 3 X/FETK Bypasses

3.4 New Functionality in ETAS INTECRIO V4.7.0

INTECRIO V4.7 provides the following new features:

- Flexray support of ES830/ES89x RP Hardware
- Daisychain support of ES830/ES89x RP Hardware

- Introduction of new Systemdevice for ES830/ES89x RP Hardware
- Migration support for ES910 based systems to new ES830 based ones

3.5 New Functionality in ETAS INTECRIO V4.6.3

INTECRIO V4.6.3 provides the following new features:

- Support of ES830/ES89x RP Hardware
- Support of ES922 extension for ES910
- Support of CAN FD
- Support of Matlab Simulink 2017a + 2017b

3.6 New Functionality in ETAS INTECRIO V4.6.2

INTECRIO V4.6.2 provides the following new features:

- Support of Motorola Format for Flexray Bus (FIBEX Files)
- Adapted OS automapping strategies: HW Init order can be defined in *.xml file
- Support of Matlab Simulink 2016a + 2016b Support of Windows 10

3.7 New Functionality in ETAS INTECRIO V4.6.1

INTECRIO V4.6.1 provides the following new features:

- Support External bypass with FETK/ES89x hardware
 - single FETK systems
 - IP handling improvements
 - Migration support for dmETK
 - Support of Simulink Model-Level Flat Busses Typed Ports (Scalars Only)

3.8 New Functionality in ETAS INTECRIO V4.6.0

INTECRIO V4.6.0 provides the following new features:

- SBB 2.1 for XETK (DISTAB17)
- Error handling of hooked service points similar to classical service points
- Workspace Import/Export considers AUTOSAR Modules
- Introduction of RTA-OS for Virtual Prototyping
- Seed&Key on XCPonCAN
- Simulink R2015a/b Support
- CEE 3.7 Update
- End of WinXP Support
- Update A2I parser to support ASAM 1.6.1 and 1.7

Note

RTA-OSEK will be used by default for VP-PC build process. If the user wants to build using the RTA-OS, then the SystemProject.opt file needs to be updated manually. The .opt file is located in %appdata%\ETAS\INTECRIO4.6\Settings\PC folder. If the attribute 'useLegacyVpToolchain' is set to true, RTA-OSEK will be used. RTA-OS will be used if it is set to false

3.9 New Functionality in ETAS INTECRIO V4.5.1

INTECRIO V4.5.1 focuses on the solution of known problems and introduces some improvements for the Block Simulation Mode that was newly introduced with INTECRIO 4.5.0:

- Execution control: Block Simulation Mode stops at end of stimuli mdf file
- Support of maps and curves in Block Simulation Mode
- Support of SCOOP-IX 1.4 (Generation available till ASCET 6.3)

Support of AUTOSAR R2.0 is removed in this version

3.10 New Functionality in ETAS INTECRIO V4.5.0

INTECRIO V4.5.0 provides the following new features:

- Improved Bypass Performance for MDG1 with DISTAB17 support based on Service Based Bypass V2 technology
- Block Simulation Mode for high speed simulation and optimization without GUI interaction

3.11 Compatibility with Earlier Releases

INTECRIO V4.7.3 is functionally upwards compatible with previous INTECRIO versions. For changes, please see the User's Guide and this document. Earlier INTECRIO versions can neither open models nor experiments that have been created with INTECRIO V4.7.3.

3.11.1 Changed hardware device default naming scheme in INTECRIO V4.7.3

Due to the increased amount of hardware devices supported in one system, the default naming scheme for hardware interfaces has been changed.

If you use scripts to create hardware systems automatically, take care to adapt them in order to match the new default naming scheme, if necessary.

This may affect the "Name" property of the "IIntecrioPort" object, i.e. "IIntecrioPort.Name". In the past, the physical port name was used in this place, e.g. "CAN1", "CAN2". Starting with INTECRIO V4.7.3, the name of the corresponding controller in the hardware configuration is used instead.

Example:

Old: `inPortName = "CAN2.Example_CAN_IO._signals_out"`

New: `inPortName = "Example_CAN_Controller3.Example_CAN_IO._signals_out"`

IIntecrioPort.Name can be used in combination with the following scripting methods and objects:

The methods

- * IIntecrioConnectable.InPorts
- * IIntecrioConnectable.OutPorts
- * IIntecrioConnectable.Ports
- * IIntecrioConnectable.GetPortByName (BSTR bsPortName)

either return or use that object type.

In this context, the IIntecrioConnectable object can be a IIntecrioSystemDevice, IIntecrioSignalGroup or IIntecrioSystem.

The methods

- IIntecrioPorts.Contains (BSTR bsPortName)
- IIntecrioPorts.GetByName (BSTR bsPortName)

can be affected, since they require port names as arguments.

Methods dealing with connections, which have ports as arguments, may be affected as well, if the ports are selected by their names. For

```
IIntecrioSystem.ConnectPorts (IIntecrioPort *pPort1, IIntecrioPort *pPort2)
IIntecrioFunction.Connections
IIntecrioPort.Connections
```

this can be the case.

In addition to that, due to a change particular for the FlexRay driver, the corresponding action name for the FlexRay driver, contained in

```
IIntecrioAction.Name
```

has changed as well.

The methods

```
IIntecrioOS.InitTask.Actions.GetByName(BSTR bsName)
IIntecrioOS.ExitTask.Actions.GetByName(BSTR bsName)
IIntecrioOS.InitTask.Actions.Contains(BSTR bsName)
IIntecrioOS.ExitTask.Actions.Contains(BSTR bsName)
```

which are only relevant in the OS expert mode, use this action name.

3.11.2 Changed variable names and types for scripting with LIN configurations in INTECRIO V4.7.2

When creating or accessing LIN configurations over scripts, observe the following changed names and types of elements:

	Old value	New value (INTECRIO V4.7.2)
Name of Status Signal Group	Outputs_ScheduleTableBasetick	Outputs_ScheduleTableSelect
Type of Status Signal Group	Base Tick	Schedule Table Select
Name of Status Signal	ScheduleTableStart_out	NextScheduleTable_out
Type of Status Signal	BaseTick_ScheduleTableNr	ScheduleTableSelect_ScheduleTableNr

3.11.3 Changed ETK Bypass Counter Behavior with INTECRIO V4.1.0

During ETK bypass operation, a counter is used to ensure that no communication cycle is lost. With INTECRIO V4.1 the startup behavior of this counter after ECU reset was changed. Also see the description of the solved problem report 323503 in section 3.12. Please contact ETAS in case of further questions.

3.11.4 Migration from INTECRIO V2.x, V3.x, or V4.x to INTECRIO V4.7.3

Workspaces from old INTECRIO versions starting with V2.0 can be opened with V4.7.3 directly without any restrictions. Afterwards, they cannot be opened with older versions again.

Note

Please execute "clean" and "build" for workspaces from previous INTECRIO versions separately for each project to ensure that no files generated by the previous INTECRIO installation remain and the correct system library is included in the executable.

3.12 Solved Problems

This section describes the problems solved in INTECRIO V4.x.

3.12.1 Issues Solved in INTECRIO V4.7.2

This section describes the issues solved with INTECRIO 4.7.2.

Several other problems have been solved with this version, which are not listed in detail.

Solved PR 502991

RTA-OSEK installed from old ETAS virtual OS Execution Platform V1.3.1 or earlier interfered while running newer executables from INTECRIO 4.6

The license provider from ETAS Virtual OS Execution Platform V1.3.1 or earlier does not include the silent checking for both the EIP and VIP licenses.

If it is installed and the user starts a build process, the ETAS license manager is shown instead of error messages indicating missing licenses.

Recommendation: Change the search order in the PATH environment variable or uninstall the old ETAS Virtual OS Execution Platform. Newer versions can run RTA-OSEK based executables. V1.3.0 is required only if workspaces have not been rebuilt with at least INTECRIO 4.6.0.

Solved PR 615315: Invalid SCOOP-IX validation warning.

INTECRIO showed useless warnings in the style of "SCOOP-IX validation warning: ...".

3.12.2 Issues Solved in INTECRIO V4.7.1

This section describes the issues solved with INTECRIO 4.7.1.

Known PR 408104, 408246:

No SIX data declarations for referenced models of Simulink

All the data elements which are part of the child modules were not considered in the SCOOP-IX file and were in consequence not part of the INTECRIO generated A2L file.

Solved PR 595219:

Build for targets ES800/ES1000 failed if back animation is enabled:

Due to a different build toolchain compared to the ES910 target the build failed, if external mode (back animation) was enabled.

Solved PR 571403:

Complex Messages of ASCET

Complex messages from ASCET are now supported. They are split into separate scalar messages.

Solved PR 606494:

Matlab back animation failed for models on ES830 - no TCP connection available

Back animation with Simulink Models running on an ES830 was not possible. The TCP connection to the ES830 couldn't be established from the Simulink model.

This has now been solved by providing a new library in the INTECRIO installation (libmatlabextcomm2009aff_gnu.a).

Solved PR 606984:

Error: "Cannot convert string "," to a number" with Lookup Table objects

A Lookup table makes use of a lookup table objects defined in the Model explorer. This lookup table object couldn't be used during code generation of the IRT/IER target for INTECRIO.

The build now continues, however there remains one open issue, see PR 614781.

Solved PR 606985: RTIO lock on starting ETK/XETK bypass

In case an ETK as well as an XETK are configured in INTECRIO for an ES910, the startup of the ES910 might end in an "RTIO driver locked". This is due to a wrong usage of the 'BoardID' for the XETK device which is now fixed.

Solved PR 607635: Connection strategy inverted in order to have better results

The INTECRIO Signal mapping wizard was not able to map all signals with identical names. It turned out, that the connections weren't made due to ambiguous connections.

We now inverted the way of searching for fitting connections as this increases the made connections in the end. For each IN-port possible OUT-ports are now searched.

Solved PR 608843: Handling of OS Threads on ES830

For huge OS setups on ES830 targets, INTECRIO limits the number of OS threads to the maximal available amount of 144.

If there are more task priorities used than threads available, lower task priority values are clustered and share the same thread.

Higher task priorities and ISR priorities will be assigned individual threads for optimal overall performance.

Solved PR 610657: Build error - Invalid table input reference

Simulink code generation could not properly determine the input reference of a 1D/2D look-up table in case the AXIS were defined as ExportedGlobal Elements.

Solved PR 614207: Error on opening the Daisy Chain Configurator in Win10

The usage of the Daisy Chain Configurator out of INTECRIO led to an INTECRIO crash with Daisy Chain Configurator V7.2.8.18.

3.12.3 Issues Solved in INTECRIO V4.7.0

This section describes the issues solved with INTECRIO 4.7.0.

Solved PR 596969: API corrections for Flexray & LIN nodes

For get_Status, get_Frames & delete method the implementations located in several nodes had been unified.

Solved PR 601518: A2L parsing issue using ETK_XETK_AML_VERSION_2_2_0

In an A2L files based on ASAP V1.6 or earlier uses ETK_XETK_AML_VERSION_2_2_0 or ETK_XETK_AML_VERSION_2_5_0, INTECRIO's A2L parsers was not able to understand this enumeration. This support was now introduced with V4.7.

Solved PR 602434: Build with invalid IP addresses are successful

After an automatic move from ETK to X/FETK the IP addresses are set to 0.0.0.0. It is up to the user to specify the IP addresses according to his network setup, however even having the zero based IP addresses in place the workspace could have been built. This is fixed now.

3.12.4 Issues Solved in INTECRIO V4.6.3

This section describes the issues solved with INTECRIO 4.6 SP3.

Solved PR 530544: Execution of command failed due to command line overflow

If a workspace containing a huge amount of modules (HW and/or SW) is used, the build may fail with a generic error like:

Execution of command failed. Error occurred during main-build.

The main root cause was that there was a command line overflow. This is now fixed by introducing a linker response file (*.rsp) for targets ES910, ES830 and RTPRO-PC, which is used for the command line.

Solved PR 565700: ES1000 build is failing under Windows10 due to cpp.exe error

If an ES1000 HW is used the build chain is not working because the cpp.exe crashes. This problem is fixed now.

Solved PR 568348: Automated installation of loopback device not working under Win10

During the initial INTECRIO installation the Loopback adapter needed for back animation was not fully configured, if Windows 10 was used. A manual reconfiguration was necessary.

Solved PR 573182: Pointer disappears as soon as user start moving signals in signal layout

If the user tried to move signal in signal layout window for FlexRay, CAN or LIN, the mouse pointer disappeared. This is fixed now.

Solved PR 573770: Command line was shortened to 300000 characters in build.log

For 3rd party based toolchain the maximum allowed length of the command is 30000. In case this is exceeded, the build stops with an error message. Unfortunately the log file did only provide the shortened command line of 30000 characters.

Now the logging is improved and the full command is listed in the log file.

Solved PR 579933: INTECRIO crashes if opened via scripting

INTECRIO crashed if 'Open last workspace' option was selected and INTECRIO is opened via scripting. This HF fixes this problem.

Solved PR 585501: Ethernet node cannot be added to VP system

In order to add XCP support an Ethernet node must be added to the VP system. This was not possible in the INTECRIO GUI itself. In RLINK this is possible and importing an HWX containing such an Ethernet node was working as well.

Now the Ethernet node is directly available for a VP target in the INTECRIO GUI.

Solved PR 592078: Migration of Bypass setups using the "Move to FETK" or "Move to ETK" can lead to empty structures

When migrating from an existing project using "Move to FETK" or "Move to ETK", an empty service point configuration structure was created for service points. This bug was fixed.

Solved PR 593756 Copy/Paste and Import/Export for RTPRO-PC Ethernet Controller fails

Copy/Paste and Import/Export of RTPRO-PC Ethernet controllers failed.

Solved PR 594108: access violation in memory pool allocator

During access of INTECRIO via COM API by a script INTECRIO may stopped working under some circumstances and displayed an exception. It turned out that there was a race condition inside the memory allocator which is solved now.

3.12.5 Issues Solved in INTECRIO V4.6.2

This section describes the issues solved with INTECRIO 4.6 SP2.

Solved PR 554825: Error during ARXML merging if type '\n/a' is detected

AUTOSAR merger process crash occurs in case the used ARXML files have not supported types used.

Additional Hint: INTECRIO has an option to activate the stub generation. Deactivate the option "System/System Properties/Project Integration/Build -> Activate required port connectivity check".

Solved PR 557427: Wrong error message, if ES910 ETH master and slave are configured in different subnets

3.12.6 Issues Solved in INTECRIO V4.6.1 HF3

This section describes the issues solved with INTECRIO 4.6 SP1 HF3.

Solved PR 554035:

Error in CAN db import when importing a certain node a second time

A CAN IO dbc import is successful for the first time although showing some warning. If the same dbc is imported into the same CAN IO a second time, an error occurred.

The problem is a signal of type multiplexer switch. Its 'value type' is defined as signed, but multiplexer switches must be unsigned.

Solved PR 555989:

ETK Bypass: Incorrect Memory Blocks written when block greater than 512 bytes

If a project has one Service Point whose ID is greater than 512, SrvResPtId table will be incorrectly written, and the bypass on this SP will not work. The problem affects only ETK + ES910, XETK + FETK are not affected.

Solved PR 557064:

OS auto mapping and Map Unused operation fails with workspace

If a workspace from INTECRIO 4.6.0, containing both an ETK and a XETK, is opened in INTECRIO 4.6.1, it was not possible to perform the OS auto mapping and map unused commands.

3.12.7 Issues Solved in INTECRIO V4.6.1 HF2

This section describes the issues solved with INTECRIO 4.6 SP1 HF2.

Solved PR 546054:

Restart strategy of ETK Bypass system with ES910 after communication interrupt

IF ETK Bypass on ES910 is used with INTECRIO V4.6 SP1 HF1, then the restart strategy of an ES910 after a failed write back of signal values to the ECU is different than expected.

Formerly, ETK-bypass went into emergency stop in case of write back error, which can be caused by either a reset, a wire interruption between ES910 and ECU or others. This stopped bypass and ensured defined system behavior. With the affected versions, this emergency stop is prevented for 300ms.

3.12.8 Issues Solved in INTECRIO V4.6.1 HF1

Several problems with the installation routine are solved with this version, they are not listed in detail. In addition the following issues are solved:

Solved PR 529619:

Failing Installation of VC 2015 Redistributable leads to installation abort

In case ASCET 6.4.1 is installed prior to INTECRIO 4.6 SP1, the installation fails.

The workaround is to manually uninstall the VC 2015 Redistributable packages (x64 and 32bit) via the Control Panel.

If INTECRIO is installed first, ASCET will update the redistributable package.

Solved PR 534446:

Bypass via FETK cannot be enabled

The HW ES910, FETK-T is initialized. Experiment is open. Simulation Controller is running. ECU is running

It's not possible to enable the Bypass with KL15 though.

3.12.9 Issues Solved in INTECRIO V4.6.1

Solved PR 432600:

Installed MLSL are not recognized, if the same version is installed in 32 bit and 64 bit

Recommendation: For manual association, start Matlab and execute following commands:

```
addpath '<INTECRIO installation directory>\Dockers\MLSL-R7\blocks'
```

```
addpath '<INTECRIO installation directory>\Dockers\MLSL-R7\c\irt'
```

Please make sure not to store these paths within MATLAB.

Solved PR 501575:

INTECRIO 4.6.0: XML validation error is displayed in MATLAB command prompt while startup

XML validation error is displayed in MATLAB command prompt while startup

Solved PR 513590:

INTECRIO 4.6.0: Import all does not work anymore (drag & drop only)

In case the user tries a drag and drop of multiple folders from the windows explorer (attached folders for model.zip) to INTECRIO Software folder, "import all" is not working as expected, the user needs to conform for each folder/file.

Solved PR 513604:

INTECRIO 4.6.0: Simulink in/out ports are no more immediately visible in CEE (different display identifiers)

A different way of generating display identifiers was introduced with INTECRIO 4.6 what caused problems in the usage with the Experiment Environment

Solved PR 515114:

INTECRIO RP model on ES910: Real time task execution gets disturbed by host communication

"The CPU Resource Budget of the model has been increased from 50% to 75%, if no MCE applications is running in parallel. This improves the real-time behavior of models with high system load.

Solved PR 512062:

Manually created loopback adapter is removed when uninstalling INTECRIO

Uninstallation of INTECRIO may only uninstall/remove stuff that has been installed/created by the INTECRIO installation

Solved PR 503707:

Simulink generation can't handle customer specific blocks in ForEach module

Custom specific Simulink blocks in general are working with INTECRIO, but when these blocks are used inside a ForEach module in Simulink, the INTECRIO build fails.

Problem exists since INTECRIO 4.2

Solved PR 501268:

LDF File cannot be imported

Inaccuracies in the floating point arithmetic using 0.1 leads to an error

Solved PR 521053:

INTECRIO 4.6.0: Missing MAP file for GNU 481 VP

Missing linker argument for map-file generation

Solved PR 519549:

INTECRIO 4.6.0: problems with handling of physical value limits [-INF, INF]

Crash during build if physical value limits are [-INF, INF] in and ASCET generated SCOOP-IX file

Solved PR 514079

INTECRIO 4.6.0: Control byte not reset to 0 before flashing ES910

When flashing an ES910, a control byte which should be set back to 0 isn't set back. This byte is used by customer SW to determine whether the ES910 is in a working state. As long as it is not 0, it means the ES910 is working. The customer SW thinks the ES910 is in a working state and the bypass fails.

Solved PR 526272

INTECRIO 4.6.0: Baud rate is accidentally changed

Baud rate is accidentally changed from 500.000 to 1.000.000 when copying CAN I/O node for ES1000->ES1135->ES1222->CAN_IO.

3.12.10 Issues Solved in INTECRIO V4.6.0

Solved PR 376448

Restrictions for 'Max DTO Length' parameter with XCP access to virtual prototypes

If the 'Max DTO Length' parameter contains a value between 8 and 254, the INTECRIO build fails

Solved PR 398236:

Some Log Files are Copied to C:\ProgramData\ETAS\LogFiles

On some computers, some log files are written to C:\ProgramData\ETAS\LogFiles\ instead of the directory specified by the user (e.g. D:\ETAS\LogFiles).
Recommendation: look up the files in C:\ProgramData\ETAS\LogFiles\, when needed.

Solved PR 417967

INTECRIO does not create SOFTWARE\ETAS\General registry key

If INTECRIO is the only ETAS application installed on one machine, then the log files will be in %Temp% instead of %Programdata%.

Temp will be deleted after reboot of PC. Log files are lost in this case.

Recommendation:

- a) Install any other ETAS product, e.g. INCA to solve the problem finally.
- b) Look into %Temp% before next reboot.

Solved PR 420798

INTECRIO 4.4.1: using tool option "use model identifiers in A2L names" does remove all variables from A2L file

The option "UseModelIdentifiers" was removed as it was confusing. The application option "UseModelPaths" was renamed to "UseModelPathsAsNames"

Solved PR 439737

BlockSimu: License check not working as expected

License check is only working for INCA-VIP, not INCA-EIP

Solved PR 451956

BSM: Value from DCM file applied on ASCET-RP SCOOP-IX 1.4 module is not appearing in generated measure file

Problem only occurs for Block Simulation Mode in combination with ASCET-RP

Solved PR 453507

BSM: Measure file creation fails if the specified directory in the configuration file does not exist

For the block simulation mode, the measure file creation fails if the specified directory in the configuration file does not exist.

Recommendation: Please make sure to create the path manually

Solved PR 456703

INTECRIO V4.5 Stability Issue

With INTECRIO 4.5 it can happen that an a2l could not be imported and INTECRIO crashes. After a restart, the a2l can be imported again and the build is working fine.

Solved PR 492484

Referenced model inside a referenced model in Simulink leads to build error in INTECRIO

Missing header files for referenced models leads to compiler error

Solved PR 493252

INTECRIO 4.5.1: Error when using a referenced model with a gain block with a value unequal to 1

Conflicting type qualifiers error in INTECRIO when using a referenced model containing a gain block with a value unequal to 1

Solved PR 497816

Simulink-INTECRIO-INCA-EIP: Large multi dimension elements lead to ES910 crash after flashing

Models containing large multi-dimensional elements can now be executed on the ES910, they are ignored in the A2L generation and also at download of data sets

Solved PR 485100

INTECRIO 4.0.0: Wrong priority assignment for SBB 3

OS task with SBB V3 send signal groups from different CLUSTER_GROUPS get wrong priority for ETK bypass

Solved PR 472338

AUTOSAR version not correctly analyzed for R4.0.x

The log message now includes the complete version information, like AUTOSAR V4.0.1

Solved PR 469938

INTECRIO 4.5.1: Internal A2L generation is providing incorrect unit information

A2L Generation for Simulink model: COMPU_VTAB should contain correct unit information

Solved PR 462629

INTECRIO 4.5: VP prototype crashed if calibration is changed

VP prototype crashed if VLINK produced stimuli is used in INCA-EIP

Solved PR 469859

Low performance of Experiment Environment in adaptive time mode

Performance issue Target server for big models using big arrays caused low reactivity of graphical user interface of CEE

Solved PR 473461

Discontinue internal usage of 8.3 Windows Paths

INTECRIO internally used 8.3 Windows paths. INTECRIO now also works if 8.3 path generation is disabled (like on NGW Win7 and Win10 PCs)

Solved PR 484529

Build failed if the INTECRIO project includes AUTOSAR SWC and Daisy Chain Configuration

Insufficient data type detection for AUTOSAR SWCs

Solved PR 482821

EE 3.4.1: Solver for ASCET CT Block cannot be configured

The solver for C module CT blocks could not be configured. The issue didn't affect ESDL Modules.

Solved PR 464605

INCA-EIP: "Unzulässiger Befehl in ASD-Pseudoadresse a1b_etargetEthernet.log)" when reading data from DCM

Issue with mismatch of array sizes, affecting INTECRIO, INCA-EIP and RTIO drivers

3.12.11 Issues Solved in INTECRIO V4.5.1

Solved PR 446825:

INTECRIO 4.5.0: Build fails due to a2l_merger.rb

Internal as well as external A2L generation is affected.

Solved PR 451799:

Differences in Win8 support implementation of INTECRIO

Win8 support implementation was not in line with ETAS rules

Solved PR 457311:

Error "Already defined symbol" occurs if two baseDefs with same name are defined

If there are two parameters and two linked baseDefs with the same name, but in two different modules, the following error occurred:

PI_CORE: Already defined symbol 'ASMod_facEffLeanExoMFIHCI_MAP' found in module 'ETCtl_OpenLoop'.

Starting with INTECRIO 4.5.1, a warning is generated instead.

Solved PR 443703:

Only a part of the defined asynchronous processes are generated into the six file

The number of asynchronous processes was limited, 256 asynchronous processes are possible now.

Solved PR 441218:

INTECRIO 4.5.0: mgx schema not reachable

Link to mgx schema was incorrect, therefore the schema is now installed with INTECRIO and therefore also reachable

Solved PR 441301:

DCM files with trailing blanks cannot be read

With the Block Simulation Mode, it is not possible to read dcm files that contain lines with a blank at their end.

3.12.12 Issues Solved in INTECRIO V4.5.0

Solved PR 379812:

Modules generated with Simulink pre-releases cannot be built

Due to special compiler switches used by pre-released Simulink versions, models generated with these versions cannot be built.

Recommendation: Use released Simulink versions.

Solved PR 378987:
Spurious error message when importing XCP-Slave configuration in INTECRIO

When an XCP-Slave configuration for VP-PC, which was created with INTECRIO-RLINK or INCA-VLINK, is imported in INTECRIO Integrated Prototyping Environment, the error message "Failed to create RSAProvider" occurs spuriously.
Recommendation: ignore this message.

Solved PR 362339:
Scripting does not support importing AUTOSAR R4.0.x SWCs

Recommendation: none.

Solved PR 400770:
Context Menu Item "Auto Connect Ports" does not work for Environment Systems in Graphical Modeler

Recommendation: Use the auto connect button in the connection window table.

Solved PR 311000:
Error message " 'A_INT64' is not a valid enum value for element 'Datatype' " During A2L Import

When importing A2L files for bypass configuration, INTECRIO does not support A_INT64 or A_UINT64 data types.

Recommendation: none.

Solved PR 426057
The A2L generated by INTECRIO always rounds rational function coefficients

INTECRIO only supports integer values for quantization formulae.

Solved PR 427209
INTECRIO points to wrong compiler paths after installation.

INTECRIO points to wrong or non-existent compiler paths. To solve this issue please delete the folder %APPDATA%\ETAS\INTECRIO4.5 and relaunch INTECRIO.

Solved PR 405887
Error loading a2l file for XCP on CAN if certain optional declared parameters are not used

An XCP on CAN a2l file containing certain optional parameters during tagged struct declaration will cause error in INTECRIO if these optional parameters are not used.

Solved PR 423726
Undefined reference to `uMultiWordMul'" while using GNU_QCC_CROSS_LINKER

Simulink specific build, RTW build configuration side effect

Solved PR 403678

XPass stops working after several minutes

XPass (CC-specific XCP-bypass) with RTPRO-PC stops working after several minutes.

Solved PR 405390
Build error with Autosar SWCs

In case of missing arxml files at workspace import, an information is reported instead of an error. This causes follow up errors that are misleading.

Solved PR 425784
INTECRIO 4.4.1: importing an OIL-file into OS configuration does not report problems

importing an OIL-file into OS configuration does not report problems due to processes (send_configuration_table) that are assigned multiple time to the same task which is not allowed in INTECRIO (but in ASCET).

Solved PR 394526
Wrong signal offset in the hardware configurator for send Boolean signal for HBB

In case of more than 8 Boolean signals for a HBB send signal group, several such signals were assigned to the same bit value in the data transfer buffer since INTECRIO V4.3.0. This led to random bit values written into the ECU memory for the related MEASUREMENTs.

Solved PR 423810, 408402, 416865

0/0 limit specification disappear for Simulink ports

Issue in Simulink Connector

Solved PR 402500

Consistency checks for SBB-version with Distab-versions missing

The following checks are added for A2L import

*SBB V2.0 and 3.0 are only supported together with Distab13/16

*SBB V3.1 is only supported together with Distab17

*BaseOffsetValue 0 and 8 supported only for DISTAB 13 and 16

*BaseOffsetValue 0 and 4 supported only for DISTAB 17

Solved PR 408639

Insufficient information in warnings at workspace import

Detailed information missing which files are causing problems

Solved PR 411686

Importing the same XCP A2L file twice leads to an internal error and abort

The XCP principle, that a transport layer specific definition is overruling a general definition is not implemented for the relevant type XCPEvent and XCPDAQList

Solved PR 414379

INTECRIO 4.4.1 gives no feedback if model was changed in ASCET

The "transfer"-function of ASCET is used to get a model into INTECRIO Workspace

The well-known behavior of INTECRIO 4.2.2 was: if there was a change in the ASCET model, INTECRIO showed a clear message

In INTECRIO 4.4.1., there is a new behavior:

- Internal change (add a PLUS operation in between the model as well) --> no hint/no message
- There is just a message shown if I change e.g. the name of interface variable

Solved PR 415522

INTECRIO 4.4.1: SL atomic subsystems only useable with inline option

If a library block or masked subsystem is used with the option "treat as atomic unit" and additionally, "reusable function" is chosen, the parameters and test points of the further instances do not appear in the A2L file of INTECRIO.

4 Properties and Known Issues

This chapter describes the properties changes of INTECRIO V4.7.3 with respect to earlier versions. Some of them are not mentioned in the documentation.

4.1 Known Issue Report

If a product issue develops, ETAS will update the Known Issue Report (KIR) and post it on the internet. The report includes information regarding the technical impact and status of the solution. Therefore, you must check the KIR applicable to this ETAS product version and follow the relevant instructions prior to operation of the product.

The Known Issue Report (KIR) can be found here:

<http://www.etas.com/kir>

4.2 Properties and Known Issues of the Simulink Integration

The Simulink integration in INTECRIO depends on the properties of the Simulink code generation. Some of these properties cannot be influenced by INTECRIO and are described in this section.

Usage of the Simulink external mode (back animation)

The option "spawn sub rates as processes" does not work in the external mode. When using the block "create asynchronous process", the external mode does not work. Stopping the OS from the Experiment Environment may prevent INTECRIO from connecting to Simulink again.

Line names instead of signal names for inputs

If a line connected with a Simulink input signal has a name, Simulink uses the name of the line, not the name of the input signal.

"Open in modeling tool" changes file names

Simulink changes all upper-case letters to lower case and converts the file name to 8.3 format, when opening modules using "open in modeling tool".

Recommendations:

- avoid upper-case letters and more than 8 characters in module names
- open modules directly from the file system

Known PR 63938:

GCC optimization may cause out of memory error with big models

Due to a compiler problem, Simulink models of about 50 MB and more can cause the GCC compiler to crash, if compiler optimization is used.

Recommendation: In the system project options (context menu entry "Properties" on the system), disable the checkbox "Activate compiler default code optimization" in the "Project Integration" section.

Known PR 70266:

Possible stability deterioration if external mode is used in VP models

On some non-hyper threading ECUs, the stability of the virtual prototype may be derogated.

Recommendation: do not use external mode

Known PR 70900:

Embedded Coder integration does not support external mode

Recommendation: do not use external mode

Known PR 74244:

If a constant is used as an input to a lookup-table, no test point must be used on that connection

Otherwise, changes of the constant will not change the output of the table.

Recommendation: remove the test point.

Known PR 1002809:

Wrong values may be measured using very large Simulink modules

During the experiment, Simulink modules with extremely large ASAM-2MC files have led to wrong measurement results due to the usage of wrong formulas in a single case.

Known PR 1004141:

Not all ExportedGlobal parameters of a Simulink model are put in the "Global" folder of the EE Workspace tree

To become part of the "Global" folder, ExportedGlobal parameters must be used at least once in the model.

Known PR 242265:

Simulink "Exported Global" Constants Are Not Listed in Global Section of EE/EIP-Workspace

If an exported global constant is used in the Simulink model only once, it is not listed in the global section of the experiment data structure.

Recommendation: None; you may want to introduce a second instance of the constant to circumvent the problem.

Known PR 245996, 330825:

A2L generation for Simulink supports no MEASUREMENTs.

A2L generation for Simulink matrixes only works with CHARACTERISTICs, not with MEASUREMENTs.

Recommendation: none.

Known PR 310949:

Simulink R2010a and 2010b does not work with "Create_Async_Process" blocks from INTECRIO block library

Due to an error in Simulink, these blocks cannot be used in Simulink R2010a and R2010b.

Recommendation: none.

Known PR 334945, 343384, 344407

Problems with A2L generation for Simulink Lookup Tables

The A2L generation for Simulink Lookup Tables sometimes leads to problems.

Recommendation: In Tools -> Options -> Project Integration -> ASAM-2MC Generation switch off the option "Generate ASAM2 MC files internally" for Simulink modules.

Known PR 338871:

Simulink Fix Axes are not supported

The A2L generation for Simulink Fix Axes sometimes leads to problems. These are generally not supported, but sometimes even lead to build errors.

Recommendation: In Tools -> Options -> Project Integration -> ASAM-2MC Generation switch off the option "Generate ASAM2 MC files internally" for Simulink modules to avoid the build errors.

Known PR 343163:

Some Custom Storage Classes not supported when working with Simulink Embedded Coder

Recommendation: Choose the option "Ignore custom storage classes" in Simulink code generation.

Known PR 346877, 351564, 356923:

Simulink look-up tables must have storage class "ExportedGlobal"

Due to limitations in Simulink and INTECRIO, Simulink look-up table blocks of types "Lookup_n-D", "Interpolation_n-D" and "LookupNDDirect" require special settings during Simulink code generation.

Recommendation: Please use "Inline Parameters" option and the 'ExportedGlobal' storage class according to the documentation.

Known PR 351084:
Some workspaces from INTECRIO V4.0 or earlier containing Simulink modules cannot be built anymore

Some modules require the presence of Simulink library functions. The way these library functions are included in the modules was changed starting with INTECRIO V4.1. So for some modules created with INTECRIO V4.0 or earlier versions, the necessary library functions are not found and a build error occurs.

Recommendation: Rebuild these modules with INTECRIO V4.1 or later.

Known PR 364879, 372712:
No support for structured Simulink parameter data

Structured Simulink parameter data (e.g. introduced via bus selector and bus creator blocks) is currently not supported.

Recommendation: do not use these modeling elements.

Known PR 369710:
Installation fails if local startup.m file is used

INTECRIO enhances the standard startup.m file during installation. If a local startup.m file is used, the modification of this file fails and Simulink connectivity does not work properly.

Recommendation: modify the local startup.m file manually in this case.

Known PR 377648
Changed handling of maps, curves, etc. in Simulink 2013b

In Simulink 2013b, Mathworks have changed the handling of maps, curves, etc. considerably compared to previous versions.

For this reason, the handling of these objects has been revised with INTECRIO versions starting with V4.4. For Simulink Coder, the new option "Enable legacy ASAM-2MC generation" has been added to the ASAP2 generation options, which can be activated for Simulink releases prior to R2013b only. If this option is switched on, INTECRIO V4.4 treats older Simulink versions in the same way as previous INTECRIO versions did. If the option is switched off (mandatory setting for Simulink R2013b and later versions), a new way of code generation is applied for maps and curves.

Recommendation:

When the new way of ASAM-2MC generation is used (i.e. the option "Enable legacy ASAM-2MC generation" is switched off), the following conditions must be observed:

- When the Simulink optimization option 'inline parameters' is switched off, all data from maps, curves, etc., are implemented as fields of the Simulink global parameter structure. In this case, Simulink Coder does not provide information about input value references and axis references for maps, curves etc.. This means that the ASAM-2MC description (and thus the representation in INCA) will be incomplete. Therefore, this setting is not recommended.
- When the Simulink optimization option 'inline parameters' is switched on (recommended), an ASAM-2MC description (and thus the representation in INCA) for any object will only be available, if a dedicated storage class, e.g. "ExportedGlobal", not "Auto", is chosen. I.e. all data objects that users need to view or modify with INCA must be explicitly configured for that purpose. In this case, look-up table parameters, which are supported by the native Simulink Coder (previously Real-Time Workshop) ASAM-2MC generation, will be represented in INCA correctly and completely.

Known PR 396566:
Saturation Upper/Lower Value Limits are Sometimes not Initialized Properly

If +/-inf saturation limits are specified in saturation blocks, their initialization is done dynamically after the executable prototype has been started. After initial upload by INCA, they may thus appear as zero or to such a large number, that INCA cannot handle them properly. Calibration access may lead to wrong results in this case.

Recommendation: Enter value limits of e.g. +/-10³⁰⁵ manually. On request, ETAS can provide you with an example script doing this for the complete model.

Known PR 427768:

2D Table of a Simulink Project in INCA Experiment

Error when adding 2D Table into INCA Experiment of a Simulink Project built in INTECRIO

Recommendation: select "generate a2l internally" in INTECRIO, the error will not occur then.

Known PR 427464:

Installation conflict between Matlab/Simulink and INTECRIO/ RLINK

Matlab/Simulink is blocked after installation/association of INTECRIO or RLINK due to info.xml

Recommendation: Remove info.xml files from INTECRIO installation.

Known PR 448926/462541: Constant Parameters cannot be shared for several Simulink Models

A const_parameter.c file cannot be compiled for each Simulink module individually. In consequence all files which would like to make use of global constant parameters must be located in the same directory and must make use of the same "slprj" folder. The same problem occurs if the common "slprj" folder is deleted between several model builds.

An error in the following style will occur: GNU_QCC_CROSS_LINKER
undefined reference to `rtCP_pooled_<unique identifier>'

Recommendation: regenerate all models without deleting the slprj folder or use 'set_param(gcs,'GenerateSharedConstants','off');' in the MATLAB command prompt before regenerating all models.

Known PR 473169

Custom 2D Table are shown as scalar element in INCA

Recommendation: none.

Known PR 489013:

Only one instance of "reusable functions" is supported

INTECRIO can handle only one instance of "reusable functions" in a Simulink model.

Recommendation: none.

Known PR 513734:

Handling of Lookup-Tables in referenced models

Lookup-Tables are handled differently depending on their location in the main Simulink model or in a referenced model.

In the main Simulink model, they are created as
/* Characteristic type */ MAP

In a referenced model, they are created as
/* Characteristic type */ VAL_BLK
which is inconvenient in INCA.

Recommendation: avoid Lookup-Tables in referenced models.

Known PR 564344:

Build fails if model name is 'add'

Recommendation: avoid this name in INTECRIO models.

Known PR 614348:

INTECRIO 4.7.1: Delay Block issues in referenced Models with SL R2014a

The parameters being part of the delay block (z^{-1}) are not working if the delay block is used inside a referenced model and if code is generated with R2014a.

Recommendation: use a different Simulink version.

Known PR 614781:

Init values of Lookup Tables objects are not always exported to SCOOP-IX/A2L

If a Lookup table makes use of a lookup table objects defined in the Model Explorer, the initial values located in the lookup table objects are not considered.

Recommendation: none.

Known PR 616009:

INTECRIO V4.7.1 Simulink output no longer compatible with older INTECRIO versions if referenced models are involved.

Once an INTECRIO code generation target for Simulink is installed in version 4.7.1, the generated output can no longer be used in previous INTECRIO versions, if referenced models are involved.

Recommendation: avoid using referenced models, if older INTECRIO versions need to be supported.

Known PR 616142:

Build fails when using a referenced model containing a Datastore block built in Simulink 2016b with specific settings

Build fails when building a Simulink module under the following conditions:

The `evpt_grt/ erpt_grt` target is used AND optimization is set to tunable AND a Datastore block is used inside an atomic subsystem inside a referenced model AND a variable in the workspace is used to store the data by using read and write blocks (not placing the Datastore block itself into the model).

Recommendation: Change one of the before-mentioned settings.

Known PR 619096:

Simulink coder build fails with "Conflicting ParameterGroup references"

X and Y axes are defined for look-up tables as Matlab variables.

If these are used in the opposite way (X<->Y) in the same model for another look-up table the build fails in Simulink coder the IRT target due to restrictions in the A2L language definition.

Recommendation: use each X and Y axis in one unique way, either as X or as Y axis in your model.

Known PR 626060:

1-D Tables are defined as VAL_BLK in A2L files

When the same parameter used as 'table data' and as a constant in parallel, 1-D Tables will be generated as VAL_BLK in A2L files.

Recommendation: Use two exported global parameters, one for each internal element.

Known PR 627021:

Building very large model works after pressing Ctrl-D only

The build of very large models in Simulink may fail, if memory is not sufficient for the Simulink code generation. This may in particular affect the INTECRIO code generators, because their memory needs are higher.

Recommendation: 'Update Diagram' (Ctrl-D) optimizes the model before building it and may avoid the out-of-memory problem.

4.3 Properties and Known Issues of the ASCET Integration

OS auto mapping of ASCET processes

If a module is exported from ASCET using the default project, no timing information for the processes is provided. The automatic mapping provided by the INTECRIO OSC skips these processes without any log entry.

Recommendation: assign these processes manually.

ASCET module information lost if code generation settings changed

When the user switches from OID-based code generation to name-based code generation in ASCET, INTECRIO is not able to update the modules accordingly.

Recommendation: the model must be reconstructed

Incomplete ASCET V5.1.2 support of non-volatile RAM

Variables in non-volatile RAM can only be measured in INTECRIO, when generated with ASCET V5.1.2 or an earlier version. They can also be calibrated when using ASCET V5.1.3 or later.

Inconsistency for "cont" elements with conversion formula

If a "cont" element has a conversion formula, this formula is not represented in the ASAM-2MC file, which is correct. It is represented in the SCOOP-IX file, however, which is wrong.

Recommendation: only use the "ident" formula for "cont" elements.

Linker errors, if multiple ASCET projects are generated into one directory

File name conflicts arise if multiple ASCET projects are generated into one code generation directory.

Recommendation: use one code generation directory per ASCET project

Known PR 530295:

Restrictions when using ASCET messages with nonlinear formulas

INTECRIO does not support non-linear formulas from ASCET models. The complete model import was refused in the past. Now the import is done, but for the corresponding variables, the "ident" formula is used.

Recommendation: Check the validity of the prototype behavior carefully in this case.

4.4 Properties and Known Issues of the Daisy Chain Integration

Data transmission cycle times within a daisy chain setup depend on each other

The data transmission periods of all modules within an ES4xx chain are always 2^n times the data transmission period of the fastest module ($n = 0, 1, 2 \dots$).

Example: let the fastest ES4xx module transmit data in an $80 \mu\text{s}$ cycle. Then all other transmission periods within the chain must be from the following list:

- $80 \mu\text{s} = 80 \mu\text{s} \times 2^0$
- $160 \mu\text{s} = 80 \mu\text{s} \times 2^1$
- $320 \mu\text{s} = 80 \mu\text{s} \times 2^2$
- $640 \mu\text{s} = 80 \mu\text{s} \times 2^3$
- $1280 \mu\text{s} = 80 \mu\text{s} \times 2^4$
- ...

Known PR 324508:

Automatic update of Daisy Chain configuration fails

When updating a Daisy-Chain configuration in the configuration tool and returning to INTECRIO, an error Message "ES4xx Import 0xC0582F01: An error occurred during update of Daisy Chain Configuration" may occur.

Recommendation: Reimport the file manually.

Known PR 329527 (2012402720):

Changing filter settings in the Daisy Chain configuration may require OS reconfiguration

A change in the Daisy Chain filter settings may result in new signal groups and thus in new OS processes.

Recommendation: Make sure to map these new processes in the OS according to your needs. Otherwise their corresponding signals will not be shown in the experiment.

4.5 Properties and Known Issues of 3rd Party Tools

Special characters cause Python script execution to fail

Python cannot execute scripts containing particular characters, e.g. an apostrophe (').

Compiler keyword checking is stricter than in ASCET

When migrating from ASCET to INTECRIO, some keywords, which are allowed in ASCET (e.g. "random"), will be forbidden by the compiler.

Recommendation: avoid using any GNU C standard identifiers as names for software modules, messages, etc.

Special method syntax for Python scripting with the Experiment Environment

With Python as scripting language, argument-less methods must be used without parentheses for the automation of the Experiment Environment. E.g., `SignalSources.Download()` will fail.

Recommendation: use `SignalSources.Download` instead.

Known PR 84098:

Interferences with 'Shared Folder' Functionality in VMWare

VMWare versions handle file access in different manners, which are sometimes not fully Windows compatible. In connection with INTECRIO data loss has been observed in rare cases.

Recommendation: Do not store Workspaces, SCOOP-IX, A2L files, and other valuable information on "shared folders" in VMWare.

Known PR 85703, 2008405764:

RTA-OSEK for PC path must be adapted for each user individually

Recommendation: If a workstation is used by multiple users, the path to the RTA-OSEK installation must be entered for each user individually. In **Tools → Options**, open "Project Integration → Tools. Under "Select tool", choose the "LiveDevices RTA-OSEK Tools for PC Target" entry and enter the installation path under "Tool path".

Also the "RTA-OSEK Easy Installer" from the INTECRIO product DVD initializes the path for all users correctly.

Known PR 86062:

QCC crashes with internal compiler error

In rare cases, QCC cannot compile projects.

Recommendation: disable compiler optimization.

Known PR 93988:

RTA tools need to be started by "Run as administrator" command

Otherwise, RTA tools do not install properly.

372935

Scripting with Python requires at least Python V2.7.4

ActivePython V2.7.1.4 and older versions do not work with INTECRIO due to a missing runtime library reference.

Recommendation: use at least Python V2.7.4

4.6 Properties and Known Issues of the Experiment Environment

Insufficient Graphics Card Memory

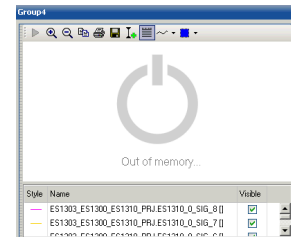
The RT Oscilloscopes directly accesses the graphics adapter via DirectX. Therefore, it needs graphic card memory (video RAM). The size of the needed video RAM depends on the number of RT Oscilloscopes which are visible and their size.

If the video RAM is not sufficient, the RT Oscilloscope will display the message shown on the right.

Recommendation: Free video RAM

- by closing other programs
- by decreasing either size or amount of RT Oscilloscopes shown at the same time, e.g. by moving some to another layer.

Once there is sufficient memory again, the RT Oscilloscopes will turn into normal operation mode automatically.



Problems with Screensaver during endurance tests

During endurance tests some interference problems between the Windows screensaver and the RT Oscilloscope have been observed. They may lead to a freeze of the RT Oscilloscope

Recommendation: disable the screen saver when performing endurance tests.

Special method syntax required for Python scripting

With Python as scripting language, argument-less methods must be used without parentheses for the automation of the Experiment Environment. E.g., `SignalSources.Download()` will fail.

Recommendation: use `SignalSources.Download` instead.

Known PR 67072, 436699: 3D-arrays are not supported

Recommendation: use a number of 2D-arrays.

Known PR 242344:

Problems with RTA-TRACE V2.1.2 in combination with EE V3.3

Recommendation:

If you have installed a RTA-Trace version V2.1.2, then

- uninstall RTA-Trace V2.1.2,
- install RTA-Trace V2.1.1 from the current INTECRIO DVD,
- associate RTA-Trace V2.1.1 with the EE (through Windows start menu entry "Associate with RTA-Trace").

Note: in the Help → About main menu entry RTA-TRACE V2.1.2 shows up as "V2.1.1". In doubt please see the installation path on the file system.

Known PR 307147:

Signal generation not supported for AUTOSAR systems

The signal generation cannot stimulate signals in AUTOSAR systems.

Recommendation: none.

Known PR 307163:

Enumeration typed value block parameters unsupported by EE

Enumeration typed value block parameters are supported by INTECRIO for Simulink, but cannot be handled by the Experiment Environment.

Recommendation: INCA-EIP supports these parameter types

4.7 Properties and Known Issues of INTECRIO, including VP and RP

This section describes the problems known in INTECRIO V4.7.3:

No undo/redo for scripting

For scripting, no undo/redo is supported.

No dynamic module reconfiguration after reconnect

For safety reasons, the dynamic reconfiguration of module connections is not possible after a reconnect anymore. The "update" button becomes inactive.

Recommendation: download the executable prototype to the hardware again.

Uncritical XSL validation errors during document generation

Especially when using ISR event dependencies in the model, uncritical validation errors occur.

Recommendation: none.

Incremental build does not work after previous linker error message

Once the linker generates an error message, system re-build is necessary.

Recommendation: re-build the system.

Virtual prototyping: model task periods must be 100 µs or larger.

For virtual prototyping, task periods smaller than 100 µs are not supported.

Recommendation: none.

Presentation problems on IBM/Lenovo Thinkpad Notebooks

When presenting INTECRIO on an IBM/Lenovo Notebook with an external device (e.g. a projector) using the Lenovo "Presentation Director", the graphic model representation may be unusable due to wrong zooming factors. Models may be displayed extremely magnified.

Recommendation: uninstall the "Presentation Director".

Message copy bitmasks used in service based bypass must be consistent with original bitmasks

If a bit mask is defined for a message copy, which deviates from the bit mask of the original message, the message cannot be used for service based bypass.

Recommendation: none.

Known PR 66903 (243692):

No warning for CAN frame size overflow

INTECRIO does not notify the user, if a CAN frame contains too many bytes

Recommendation: check frame size in the graphical frame layout editor.

Known PR 67066 (243738):

CAN interrupt dT monitoring overflows

When monitoring the time difference between CAN interrupts, for performance reasons only values less than 4.29s are detected correctly.

Recommendation: none.

Known PR 67072, 332317:

3D-arrays are not supported for Simulink integration and in the EE

Recommendation: use a number of 2D-arrays.

**Known PR 67777 (243809):
Double quotes (") as a part of a unit in A2L not supported**

The Experiment Environment fails to open A2L files, which contain double quotes inside unit definitions.

Recommendation: avoid units with double quotes.

**Known PR 69255 (243930):
Matlab/Simulink network installations not fully supported**

If Matlab/Simulink is installed on a network drive, it will not support several INTECRIO features (like, e.g., open in modeling tool).

Recommendation: use local Matlab/Simulink installation.

**Known PR 69897:
Strange message when exporting workspaces to a write-protected location**

INTECRIO reports a general error and "Unbekannter Fehler" in this case.

Recommendation: export to a different location or remove write-protection.

**Known PR 69904 (243995):
Name clashes with reserved compiler keywords**

If the model uses variable or function names reserved by the compiler (e.g., "time") the project cannot be built.

Recommendation: rename the conflicting entities.

**Known PR 70810 (244131):
Only one multiplexer per frame supported for FIBEX import**

For FIBEX files with frames containing more than one multiplexer, only the first multiplexer is imported. A corresponding warning message is provided.

Recommendation: de-multiplexing can be done by the application model in these cases.

**Known PR 73676 (244367), 383452:
Low disk space may cause data loss**

Saving to a location with low or no disk space may cause unexpected behavior and data loss. The same is true for importing workspaces or building system projects.

Recommendation: always be sure to have plenty of free disk space on the drive your workspaces are on.

**Known PR 74231, 3001408 (244415, 242719):
Experiment cannot be started after document generation**

Projects are set into "edit" mode after document generation, thus no experiment can be started.

Recommendation: Execute "build" again.

**Known PR 74310 (252351):
"Deep Smart Power Down" (DSPD) impacts electronic licensing**

The DSPD feature disables network adapters when they are not used. If DSPD deactivates a network adapter, which is used for electronic licensing, INTECRIO will not find a valid license.

Recommendation: disable DSPD for the corresponding network adapter.

**Known PR 75282 (244458):
Change of documentation template requires INTECRIO restart**

Changing a documentation template becomes effective after the next INTECRIO start only.

Recommendation: restart INTECRIO.

Known PR 76336 (244509):

Workspace export/import only considers experiments inside workspace folder

If an experiment configuration (*.eex) is located outside the workspace folder, it is not exported together with a workspace export. After importing the corresponding workspace again, the experiment configuration is not found automatically anymore.

Recommendation: locate your experiment files inside the workspace folder or open experiments at the correct path manually from the EE.

Known PR 80586 (244855):

Signals during FIBEX import due to missing data type entries

If a signal has no <ho:BASE-DATA-TYPE> entry in FIBEX, it is not imported.

Recommendation: modify the FIBEX file manually.

Known PR 83662 (244886):

Useless "Error 1931" message during installation

A message like the following may appear during the installation of the Experiment Environment:

"Error 1931: The Windows Installer service cannot update the system file C:\WINNT\System32\asycfilt.dll because the file is protected by Windows. You may need to update your operating system for this program to work correctly."

Recommendation: Click OK to continue the installation. No further action is required.

Known PR 84292 (244949):

Disconnect from virtual prototyping experiment deteriorates VP UI

The virtual prototyping user interface may show wrong behavior after disconnecting from a running virtual prototype and downloading again.

Recommendation: do not disconnect before second download.

Known PR 85060 (245046):

Overlapping IP addresses can cause malfunction of XCP on UDP

Recommendation: IP addresses for XCP on UDP must not overlap with the address range used in the ETAS Network settings. Otherwise IP address conflicts can occur, since the ETAS IP Manager has no knowledge of the IP configuration used for XCP on UDP.

Known PR 245112, 245049, 242321, 330388, 330621, 376807:

Build fails if path names contain exotic UTF8 characters

Some UTF8 characters (e.g. the "€" sign) cause build errors, if they are used in the installation path name, the workspace path name, or in the module path name.

Recommendation: avoid UTF8 characters in path names and file names.

Known PR 85254 (245069):

Some documenter options do not take effect

Recommendation: none.

Known PR 85916 (245158):

Static connections can be switched in online mode

Even if they are configured as "static", connections can be switched in online mode.

Recommendation: none.

Known PR 1003513 (242242):

Original A2L-file required to copy and paste ETK configuration

Copy and paste fails for an ETK configuration, if the original A2L file has been moved or deleted.

Recommendation: preserve the original file.

Known PR 1003678 (242253):

Properties cannot be changed via Scripting

Several property settings cannot be influenced via the scripting interface.

Recommendation: none.

Known PR 242342:

The ASAM-MCD2-MC file entry "max write variables" is not applied

During bypass configuration, the "max write variables" field is ignored.

Recommendation: none.

Known PR 244001:

Code generation fails if a module contains native struct (no typedef)

Code generation fails if the SCOOP-IX file contains a description of a native struct (no typedef).

Recommendation: none.

Known PR 244895:

Invalid figures (i.e. inf, NaN) are converted to valid numbers

When a float64 number is transmitted between a software system and a hardware system, invalid figures (i.e. inf, NaN) are converted to valid numbers.

Recommendation: none.

Known PR 244059, 246261:

In the error log, hexadecimal numbers are shown in decimal format

Recommendation: in some cases, it is helpful to translate decimal number representations in the log window into hexadecimal format to understand log messages properly.

Known PR 245177:

Wrong message during ASCET-OS import: ASCET OS description contains periodical task 'Task01' with setting 'autostart = true', but only 'false' is supported

This message is wrong. All periodical tasks are auto-started by default.

Recommendation: none.

Known PR 245410:

Some license manager features are not implemented

For INTECRIO, the license manager does not support interactive installation, auto-borrowing, etc.

Recommendation: Open the license manager manually and perform the required tasks.

Known PR 245449:

OS configuration: Alarm task with a delay of 0 are only started at the next OS tick

If an Alarm tasks has a delay setting of 0ms, it is started at the next OS tick only. If this is, e.g. at 10ms, there will be a difference of 10ms between a task with a delay of 0ms and a delay of 20ms.

Recommendation: if this is relevant for your use case, design you OS configuration carefully to avoid the effect.

**Known PR 245483, 245547:
System project option "Additional compiler include search path" applies to
"additional C files" only**

Recommendation: none.

**Known PR 245489:
Linker error message "...undefined reference to `runnable`"**

For ASCET SW components, messages like the following may be generated:
"OSC\auto_runnable.o(.text+0x18):auto_runnable.c: undefined reference to
`runnable`"

Recommendation: please set "events and periods" for the runnables in ASCET properly.

**Known PR 245504:
Redefinition warnings when building AUTOSAR project (R3.1.0)**

These redefinition warnings are harmless.

Recommendation: none.

**Known PR 245517:
The ASAM-MCD2 file entry "max write variables" is not applied**

Recommendation: none.

**Known PR 245537:
No error message during AUTOSAR build process, if a file is not found.**

INTECRIO displays information messages only, if an AUTOSAR project cannot be built due to missing files.

Recommendation: none.

**Known PR 245734:
Execution error if FlexRay key slot only contains NullFrame**

If a FlexRay key slot is configured, which contains only a NullFrame, the system cannot be executed.

Recommendation: use a slot as key slot, which contains at least one frame different from NullFrame.

**Known PR 245739
No error message when trying to mix AUTOSAR SWCs from different AUTOSAR releases**

AUTOSAR SWCs from different AUTOSAR releases cannot be mixed in one system project. INTECRIO does not notify the user in this case.

Recommendation: ensure by other means to use AUTOSAR SWCs from only one AUTOSAR release in one system project.

**Known PR 245821, 333519, 333761:
Message "ConnectionStatus : A fatal error has happened. Stopping operations."
during virtual prototyping**

For virtual prototyping, paths to referenced files are hard coded in the executable. If the referenced files are not found, the virtual prototype cannot be executed.

Recommendation: Add the path to RTA to the 'PATH' environment variable and restart INCA or EE. The referenced files will be found, then, and the prototype executes properly.

Known PR 245832:
INCODIO blocks sharing the same global variable are not supported

Recommendation: you may contact ETAS for a manual workaround.

Known PR 245872:
"Associate with Matlab" deletes custom content of startup.m

When executing "INTECRIO 4.0" → "Connectivity" → "Associate with Matlab" from the Windows start menu, it removes custom content (if there is any) from the startup.m file

Known PR 249366:
Virtual prototyping execution occasionally crashes when exchanging one prototype with another.

Recommendation: Stop virtual prototype execution using the system tray icon and close and reopen INCA to launch execution of a different virtual prototype.

Known PR 250217:
No simultaneous VP Debugging and ASCET back animation

ASCET back animation and debugging are not possible simultaneously during virtual prototyping experiments.

Recommendation: Close either back animation or the debugger.

Known PR 279550:
Not all code lines support stepping during VP debugging

In order to simulate interrupts in a Virtual ECU, the Virtual Machine has to manipulate the stack of the application thread asynchronously. Since many functions cannot cope with asynchronous stack changes, stepping is not possible in every line of code.

Recommendation: Set multiple breakpoints and jump from breakpoint to breakpoint. For further details see RTA-OSEK for PC User Guide.pdf, chapter 16.2 on page 263.

Known PR 284685:
Previous INTECRIO versions cannot import SL-Modules from V4.0

When compiling Simulink module, which are generated with the Simulink Connector V4.0, in earlier INTECRIO versions, the compiler shows error messages like "Error: 'parse error before ...' while using GNU_QCC_CROSS_COMPILER".

Recommendation: use INTECRIO V3.2 or a previous version for Simulink code generation, if this version is also used for integration.

Known PR 307168:
"AUTOSAR Version Mismatch" messages are displayed during AUTOSAR build

During the AUTOSAR build procedure, "AUTOSAR version mismatch" messages may be shown, even if the build is successful.

Recommendation: If the system is set into "Built" mode after the build procedure, you may ignore the wrong messages.

Known PR 311918:
Pop up window during INTECRIO installation

During installation on Windows 7 systems, a window may open explaining installation options of the ETAS license manager.

Recommendation: close the window and installation will continue.

Known PR 312188:

Simulink code generation ignores lower/upper bounds for local data elements

The generated A2L file does not contain information on the value ranges of local elements.

Recommendation: none.

Known PR 324265:

Deleting FlexRay frames causes unexpected error messages

When deleting FlexRay Frames from an existing configuration, sporadic harmless error messages like the following may show up:

Error ... Data Management Object Server 0xC0410001 OID ... is not available in this transaction (sessionId = 0).

Recommendation: Ignore the messages.

Known PR 328972:

Timer task names longer than 39 characters are not allowed

If the name of a timer task exceeds 39 characters, INTECRIO generates the error message "LD_RTA_BUILD-EC315: The identifier: ... exceeds the maximum allowed length of 40 characters." The reason is that internally, additional characters are appended to the task name.

Recommendation: use timer task names shorter than 40 characters.

Known PR 242265

Simulink "Exported Global" Constants Are Not Listed in Global Section of EE/EIP-Workspace

If an exported global constant is used in the Simulink model only once, it is not listed in the global section of the experiment data structure.

Recommendation: none.

Known PR 324757:

IP address configuration of loopback adapters needs to be done manually for back animation with virtual prototyping on Windows 7

Recommendation: Use the Windows 7 control panel to configure the adapters manually. Afterwards, the ETAS network settings application can be used as usual. See <http://support.microsoft.com/kb/839013> as well.

Known PR 324930:

Long path names for workspaces lead to malfunction

Very long path names lead to wrong behavior of INTECRIO.

Recommendation: make sure to store INTECRIO workspaces in directory paths with less than 100 characters.

Known PR 325099, 338938:

Host connection lost if startup of hardware system takes too long

If the startup phase of a hardware system (ES910, ES1000, or RTPRO-PC device) takes too long, the connection to the host PC gets lost and an interface error occurs.

Known PR 327296:

Target Server cannot handle large matrices in prototyping experiments

The Target Server, which establishes the connection between the prototyping hardware and the Experiment Environment (INCA-EIP or ETAS Experiment Environment) cannot handle large matrices. The maximum size supported is 63x63 elements.

Recommendation: do not use matrices larger than this limit.

Known PR 327857:

Workspace folder must not be deleted or modified by the user

Modifications of the folder containing an INTECRIO workspace, or of the files within the folder, might not be possible, while INTECRIO is open. In general, such modifications can lead to unexpected tool behavior.

Recommendation: do not alter workspace folders manually.

Known PR 328798:

Some *.mat files cannot be imported into ETAS Experiment Environment for signal generation

Recommendation: To create a valid signal generator set in MATLAB, please proceed according to the following example.

On the MATLAB command line, enter, e.g., the following commands:

```
>> t1=0:0.1:10;  
>> t2=0:0.5:30;  
>> s1=sin(0.5*pi*t1)+1;  
>> s2=3*cos(0.2*pi*t2);  
>> X=[t1' s1'];  
>> Y=[t2' s2'];  
>> save F:\DemoProject\signals.mat X Y;
```

This example creates the MATLAB file „signals.mat“ with the two signals X and Y as matrices.

Known PR 329121:

CAN Nodes with specific names are ignored during the CANdb import

Node names beginning with the String "Vector_" are ignored during the CANdb import.

Recommendation: none.

Known PR 329491:

Wrong error message when using "INTECRIO Tools --> Virtual Prototyping" from the Windows start menu

When using "INTECRIO Tools → Virtual Prototyping" from the Windows start menu, a message may occur that a license file is missing.

Recommendation: Ignore this message. No extra license file is needed to run VRTA-OSEK with INTECRIO-VP.

Known PR 331858:

Using the new feature "SW consistency check" requires A2L reimport

The new INTECRIO V4.1 feature "SW consistency check" feature cannot be used unless the *.a2l file is imported again, because some values from the file are required by INTECRIO, which had not been imported by previous versions.

Recommendation: re-import the A2L file.

Known PR 331928:

ETK to CAN gateway generation fails, if the configuration file is located on a network drive

Recommendation: Place the file on a local drive.

Known PR 332468:

Some libraries may be missing when using Visual Studio 2005

Visual Studio 2005 does not provide the same set of libraries as the 2008 and 2010 versions do. In some cases, these may be missing during the build procedure.

Recommendation: Copy the libraries manually or switch to the newer versions of Visual Studio.

Known PR 333483:

AUTOSAR runnables are executed ten times too often

AUTOSAR runnables are executed at 10 times their configured period.

Recommendation: if needed, modify the period in ARXML manually.

Known PR 338473:

Debugging not supported with Microsoft Visual Studio 2005

Microsoft Visual Studio 2005 compiler cannot be used for debugging with virtual prototyping.

Recommendation: use later versions of Microsoft Visual Studio.

Known PR 339762:

The FIBEX V3.1.1 format is not supported

For FlexRay configuration, only FIBEX V3.1.0 is supported by this version.

Recommendation: none.

Known PR 340411, 341610:

System projects containing a large number of modules cannot be linked

Linking fails for system projects containing a large number of modules.

Recommendation: none.

Known PR 341412:

Some FlexRay signal properties cannot be modified

In INTECRIO V4.2.1 and V4.2.2, some properties in the FlexRay configuration cannot be modified. They are "read-only".

Recommendation: INTECRIO V4.3.0 will provide more editing possibilities.

Known PR 341609, 341610:

Build fails with large workspaces

Workspaces with a large number of modules cannot be built.

Recommendation: none.

Known PR 346762:

Individual bit masks for local message copies are not supported during service based bypass.

If an individual bit mask is defined for a process specific message copy (so-called "local message copy") in the ECUInternals part of an ASAM-MCD2-MC file, the message variable will not be supported for the send (to ECU) direction of service based bypass setups.

Recommendation: Ask the ECU supplier to use identical bit masks for the global messages and their local copies.

Known PR 349744:

Non-linear conversion formulas are not supported for messages

SCOOP-IX files containing non-linear conversion formulas for messages are not supported. An error message will be generated in this case.

Recommendation: Use linear conversions only.

Known PR 351828:

Relative paths are not supported in SCOOP-IX for referenced libraries

If a reference to a library file is included in a Simulink model, the code generation creates an absolute path to that library in the module description (SCOOP-IX) file. So relative paths are not supported.

Recommendations:

- either store libraries under fix paths on all involved workstations,
- or modify the SCOOP-IX file manually.

Known PR 356147:

LIN I/O and Monitoring is not Supported Simultaneously

Recommendation: if possible, do monitoring on one LIN port and I/O on the other LIN port of the ES910.

Known PR 358043:

Rebuild All required after compiler change. Build is not sufficient.

A full rebuild is needed in INTECRIO after changing the compiler, e.g. from GCC V3.4.4 to V4.7.2. Due to incompatible object files, incremental build is not sufficient.

Recommendation: after changing the compiler, rebuild the project.

Known PR 359247:

Build fails after update of AUTOSAR SWCs, if their AUTOSAR version has changed

During the update of AUTOSAR SWCs, INTECRIO does not recognize if the AUTOSAR release version has changed. As a consequence, the build process may fail.

Recommendation: please remove the SWC from the project and import it again.

Known PR 377106:

FlexRay alive counter check may recognize the second error only

If the first alive counter value read from the FlexRay bus is equal to the internal start value of the expected alive counter value, then the system doesn't recognize a first potentially occurring alive counter error on the bus. The system will recognize and report alive counter errors starting only from the second alive counter error on the bus in this special case.

Recommendation: none.

Known PR 377206:

User permissions on algorithm directory must be unchanged

Algorithm handling, e.g. for FlexRay checksum handling, may fail, if the user permissions on the algorithm directory (e.g.

C:\Users\Public\Documents\ETAS\INTECRIO\Algorithms) are changed.

Recommendation: keep permissions unchanged.

Known PR 385035:

INTECRIO Experiment Environment does not support the FIX_AXIS keyword in ASAM-2MC.

Recommendation: None.

Note that INCA-EIP supports FIX_AXIS.

Known PR 389186:

"RTA-OSEK Error: ActivateTask: E_OS_LIMIT" when trying to start experiment

The message occurs, if a task is activated before its execution in the previous scheduling cycle has been finished. For virtual prototyping on the PC, this message may also be caused by Windows OS latencies or similar effects.

Recommendation: If the message occurs during startup of a virtual prototype, it is typically harmless. If it occurs repeatedly during normal execution, it indicates that the execution speed in scaled time operation should be reduced.

Known PR 399833:

Option "Create standalone code" must be active to use environment systems

In a System Project, the communication between a contained Environment Systems and a Software System is only ensured, if the code generation option 'Create standalone code' is switched on.

Recommendation: Do not change the default setting and keep the option switched on.

Known PR 399952:

Problems with white spaces in installation path under Windows 7

In a single case, the error "Invocation of 'gcc' failed, return code is 1" occurred under Windows 7, because the INTECRIO installation path contained a white space.

Recommendation: Install INTECRIO in a path without white spaces or make sure that at least the compiler is installed in a path without white spaces.

Known PR 401597:

Build Problems if an ASCET-RP Project is Transferred to INTECRIO, Including the Hardware Configuration

If an ASCET-RP project is transferred to INTECRIO including the hardware configuration, the build process will fail in INTECRIO.

Recommendation: Remove the hardware configuration before the transfer.

Known PR 425820:

INTECRIO 4.4.1: not all "asdWriteUserDebug" outputs are displayed in CEE message/hardware window

If a VP system calls ""asdWriteUserDebug"" quite often, then not all messages are displayed. Recommendation: printing first into a string which is then displayed via asdWriteUserDebug(string). Does not work in all cases though

Known PR 436873:

BlockSimu: If signal recording fails, repeated error messages are generated

If signal recording fails, repeated error messages are generated.

FATAL[I_DATA_ACCESS]: SIGNALGENSV: 0x7120: Failed to record signals.

FATAL[I_DATA_ACCESS]: SIGNALGENSV: 0x7120: Failed to record signals.

.... (thousands of messages following)

Known PR 435757:

BlockSimu: With ASCET module, if the value in the DCM file is outside the datatype range, the measurement value is not correct

With ASCET module, if the value in the DCM file is outside the datatype range, the values are not saturated

No error message is logged

In case of array, if the index is out of range, no error is logged

For arrays, the values from DCM file is not considered

Recommendation: Please check DCM before usage

Known PR 433815:

BlockSimu: VP-ECU crashes if mgx file is present while calibrating for Arrays

For some workspaces used for the block simulation mode, VP-ECU crashes if mgx file is present while calibrating for arrays.

Known PR 409123:

Adding large number of Modules to the Software System not possible

Limit of 24.000 ports detected.

Recommendation: Stay inside the limitation of 24.000 ports

Known PR 412422:

INTECRIO help document for the blocks is not visible in Matlab online help window since Matlab 2012

The help document about the INTECRIO Simulink blocks are not visible any more in the Matlab online help window since Matlab 2012.

Known PR 414128, 540162:

Special characters (i.e. ä, ö, ü) are not allowed as part of path

Some 3rd party components used in INTECRIO (ruby, gcc) cannot handle German special characters.

Recommendation: Do not use special characters in any paths

Known PR 449381:

INTECRIO 4.4.1HF1: INTECRIO-VP system crashes while calibrating

For some models, INTECRIO-VP system (build with 4.4.1HF1) crashes as soon as Start OS button is pressed.

Known PR 437319:

Manual cleanup of MATLAB startup.m file

In some cases uninstalling INTECRIO might not cleanup the startup.m file which loads the INTECRIO blocks in Simulink. This might happen in case the startup.m is open in some other process. To cleanup manually, open the startup.m file located in <MATLAB Installation path>\toolbox\local\ and remove the entries with comments starting with '%irt'

Known PR 438177:

INTECRIO: Back animation not working with ML version 2014A

For some models, back animation not working, starting with ML version 2014A.

Further information about affected models is currently not available.

Known PR 438330:

Calibration of type const not possible for BlockSimulationMode

In this case, the VP_ECU crashes without an error message.

Recommendation: avoid calibration of const type elements.

Known PR 495322:

SBB V2.0 is not supported for XETK

This is not a product defect, but according to the specification of the product.

Recommendation: none.

Known PR 500153:

Missing error message at installation under Windows XP

Windows XP is not supported by INTECRIO. Therefore the user cannot install it on a Windows XP machine. There's currently no proper error message to the user.

Known PR 500252:

Installation not possible because of a missing .NET Framework

Installation does not start on fresh machine where .NET framework 4.0 or higher is not installed. On Win7 machines, .NET framework 4.0 is typically available.

Known PR 503934:

"Manager feature" is not supported by XETK

The feature 'Rapid Prototyping System Detection' is not supported for XETK. I.e. when the ES910 is unplugged from the XETK when the bypass is running, the ES910 will not reestablish the connection to the XETK once reconnected again and will not resume the bypass.

Known PR 531388

Path to Imported Workspace Must Not Exceed 255 Characters

In order to import a Workspace, the length of the path name must not exceed 255 characters (including the name of the import file).

Recommendation: Use path names shorter than 256 characters.

Known PR 538790:

Grace Mode unsupported for Virtual Prototyping

For Virtual Prototyping, licensing does not support grace mode.

Recommendation: Make sure that you have a valid license.

Known PR 563475:

SCOOP-IX Import: Parser error: Port 'xyz' skipped from import because the data type is not completely defined or not supported

If user-defined datatypes are used and their definitions are incomplete from the INTECRIO point of view, and these datatypes are used for IN or OUTPUT ports, then such ports are skipped during the SCOOP-IX import of the model with the above-mentioned warning.

Known PR 571801:

RTIO Driver locks when starting Bypass for Big Endian FETKs

The affected ETK device is dmETK-S21.

INTECRIO 4.6.2 provides the right RTIO driver, however the firmware supporting this must be at least HSP 11.5.1.

The HSP version INTECRIO 4.6.2 was released with is HSP 11.5.0

Known PR 573006:

Compiler error: cc1.exe: out of memory allocating <xyz> bytes

If big models are generated into one single c-code file and this file exceeds a specific size (e.g. 30 MB), the used GNUC compiler for the ES910 target (QNX) crashes with an out of memory message as the used compiler is a 32bit variant.

Known PR 595114:

Custom ENUM types of Matlab are not fully supported

If Enumerations are created in Matlab using the following command:

```
Simulink.defineIntEnumType('Enum_EnmTest',...  
{'Test1','Test2','Test3'},...  
[0,1,2],...  
'Description','Test',...  
'DefaultValue','Test1',...  
'AddClassNameToEnumNames',false,...  
'StorageType','uint8');
```

the datatype can be explicitly specified (e.g. here as uint8). Unfortunately this information cannot be handed over to the INTECRIO build toolchain as the used SCOOP-IX format is not able to do so. In consequence the generated A2Lfile uses SLONG as data type which does not really fit and will have a negative impact when using this enumeration in the Experiment.

Known PR 615988:

Migration of ES900 to ES800 is not working with AUTOSAR ports and empty OS task

Recommendation: Create task assignments in the OS configuration.

Known PR 618884:

Incorrect error shown in INTECRIO during HWX export & import

During HWX export or import, INTECRIO may show an incorrect error related to inconsistent IP address settings.

Recommendation: Ignore the error.

Known PR 620660:

HWX Import in Replace Mode creates 2 LIN Controllers with the same name

Recommendation: Export and re-import the workspace afterwards. This will repair the hardware configuration.

Known PR 624765:

RTPRO-PC model download failing with Firmware incompatibility error

Recommendation: Use an older INTECRIO version. RTPRO-PC is no longer supported.

Known PR 624946:

Conflicting file names, if Windows is configured to use 8.3 path names

If Windows is configured to use 8.3 path names and files are used, whose names differ only after the third character of the file name extension, workspace export fails.

Recommendation: Use file names that are unique before the fourth character of the file name extension.

Known PR 625314:

User interface is sporadically broken

In rare cases, the icon bar is broken and ICONS are displayed in more than one horizontal line.

Recommendation: delete the following key in the Windows Registry: Computer\HKEY_CURRENT_USER\Software\ETAS\INTECRIO x.y. This will reset the toolbar to the original setting.

Known PR 626002:

Scripting cannot add signal to signal group under certain conditions

This is the case, if the signal selection mode is changed to "All".

Recommendation: none.

Known PR 626555

Error Occurs While Migrating ES900 Configurations to ES800

The migration of a hardware configuration from ES900 to ES800 may fail if the workspace contains an ES1000 system.

Recommendation: Remove the ES1000 configuration from the workspace. If its content is still needed, you may export it before deletion, so that it can be retrieved later.

Known PR 627067:

The "Run Script file" menu item in INTECRIO is not supported for Python 3.x.

Recommendation: Use Python 2.x, at least Python 2.7.4 or start Python 3 scripts outside INTECRIO. You can then also enable an external script to start INTECRIO or to attach to an INTECRIO instance already running.

Known PR 636076

Using Simulink Asynchronous Process with Model Variants

If Simulink model variants is used in combination with the asynchronous process, the Simulink build may fail.

Recommendation:

- Set the mode of the Async Process block to "RTW-Build."
- Select "Support continuous time."

Known PR 636212

Changes in Scripting for the IIntecrioETCParameter Interface

For enum types contained in the IIntecrioETCParameter interface, the Value attribute could be set by means of a string containing the enum index up to INTECRIO V4.7.2. This is no longer possible.

Recommendation: For enum types contained in the IIntecrioETCParameter, the Value attribute can now be set as follows:

- Either as an integer type using the enum index as an argument.
- Or as a string type using the enum value (as displayed in the hardware configurator) as an argument.

In earlier INTECRIO versions, only the index could be used at this place, even if it had been defined as a string type. In this case, the script must now be modified to pass the index as an integer type. In this context, please observe PR 637399 for ES910 CAN configurations as well.

Known PR 636335

Unclear Error Message While Migrating ES900 Configurations to ES800

During the migration of ES900 configurations to ES800, messages like the following may occur:

"Value '10' for Parameter 'moduleType' at node 'ES900_CAN_Controller1' cannot be imported."

Recommendation: The message can be ignored in this case. Value '10' refers to the module ID. This ID can be looked up in the properties grid of the hardware configuration editor. In the present example, ID 10 represents an ES910 device. If during the migration, e.g., the configuration is transferred to an ES892 device, which has ID 2, value '10' of the original ID cannot be used and is replaced with value '2'. In other cases, the message may give useful hints, if unintended configuration settings are used.

Known PR 637290:

FlexRay raw data interface does not distinguish PDUs with identical names

The raw data interface distinguishes PDUs by their names. For PDUs with identical names, the same function is used, even if they are received on different FlexRay interfaces.

Recommendation: Use unique PDU names.

Known PR 637699:

Changes in Scripting for ES910 CAN

Until INTECRIO V4.7.2, when configuring the ES910 CAN ports by means of a script, the CAN ports of the ES910 were addressed by one enum with the indexes from 0 to 7. This is now changed.

Recommendation: Starting with INTECRIO V4.7.3, either the string values or the enum indexes can be used, as described for PR 636212. In addition, instead of the index range from 0 to 7, now the range from 1 to 2 needs to be used in combination with the concrete module type (ES910, ES921, ES922). This corresponds to the GUI representation in the hardware configurator.

Known PR 637846:

Changed hardware device default naming scheme in INTECRIO V4.7.3

Due to the increased amount of hardware devices supported in one system, the default naming scheme for hardware devices has been changed in INTECRIO V4.7.3.

Recommendation: If you use scripts to create hardware systems automatically, take care to adapt them in order to match the new default names, if necessary.

Known PR 637848:

Controller names are not checked for uniqueness in hardware configuration

INTECRIO allows users to freely define the names of hardware controllers. INTECRIO does not check these names for uniqueness. This way, ambiguities can occur, e.g. in the representation of the controllers in the Experiment Environment.

Recommendation: Choose unique hardware controller names.

5 Hints

5.1 Scripting support for referenced models

The new feature introduced with INTECRIO 4.7.1 supporting now referenced Simulink Models does also include an extended scripting support.

For a better understanding we ship an example script which is located here:

[%userprofile%\documents\ETAS\INTECRIO4.7\Scripting\Python\Import_Reference_Module.py](#)

5.2 Precautions Using Dynamic Reconnection Functionality

INTECRIO features an exciting functionality: it enables you to modify connections between modules, and hardware ports as well, dynamically, while the experiment is running. This way, you can easily validate and verify modules and compare different versions of them (see user's guide for more details). Nevertheless, this functionality can also cause damage to the overall system if used incorrectly. Therefore, we want to give you some important hints, when working with this functionality:

- Please make sure, that a dynamically changed connection does not damage your overall system behavior. As the overall system behavior is created by you, it is your responsibility to ensure that the overall system is still in a usable state after reconnecting dynamically. One example for possible unwanted behavior is the following: assume you have two A/D inputs, and one holds the desired throttle position, the other the steering wheel angle. If you change the input of a module from one channel to the other, the overall system behavior will be undefined.
- When deleting an input to a control algorithm module (so the input is now unconnected), the implementation of INTECRIO runs a sample and hold functionality. This means the last valid input value is applied to the module input. It is your responsibility to ensure that the overall system is still in a usable state after disconnecting dynamically. It is neither possible nor desirable to configure a default value for each module input for such cases, since the computation result of the module depends on its internal structure, which is (based on the concept of INTECRIO) not known to INTECRIO. One example for possible unwanted behavior is the following: assume you have a PID controller, and you disconnect the actual value (the feedback loop), the control algorithm will not result in stable behavior of the overall system.

5.3 Log Files

In case of unwanted or unexpected behavior of your system, you may get useful information from the log files created in the ETAS "logfiles" directory. These files may also be useful, if you contact the ETAS support.

As log files may contain personal data please refer also to chapter 2.2.2 where you can find the privacy statement.

5.4 Preventing from Workspace Inconsistencies

Although INTECRIO has been developed with a strong focus on stability and software quality, workspace inconsistencies due to program failure cannot be excluded. However, you can reduce the risk of data loss by some easy countermeasures:

- Utilize a SCM system or similar procedure that keeps a history of "backups" of your work
- Use the "Save" feature regularly to minimize the amount of pending changes that could be lost

- If you experience "strange" error messages or suspicious application behavior, use "Save As" when trying to keep your changes. Do not just save your changes upon closing the workspace or INTECRIO. The data may already be inconsistent at that time.

5.5 Administrator Rights Required

For the following actions administrator rights are required:

- The installation of INTECRIO;
- The "Associate with ..." operations listed in the Windows start menu;
- Access to custom hooks which can be added to *.c/*.h files located in the product installation directory (e.g. under .\Program Files) for CAN, FlexRay, and RTA-Trace.

5.6 Restrictions in Combination with RTA Products

5.6.1 Install with Administrator Rights

The installation of the RTA products included on the DVD needs to be started with administrator rights to finish successfully.

5.7 Full Access Rights to Files Required

INTECRIO requires full create/read/write/delete rights to all files and directories of the workspace. It will not detect restrictions outside the data sub-directory nor user or user group specific settings on individual files that are not reflected by the file attributes.

When experimenting, the support for read only workspaces is limited as well.

In most cases, INTECRIO will detect insufficient rights automatically when the user tries to open a workspace. However, please make sure that no access rights apply to files needed by INTECRIO.

5.8 Interaction with Virus Scanning

When INTECRIO writes files to disk, virus scanners will check them and block them for a short period, during which INTECRIO cannot modify, rename, or delete them. If INTECRIO reports file access problems, they may be caused by a virus scanner. Besides, the build performance may be heavily impaired.

Please exclude your workspace folder(s) from the virus scan.

5.9 Memory Handling above 256 MB and Clearing of Resource Cache

When the INTECRIO process uses more than 256 MB of memory (RAM and swap combined), it will reduce its memory consumption by clearing the resource cache, if there is only little RAM or swap space left. In this case, INTECRIO will notify you by means of the message "Running out of memory. Resource cache will be cleared now." If you see this message only occasionally, INTECRIO is sound. However, the performance will be hit severely, if the log gets "flooded" with these messages. In this case, either close other applications to increase the amount of free memory, or restart INTECRIO.

5.10 Smart build takes full effect only at the third build procedure

Smart build optimizes the build time in three steps. Thus, it takes effect partially, when building a workspace for the second time. The full effect is achieved for the third and all subsequent build procedures.

5.11 ASAM-2MC Files for ETK and XCP Bypass

When configuring an ETK or XCP bypass, an ASAM-2MC file needs to be read for the hardware configuration. When creating such an ASAM-2MC file, you should be aware of the following details. For more details, please consult the INTECRIO online help or your local ETAS support.

- The ASAM-2MC file needs to contain a valid AML section definition for your bypass system setup. For your convenience, we have included all possible AML sections into the installation of INTECRIO. They can be found inside the AML folder in your INTECRIO installation. Please copy the respective section into your ASAM-2MC file and adapt your settings accordingly.
- INTECRIO adheres to the ASAM-2MC standard when parsing such files in a stricter way than some other (ETAS-) tools. For example, missing references (e.g. references to non-

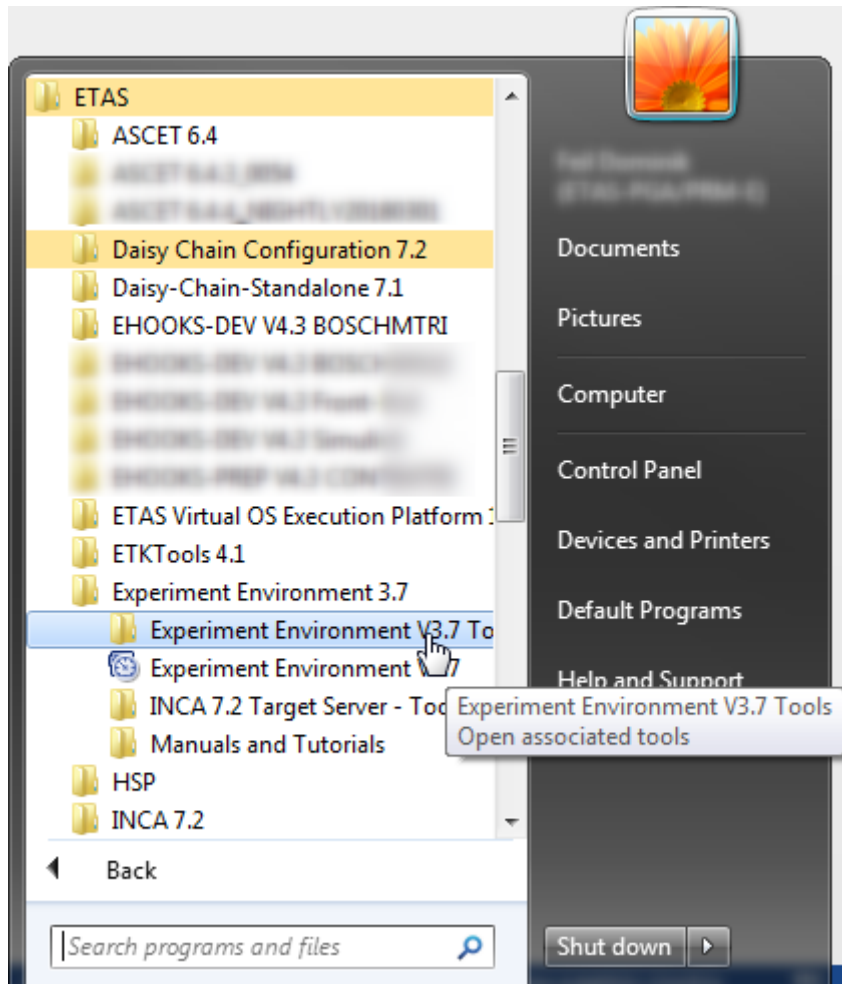
existing conversion formulas) are not accepted by INTECRIO. In case of doubt, please use the SAPIDE ASAM-2MC checking tool that you can obtain from the ASAM website.

5.12 OS Application Modes

Although ETAS prototyping hardware supports multiple application modes, the OS configuration of INTECRIO only allows one application mode. This is compliant to the OSEK specification.

5.13 INTECRIO EE Usage on One Computer Together with INCA

The INTECRIO Experiment Environment can be used online simultaneously (e.g. in a bypass application) with INCA. You can use the "Associate to INCA" program from the ETAS folder in the Windows Start Menu to define the INCA version that you intend to use together with the EE. Please see section 2.2.4, Software and Firmware Prerequisites, as well.



If you associate the Experiment Environment with one INCA version, but use it with a different version, each installation will work correctly on its own, but they will not work simultaneously.

Note

ETAS Experiment Environment and INCA cannot be used simultaneously on the same rapid prototyping target.

Parallel access of ETAS Experiment Environment and INCA to the same target will cause access conflicts and runtime errors. This is also true for the usage of the same measurement raster in both INCA and a bypass model.

It is possible however, to access a rapid prototyping target with INTECRIO-EE and an ECU with INCA, both running in parallel on the same computer, e.g. in a bypass setup.

5.14 Usage of ES910 CAN Monitoring with INCA

On one port of the ES910, INCA supports the following CAN monitoring capabilities in combination with INTECRIO CAN operation:

INTECRIO CAN operation	INCA CAN monitoring
CAN-I/O sending	Monitoring not supported
XCP on CAN bypass sending	Monitoring not supported
CAN-I/O receiving	Monitoring supported
XCP on CAN bypass receiving	Monitoring not supported

5.15 Using License via Network and Windows Firewall

If you are using the Windows Firewall make sure to unblock INTECRIO to prevent from licensing errors.

5.16 Using Virtual Prototyping with Firewall

If you are using a firewall, make sure that it allows INCA-EIP or ETAS Experiment Environment to download and access the prototype with INTECRIO-VP.

5.17 Scripting Performance

Using the LockUI() method on the INTECRIO.Workspace object helps to achieve optimal scripting performance. Most users don't need UI updates while the script is running and may therefore lock the UI once at the beginning of the respective script. It has also been observed that closing all graphical modeling windows improves performance of some scripting commands considerably.

5.18 Multiple Task Activations during Virtual Prototyping

During virtual prototyping, the message "RTA-OSEK Error: ActivateTask: E_OS_LIMIT" may occur. The message is shown, if a task is activated before its execution in the previous scheduling cycle has been finished. This may, e.g., be caused by Windows OS latencies or similar effects. If the message occurs during startup of a virtual prototype, it is typically harmless. If it occurs repeatedly during normal execution, it indicates that the execution speed in scaled time operation should be reduced.

6 Contact, Support and Problem Reporting

For details of your local sales office as well as your local technical support team and product hotlines, take a look at the ETAS website:

ETAS subsidiaries	WWW:	www.etas.com/en/contact.php
ETAS technical support	WWW:	www.etas.com/en/hotlines.php