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## RTA-OS TraveoII/GHS

Release Note - Version 5.0.0 (21-08-2019)

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## Safety Notice

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This ETAS product fulfills standard quality management requirements. If requirements of specific safety standards (e.g. IEC 61508, ISO 26262) need to be fulfilled, these requirements must be explicitly defined and ordered by the customer. Before use of the product, customer must verify the compliance with specific safety standards.

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# 1 Introduction

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RTA-OS is an AUTOSAR compliant Operating System and associated tooling. This document provides release information for the RTA-OS TraveoII/GHS port plug-in that customizes the RTA-OS development tools for the Cypress Semiconductor TraveoII with the GHS compiler. It supplements the more general information you can find in the *Release Note*.

## 1.1 Version Information

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This is Version 5.0.0 of the RTA-OS TraveoII/GHS plug-in.

## 1.2 Installation

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The installation process is covered in detail in the *TraveoII/GHS Port Guide*.

## 2 **Open EHI Calls**

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Open issues are referred to by their call number in the ETAS Helpdesk International (EHI) system.

No EHI calls are open.

## 3 Change History

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### 3.1 Version 5.0.0

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#### Additional Features

The following features have been added to this release:

- First full release.
- Support to run CYT4BF applications from TCM.
- Target option to clear the demux ISR NVIC channels when lowering the interrupt priority level to help reduce spurious interrupts.
- Macros to clear the demux ISR NVIC channels (Os\_ClearDemuxInterrupts)
- MISRA compliance added to conform to the MISRA2012 standard.

#### Modified Features

The following features have been modified in this release:

- CYT2B9 variant support (tested on ES hardware).
- Hide spurious interrupt target option has been updated.
- Alignment boundary setting target option has been updated.
- Stack protector setting target option has been updated.
- Multi-core interrupt support has been updated.
- Untrusted ISR support has now been updated to remove the restriction of only supporting a single priority level.

#### Removed Features

The following features have been removed from this release:

- Support for the TraveoII\_PSV and TraveoII\_8M\_PSV variants.

### 3.2 Version 4.99.0 (Preview Release)

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#### Additional Features

The following features have been added to this release:

- Twelfth Early Access release.
- CYT4BF multi-core variant support (tested on ES hardware).

### Modified Features

The following features have been modified in this release:

- The interrupt vector support code has been reworked to support multiple cores. CPU and NVIC exception/interrupt labels have been updated to also include the core number.
- The `Os_EnableAllConfiguredInterrupts` and `Os_DisableAllConfiguredInterrupts` macros have been updated for the multi-core variant so that a version is created for each core.

### Removed Features

No features have been removed from this release.

## 3.3 Version 1.99.10 (Preview Release)

### Additional Features

The following features have been added to this release:

- Eleventh Early Access release.
- CYT4BF\_CM7\_0 variant support (tested on ES hardware).
- CYT4BF\_CM7\_1 variant support (tested on ES hardware).
- CYT2B9 variant support (datasheet only).

### Modified Features

The following features have been modified in this release:

- Sample application debug support updated for build 105491 of Lauterbach Trace32.
- DebugMonitor and PendSV interrupts now only support Category 1 interrupts.

### Removed Features

The following features have been removed from this release:

- Target option to block the default interrupt.



### 3.4 Version 1.99.9 (Preview Release)

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#### **Additional Features**

The following features have been added to this release:

- Tenth Early Access release.
- Target option to hide spurious system interrupts.

#### **Modified Features**

The following features have been modified in this release:

- TraveoII\_8M\_PSVP variant is updated and test coverage increased.

#### **Removed Features**

No features have been removed from this release.

### 3.5 Version 1.99.8 (Preview Release)

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#### **Additional Features**

The following features have been added to this release:

- Ninth Early Access release.
- Target option to align the stack to memory protection regions.
- The Generic\_TVII variant.
- The TraveoII\_8M\_PSVP variant using the CM7\_1 core. Only minimal testing has been performed on this variant with no testing to ensure that other functionality is not affected.

#### **Modified Features**

The following features have been modified in this release:

- TrustedWithProtection support has been improved to better handle the enabling and disabling of the MPU in interrupts.
- Tests now run on TraveoII ES silicon from both RAM and FLASH memory.

#### **Removed Features**

No features have been removed from this release.

### 3.6 Version 1.99.7 (Preview Release)

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#### **Additional Features**

The following features have been added to this release:

- Eighth Early Access release.
- The TVII\_B\_E\_1M variant for use with the engineering sample silicon. The interrupt vector table labels are configured to match TRM Rev.\*B.
- Test at StartOS() that BusFault, UsageFault and MemFault are enabled.
- Macros to enable, disable and clear interrupts without corrupting the priority.
- Macros to enable and disable all interrupts without corrupting the priority.
- Support for the Autosar ISR source API functions (i.e. ClearPendingInterrupt(), DisableInterruptSource() and EnableInterruptSource()).
- MISRA compliance to conform to the MISRA2012 standard.

#### **Modified Features**

The following features have been modified in this release:

- Tests now run on TraveoII silicon instead of the PSVP.

#### **Removed Features**

No features have been removed from this release.

### 3.7 Version 1.99.6 (Preview Release)

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#### **Additional Features**

The following features have been added to this release:

- Seventh Early Access release.
- Support for using floating-point hardware instructions.
- Support for ECC tasks.

#### **Modified Features**

The following features have been modified in this release:

- Os.h file for compatibility with external cmsis\_compiler.h.

### Removed Features

No features have been removed from this release.

## 3.8 Version 1.99.5 (Preview Release)

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### Additional Features

The following features have been added to this release:

- Sixth Early Access release.
- Target option to use the `-align4` compiler option.
- Target option to use the `-stack_protector` compiler option.
- ORTI now supported for Lauterbach Trace32.
- Support for direct NVIC interrupts.
- Support for untrusted code and Trusted-with-Protection.

### Modified Features

No features have been modified in this release.

### Removed Features

No features have been removed from this release.

## 3.9 Version 1.99.4 (Preview Release)

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### Additional Features

The following features have been added to this release:

- Fifth Early Access release.

### Modified Features

The following features have been modified in this release:

- Updated support for Cat1 and Cat2 ISRs to resolve an issue regarding interrupt nesting.
- Replace GNU extended asm syntax with GHS alternatives to remove the `'-gnu_asm'` compiler option use.
- Compilation options updated following customer feedback.

### Removed Features

No features have been removed from this release.

### 3.10 Version 1.99.3 (Preview Release)

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#### **Additional Features**

The following features have been added to this release:

- Fourth Early Access release.

#### **Modified Features**

The following features have been modified in this release:

- Updated support for Cat1 and Cat2 ISRs
- Updated the `Os_InitializeVectorTable()` function to initialize the memory mapped `CPUSS_CM4_SYSTEM_INT_CTL` registers of the System interrupt controller.
- Updated the `Os_InitializeVectorTable()` function to make sure that the special-purpose `BASEPRI`, `FAULTMASK`, and `BASEPRI` registers are set appropriately before the OS is started.

#### **Removed Features**

No features have been removed from this release.

### 3.11 Version 1.99.2 (Preview Release)

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#### **Additional Features**

The following features have been added to this release:

- Third Early Access release.
- Support for HelloWorld sample application.
- Testing of periodic interrupts generated by the counters in group 2 of TCPWM0.

#### **Modified Features**

The following features have been modified in this release:

- Corrected interrupt vector table due to error in revision A of the TraveoII Technical Reference Manual from Cypress Semiconductor.

#### **Removed Features**

No features have been removed from this release.

### 3.12 Version 1.99.1 (Preview Release)

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#### **Additional Features**

The following features have been added to this release:

- Second Early Access release.
- Support for Cat2 interrupts.

#### **Modified Features**

The following features have been modified in this release:

- Compilation options to move closer to those used by the customer.

#### **Removed Features**

No features have been removed from this release.

### 3.13 Version 1.99.0 (Preview Release)

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#### **Additional Features**

The following features have been added to this release:

- Initial Early Access release.
- BCC task support only.
- SC1 Autosar conformance only.
- Support for Green Hills Software, Compiler v2017.1.4.
- Support for Cat1 interrupts only.

#### **Modified Features**

No features have been modified in this release.

#### **Removed Features**

No features have been removed from this release.

## 4 **Fixed EHI Calls**

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Bugs that have been fixed are referred to by their call number in the ETAS Helpdesk International (EHI) system.

No EHI calls have been fixed in this release.

## 5 Limitations

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### 5.1 Installer

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There are the following limitations for the installer:

<b>Limitation</b>	None.
<b>Workaround</b>	None.

### 5.2 TraveoIIIGHS DLL

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There are the following limitations for this tool:

<b>Limitation</b>	None.
<b>Workaround</b>	None.

## 6 Contacting ETAS

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### 6.1 Technical Support

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Technical support is available to all users with a valid support contract. If you do not have a valid support contract, please contact your regional sales office (see Section 6.2.2).

The best way to get technical support is by email. Any problems or questions about the use of the product should be sent to:

rta.hotline.uk@etas.com

If you prefer to discuss your problem with the technical support team, you call the support hotline on:

+44 (0)1904 562624.

The hotline is available during normal office hours (0900-1730 GMT/BST).

In either case, it is helpful if you can provide technical support with the following information:

- Your support contract number
- Your .xml, .arxml and .rtaos files
- The command line which caused the error
- The version of the ETAS tools you are using
- The version of the compiler tool chain you are using
- The error message you received (if any)
- The file Diagnostic.dmp if it was generated

### 6.2 General Enquiries

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#### 6.2.1 ETAS Global Headquarters

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**ETAS GmbH**

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Germany

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#### 6.2.2 ETAS Local Sales & Support Offices

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Contact details for your local sales office and local technical support team (where available) can be found on the ETAS web site:

ETAS subsidiaries [www.etas.com/en/contact.php](http://www.etas.com/en/contact.php)  
ETAS technical support [www.etas.com/en/hotlines.php](http://www.etas.com/en/hotlines.php)