STM internal peripheral

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STM internal peripheral

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A quality version of this page, accepted on *26 September 2019*, was based off this revision.

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Refer to the STM32MP15 reference manuals for the complete list of features, and to the software components, introduced below, to see which features are really implemented.

2.2 Security support

The STM is a **non secure** peripheral.

3 Peripheral usage and associated software

3.1 Boot time

The STM is not used at boot time.

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3.2.1 Overview

The STM can be assigned to the Cortex®-A7 non-secure for using in Linux with coresight framework.
This driver allows to select the hardware events (listed in the STM32MP15 reference manuals) to log via the STM peripheral into the ETF and dump it in the Linux console for analysis.

3.2.2 Software frameworks

Do	Peri	Software frameworks			Comment
mai n Cor tex -A7 sec ure (O P- TE E)	Cor tex -A7 no n- sec ure (Li nux)	Cortex-M4 (STM32Cube)			
Tr ac e & De bu g	ST M		Linux Coresight framework		

3.2.3 Peripheral configuration

The configuration is applied by the firmware running in the context to which the peripheral is assigned. The configuration can be done alone via the STM32CubeMX tool for all internal peripherals, and then manually completed (particularly for external peripherals), according to the information given in the corresponding software framework article.

3.2.4 Peripheral assignment

Check boxes illustrate the possible peripheral allocations supported by STM32 MPU Embedded Software:

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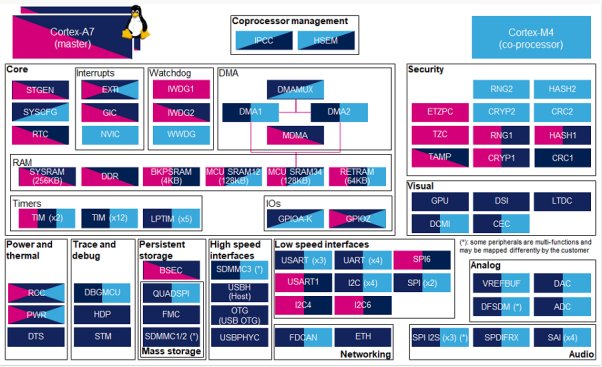

Internal peripherals

Refer to How to assign an internal peripheral to a runtime context for more information on how to assign peripherals manually or via STM32CubeMX.
The present chapter describes STMicroelectronics recommendations or choice of implementation. Additional possiblities might be described in STM32MP15 reference manuals.

Domain	Periph	Runtime allocation				Comment
Instance	Cortex-A7 secure (OP-TEE)	Cortex-A7 non-secure (Linux)	Cortex-M4 (STM32Cube)			
Trace	S					

Domain & Debug	Peripheral	Runtime allocation				Comment
	STM					

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System Trace Module

Open Portable Trusted Execution Environment

STM internal peripheral

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The STM is a **non secure** peripheral.

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3.1 Boot time

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3.2.1 Overview

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This driver allows to select the hardware events (listed in the STM32MP15 reference manuals) to log via the STM peripheral into the ETF and dump it in the Linux console for analysis.

3.2.2 Software frameworks

Do	Peri	Software frameworks	Comment
mai Cor tex	Cor tex		

Domain	Peripheral	Software frameworks			Comment
-A7 secure (OP-TEE)	-A7 non-secure (Linux)	Cortex-M4 (STM32Cube)			
Trace & Debug	STM		Linux Coresight framework		

3.2.3 Peripheral configuration

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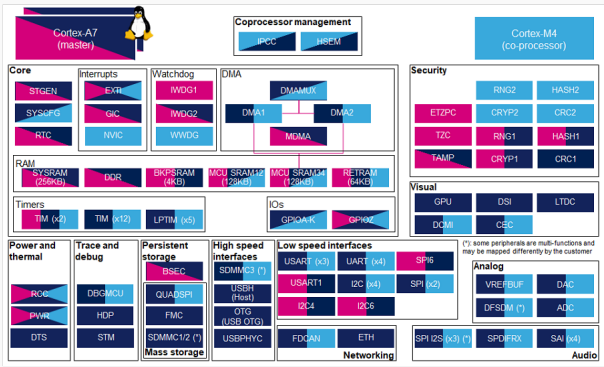

Internal peripherals

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Domain	Peripheral	Runtime allocation			Comment
	Cortex-A				

Domain	Peripheral	Runtime allocation				Comment
Instance	secure (OP-TEE)	Cortex-A7 non-secure (Linux)	Cortex-M4 (STM32Cube)			
Trace&Debug	STM	STM				

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System Trace Module

Open Portable Trusted Execution Environment

STM internal peripheral

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The STM can be assigned to the Cortex®-A7 non-secure for using in Linux with coresight framework.
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3.2.2 Software frameworks

Do	Peri	Software frameworks			Comment
main Cortex-A7 secure (OP-TEE)	Cortex-A7 non-secure (Linux)	Cortex-M4 (STM32Cube)			
Trace & Debug	STM		Linux Coresight framework		

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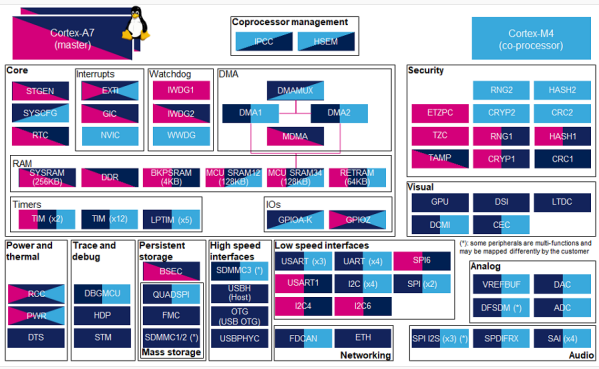

Internal peripherals

Domain	Peripheral	Runtime allocation				Comment
Instance	Cortex-A7 secure (OP-TEE)	Cortex-A7 non-secure (Linux)	Cortex-M4 (STM32Cube)			
Trace&Debug	STM	STM				

4 References

System Trace Module

Open Portable Trusted Execution Environment

STM internal peripheral

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Do	Peri	Software frameworks			Comment
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Tr ac e & De	ST		Linux Coresight		

Domain	Peripheral	Software frameworks			Comment
bug	M		framework		

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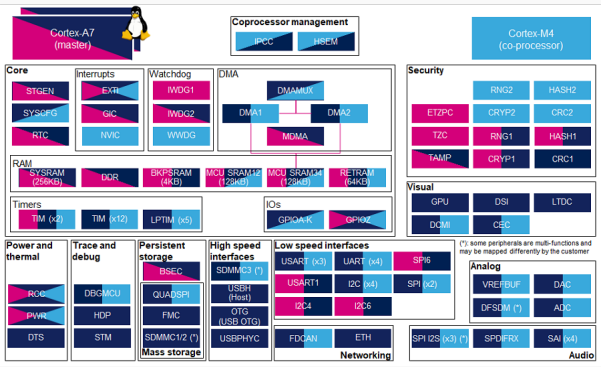

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Instance	Cortex-A7 secure (OP-TEE)	Cortex-A7 non-secure (Linux)	Cortex-M4 (STM32Cube)			
Trac						

Domain & Debug	Peripheral	Runtime allocation				Comment
	STM	STM				

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STM internal peripheral

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mai Cor n	Cor		

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Trace & Debug	STM		Linux Coresight framework		

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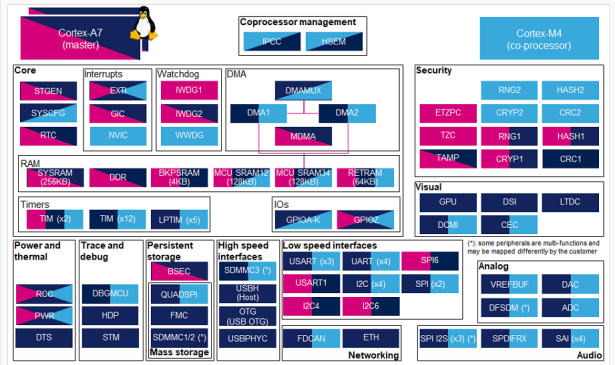

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	Cortex-				

Domain instance	Peripheral	Runtime allocation				Comment
	A7 secure (OP-TEE)	Cortex-A7 non-secure (Linux)	Cortex-M4 (STM32Cube)			
Trace&Debug	STM	STM				

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System Trace Module

Open Portable Trusted Execution Environment

STM internal peripheral

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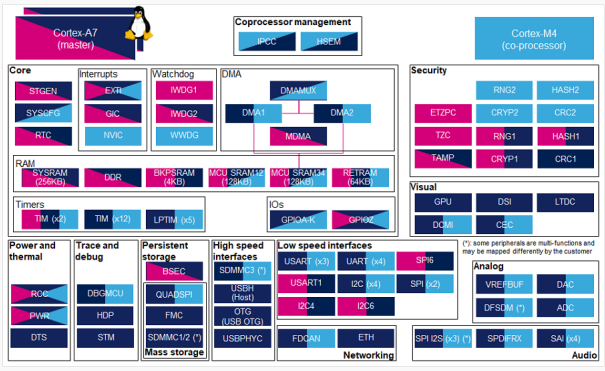

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