

## Security advisory TN1514-ST-PSIRT: STM32Cube software ETH hardware abstraction layer (HAL) tail pointer management issue

### Overview

This security advisory pertains to the STM32Cube software ETH hardware abstraction layer (HAL) tail pointer management issue and potential security impacts.

### Affected products

Product <sup>(1)</sup>	Version	Type	Note
STM32CubeH7	v1.11.1 and earlier	embedded software	-
STM32CubeF4	v1.27.1 and earlier	embedded software	-
STM32CubeF7	v1.17.1 and earlier Because the issue might not be fixed in subsequent release, refer to the release notes <sup>(2)</sup> of the affected product to check if the issue has been fixed.	embedded software	-
STM32CubeH5	v1.1.1 and earlier Because the issue might not be fixed in subsequent release, refer to the release notes <sup>(2)</sup> of the affected product to check if the issue has been fixed.	embedded software	-
STM32CubeF1	v1.8.5 and earlier Because the issue might not be fixed in subsequent release, refer to the release notes <sup>(2)</sup> of the affected product to check if the issue has been fixed.	embedded software	-
STM32CubeF2	v1.9.4 and earlier Because the issue might not be fixed in subsequent release, refer to the release notes <sup>(2)</sup> of the affected product to check if the issue has been fixed.	embedded software	-
STM32CubeMP13	v1.0.0 and earlier Because the issue might not be fixed in subsequent release, refer to the release notes <sup>(2)</sup> of the affected product to check if the issue has been fixed.	embedded software	-

1. Some STM32Cube Expansion packages (X-CUBE or I-CUBE) could depend on the affected product and are not mentioned in this document. Check if the X-CUBE or I-CUBE packages you are using contain the affected product. And if this is the case, refer to X-CUBE or I-CUBE package release notes to check if the issue has been fixed.
2. Release note are available in each downloaded package (on ST.com product pages, on STMicroelectronics Github product pages, via STM32CubeMX).

Regarding the standalone components offered through GitHub which might be used with the affected products, the following fixes are now available: [STMicroelectronics/stm32h7xx\\_hal\\_driver at release/v1.11.2 \(github.com\)](https://github.com/STMicroelectronics/stm32h7xx_hal_driver/releases/tag/v1.11.2).

The user will need to reconfigure the affected package with the fixed component.

### Description

Tail pointer management issue for the ETH hardware abstraction layer (HAL) for products listed above can lead to a race condition. This race condition can induce a potential vulnerability.

## Impact

An attacker with a network access (to a STM32 hardware product that embeds STM32Cube software products listed in [Affected products](#) section) can spray packets and cause either a denial of service (by inducing a fault in the Rx DMA channel), or cause packet data to be written to arbitrary addresses.

## Remediation

For the products not fixed (or not yet fixed) as described in the [Affected products](#) section, the final application developer shall properly manage the tail pointer in accordance with STM32 hardware products reference manual recommendations.

## Credit

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## Contact information

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## Revision history

**Table 1. Document revision history**

Date	Version	Changes
25-Mar-2024	1	Initial version.

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