



CODESYS Control Runtime - Improper Synchronization in Monitoring

CODESYS Security Advisory 2026-12

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Last Change: 2026-09-30

Identifiers, Type and Severity

CVE-2026-79625

CERT@VDE: VDE-2026-097

CODESYS: CDS-94929, CDS-98674

CWE-362: Concurrent Execution using Shared Resource with Improper Synchronization ('Race Condition')

CVSS v3.1 Base Score: 8.1 | High | CVSS:3.1/AV:N/AC:L/PR:L/UI:N/S:U/C:N/I:H/A:H

1 Summary

The monitoring functionality of affected CODESYS Control runtime systems processes read and write requests to PLC application data sent by the CODESYS Development System and other clients such as HMIs.

Due to improper synchronization in the CmpMonitor2 component when processing concurrent requests from multiple clients, incorrect data may be read or written, potentially resulting in unexpected behavior of the affected product.

PLCs based on the CODESYS Runtime Toolkit or CODESYS Safety SIL2 are affected if they allow simultaneous access by two or more clients via the CODESYS protocol. In CODESYS Development System 3, simultaneous access to the included Simulation Runtime can only occur when access by an external client, such as an HMI, has been explicitly enabled through dedicated configuration. The default configuration of CODESYS Development System 3 is not affected.

The vulnerability can be exploited by an authenticated remote attacker with monitoring access by issuing concurrent requests to an affected product.

2 Affected Products

The following products are affected in all versions from 3.0.0.0 and before 3.5.22.40.

- CODESYS Control RTE (SL)
- CODESYS Control RTE (for Beckhoff CX) SL
- CODESYS Control Win (SL)
- CODESYS Runtime Toolkit
- CODESYS Safety SIL2
- CODESYS HMI (SL)
- CODESYS Development System 3

The following products are affected in all versions from 3.5.0.0 and before 4.23.0.0.

- CODESYS Control for BeagleBone SL
- CODESYS Control for emPC-A/iMX6 SL
- CODESYS Control for IOT2000 SL
- CODESYS Control for Linux ARM SL
- CODESYS Control for Linux SL
- CODESYS Control for PFC100 SL
- CODESYS Control for PFC200 SL
- CODESYS Control for PLCnext SL
- CODESYS Control for Raspberry Pi SL
- CODESYS Control for WAGO Touch Panels 600 SL
- CODESYS Virtual Control SL

3 Impact

Successful exploitation may allow an authenticated remote attacker with monitoring access to cause incorrect data processing, malfunction of the affected products, or a denial-of-service condition.

4 Remediation

Update the following products to version 3.5.22.40.

- CODESYS Control RTE (SL)
- CODESYS Control RTE (for Beckhoff CX) SL
- CODESYS Control Win (SL)
- CODESYS Runtime Toolkit
- CODESYS Safety SIL2
- CODESYS HMI (SL)
- CODESYS Development System 3

Update the following products to version 4.23.0.0. The release of this version is expected in Q4 2026.

- CODESYS Control for BeagleBone SL
- CODESYS Control for emPC-A/iMX6 SL
- CODESYS Control for IOT2000 SL
- CODESYS Control for Linux ARM SL
- CODESYS Control for Linux SL
- CODESYS Control for PFC100 SL
- CODESYS Control for PFC200 SL
- CODESYS Control for PLCnext SL
- CODESYS Control for Raspberry Pi SL
- CODESYS Control for WAGO Touch Panels 600 SL
- CODESYS Virtual Control SL

The CODESYS Development System and the products available as CODESYS add-ons can be downloaded and installed directly with the CODESYS Installer or be downloaded from the CODESYS Store. Alternatively, as well as for all other products, you will find further information on obtaining the software update in the CODESYS Update area <https://www.codesys.com/download/>.

5 General Security Recommendations

As part of a security strategy, CODESYS GmbH strongly recommends at least the following best-practice defense measures:

- Use controllers and devices only in a protected environment to minimize network exposure and ensure that they are not accessible from outside
- Use firewalls to protect and separate the control system network from other networks
- Activate and apply user management and password features
- Limit the access to both development and control system by physical means, operating system features, etc.
- Use encrypted communication links
- Use VPN (Virtual Private Networks) tunnels if remote access is required
- Protect both development and control system by using up to date virus detecting solutions

For more information and general recommendations for protecting machines and plants, see also the [CODESYS Security Whitepaper](#).

6 Acknowledgments

Coordination done by CERT@VDE.

CODESYS GmbH thanks all parties involved for their efforts.

7 Further Information

For additional information regarding the CODESYS products, especially the above-mentioned versions, or about the described vulnerability please contact [CODESYS support](#).

8 Disclaimer

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9 Bibliography

- [1] CERT@VDE: <https://cert.vde.com>
- [2] CODESYS GmbH: [CODESYS Security Whitepaper](#)
- [3] CODESYS GmbH: [Coordinated Disclosure Policy](#)
- [4] CODESYS GmbH download area: <https://www.codesys.com/download>
- [5] CODESYS GmbH security information page: <https://www.codesys.com/security>
- [6] CODESYS GmbH support contact site: <https://www.codesys.com/support>
- [7] Common Vulnerabilities and Exposures (CVE): <https://cve.mitre.org>
- [8] Common Weakness Enumeration (CWE): <https://cwe.mitre.org>
- [9] CVSS Calculator: <https://www.first.org/cvss/calculator/3.1>

The latest version of this document can be found here:

https://api-www.codesys.com/fileadmin/user_upload/CODESYS_Group/Ecosystem/Up-to-Date/Security/Security-Advisories/Advisory2026-12_CDS-94929.pdf

Change History

Version	Description	Date
1.0	Initial version	2026-09-30