

SSA-930100: Privilege Escalation Vulnerability in Simcenter STAR-CCM+

Publication Date: 2022-12-13
Last Update: 2023-07-11
Current Version: V1.1
CVSS v3.1 Base Score: 7.8

SUMMARY

Simcenter STAR-CCM+ contains a privilege escalation vulnerability which could allow a local attacker with an unprivileged account to override or modify the service executable and subsequently gain elevated privileges.

Siemens has released an update for Simcenter STAR-CCM+ and recommends to update to the latest version.

AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
Simcenter STAR-CCM+: All versions < V2306	Update to V2306 or later version https://support.sw.siemens.com/en-US/product/226870983/ See recommendations from section Workarounds and Mitigations

WORKAROUNDS AND MITIGATIONS

Siemens has identified the following specific workarounds and mitigations that customers can apply to reduce the risk:

- Remove write permissions for non-administrative users on files and folders located under the installation path

Product-specific remediations or mitigations can be found in the section [Affected Products and Solution](#). Please follow the [General Security Recommendations](#).

GENERAL SECURITY RECOMMENDATIONS

As a general security measure, Siemens strongly recommends to protect network access to devices with appropriate mechanisms. In order to operate the devices in a protected IT environment, Siemens recommends to configure the environment according to Siemens' operational guidelines for Industrial Security (Download: <https://www.siemens.com/cert/operational-guidelines-industrial-security>), and to follow the recommendations in the product manuals. Additional information on Industrial Security by Siemens can be found at: <https://www.siemens.com/industrialsecurity>

PRODUCT DESCRIPTION

Simcenter STAR-CCM+ is a multiphysics computational fluid dynamics (CFD) software for the simulation of products operating under real-world conditions.

VULNERABILITY CLASSIFICATION

The vulnerability classification has been performed by using the CVSS scoring system in version 3.1 (CVSS v3.1) (<https://www.first.org/cvss/>). The CVSS environmental score is specific to the customer's environment and will impact the overall CVSS score. The environmental score should therefore be individually defined by the customer to accomplish final scoring.

An additional classification has been performed using the CWE classification, a community-developed list of common software security weaknesses. This serves as a common language and as a baseline for weakness identification, mitigation, and prevention efforts. A detailed list of CWE classes can be found at: <https://cwe.mitre.org/>.

Vulnerability CVE-2022-43517

The affected application improperly assigns file permissions to installation folders.

This could allow a local attacker with an unprivileged account to override or modify the service executables and subsequently gain elevated privileges.

CVSS v3.1 Base Score	7.8
CVSS Vector	CVSS:3.1/AV:L/AC:L/PR:L/UI:N/S:U/C:H/I:H/A:H/E:P/RL:O/RC:C
CWE	CWE-732: Incorrect Permission Assignment for Critical Resource

ACKNOWLEDGMENTS

Siemens thanks the following party for its efforts:

- Craig Carr from University of Glasgow for reporting the vulnerability

ADDITIONAL INFORMATION

For further inquiries on security vulnerabilities in Siemens products and solutions, please contact the Siemens ProductCERT:

<https://www.siemens.com/cert/advisories>

HISTORY DATA

V1.0 (2022-12-13):	Publication Date
V1.1 (2023-07-11):	Added fix for Simcenter STAR-CCM+

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