

SSA-549234: Denial-of-Service Vulnerability in SIMATIC NET CP Modules

Publication Date: 2021-09-14
Last Update: 2023-04-11
Current Version: V1.3
CVSS v3.1 Base Score: 7.5

SUMMARY

A denial of service vulnerability was identified in different types of Communication Processors. An attacker could exploit this vulnerability causing the device to become un-operational until the device is restarted.

Siemens has released updates for several affected products and recommends to update to the latest versions. Siemens recommends specific countermeasures for products where updates are not, or not yet available.

AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
SIMATIC CP 343-1 (incl. SIPLUS variants): All versions	Currently no fix is planned See recommendations from section Workarounds and Mitigations
SIMATIC CP 343-1 Advanced (incl. SIPLUS variants): All versions	Currently no fix is planned See recommendations from section Workarounds and Mitigations
SIMATIC CP 343-1 ERPC (6GK7343-1FX00-0XE0): All versions	Currently no fix is planned See recommendations from section Workarounds and Mitigations
SIMATIC CP 343-1 Lean (incl. SIPLUS variants): All versions	Currently no fix is planned See recommendations from section Workarounds and Mitigations
SIMATIC CP 443-1 (6GK7443-1EX30-0XE0): All versions < V3.3	Update to V3.3 or later version https://support.industry.siemens.com/cs/ww/en/view/109817938/ See recommendations from section Workarounds and Mitigations
SIMATIC CP 443-1 (6GK7443-1EX30-0XE1): All versions < V3.3	Update to V3.3 or later version https://support.industry.siemens.com/cs/ww/en/view/109817938/ See recommendations from section Workarounds and Mitigations
SIMATIC CP 443-1 Advanced (6GK7443-1GX30-0XE0): All versions < V3.3	Update to V3.3 or later version https://support.industry.siemens.com/cs/ww/en/view/109817938/ See recommendations from section Workarounds and Mitigations

SIPLUS NET CP 443-1 (6AG1443-1EX30-4XE0): All versions < V3.3	Update to V3.3 or later version https://support.industry.siemens.com/cs/ww/en/view/109817938/ See recommendations from section Workarounds and Mitigations
SIPLUS NET CP 443-1 Advanced (6AG1443-1GX30-4XE0): All versions < V3.3	Update to V3.3 or later version https://support.industry.siemens.com/cs/ww/en/view/109817938/ 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:

- Limit access to port 102/tcp to trusted users and systems only

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

SIMATIC CP 343-1 and CP 443-1 are communication processors (CP) designed to enable Ethernet communication for SIMATIC S7-300/S7-400 CPUs.

SIPLUS extreme products are designed for reliable operation under extreme conditions and are based on SIMATIC, LOGO!, SITOP, SINAMICS, SIMOTION, SCALANCE or other devices. SIPLUS devices use the same firmware as the product they are based on.

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-2021-33737

Sending a specially crafted packet to port 102/tcp of an affected device could cause a denial of service condition. A restart is needed to restore normal operations.

CVSS v3.1 Base Score	7.5
CVSS Vector	CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H/E:P/RL:U/RC:C
CWE	CWE-119: Improper Restriction of Operations within the Bounds of a Memory Buffer

ACKNOWLEDGMENTS

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- Michael Messner from Siemens Energy 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 (2021-09-14):	Publication Date
V1.1 (2021-12-14):	Specifically added that SIMATIC CP 343-1 devices do not have any fix planned
V1.2 (2022-06-14):	Specifically added that SIMATIC CP 443-1 Advanced devices do not have any fix planned
V1.3 (2023-04-11):	Added fix for SIMATIC CP 443-1 and CP 443-1 Advanced

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