

SSA-500748: Denial-of-Service Vulnerabilities in SIPROTEC 5 Devices

Publication Date: 2021-09-14
Last Update: 2021-09-14
Current Version: V1.0
CVSS v3.1 Base Score: 7.5

SUMMARY

The latest update for SIPROTEC 5 family devices fixes a vulnerability in the web interface which could allow unauthorized users to cause a Denial-of-Service situation by sending maliciously crafted web requests.

Siemens has released an update for the SIPROTEC 5 and recommends to update to the latest version.

AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
SIPROTEC 5 relays with CPU variants CP050: All versions < V8.80	Update to V8.80 or later version https://support.industry.siemens.com/cs/ww/en/view/109740816/
SIPROTEC 5 relays with CPU variants CP100: All versions < V8.80	Update to V8.80 or later version https://support.industry.siemens.com/cs/ww/en/view/109740816/
SIPROTEC 5 relays with CPU variants CP200: All versions	See recommendations from section Workarounds and Mitigations
SIPROTEC 5 relays with CPU variants CP300: All versions < V8.80	Update to V8.80 or later version https://support.industry.siemens.com/cs/ww/en/view/109740816/

WORKAROUNDS AND MITIGATIONS

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

- Block access to port 4443/tcp e.g. with an external firewall

GENERAL SECURITY RECOMMENDATIONS

Operators of critical power systems (e.g. TSOs or DSOs) worldwide are usually required by regulations to build resilience into the power grids by applying multi-level redundant secondary protection schemes. It is therefore recommended that the operators check whether appropriate resilient protection measures are in place. The risk of cyber incidents impacting the grid's reliability can thus be minimized by virtue of the grid design.

Siemens strongly recommends applying the provided security updates using the corresponding tooling and documented procedures made available with the product. If supported by the product, an automated means to apply the security updates across multiple product instances may be used. Siemens strongly recommends prior validation of any security update before being applied, and supervision by trained staff of the update process in the target environment.

As a general security measure Siemens strongly recommends to protect network access with appropriate mechanisms (e.g. firewalls, segmentation, VPN). It is advised to configure the environment according to our operational guidelines in order to run the devices in a protected IT environment.

Recommended security guidelines to Digital Grid Products can be found at:

<https://www.siemens.com/gridsecurity>

PRODUCT DESCRIPTION

SIPROTEC 5 devices provide a range of integrated protection, control, measurement, and automation functions for electrical substations and other fields of application.

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-2021-37206

Received websockets are not properly processed. An unauthenticated remote attacker with access to any of the Ethernet interfaces could send specially crafted packets to force a restart of the target device.

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:F/RL:O/RC:C
CWE	CWE-20: Improper Input Validation

ACKNOWLEDGMENTS

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- Yuriy Strela from GAI NetConsult GmbH for coordinated disclosure

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

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