SSA-637483 Third-Party Component Vulnerabilities in SINEC INS before V1.0 SP2

Publication Date:	2022-09-13
Last Update:	2022-09-13
Current Version:	V1.0
CVSS v3.1 Base Score:	8.8

SUMMARY

Multiple vulnerabilities affecting various third-party components of SINEC INS before V1.0 SP2 could allow an attacker to cause a denial of service condition, disclose sensitive data or violate the system integrity.

Siemens has released an update for the SINEC INS and recommends to update to the latest version.

AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
SINEC INS: All versions < V1.0 SP2	Update to V1.0 SP2 or later version https://support.industry.siemens.com/cs/ww/en/view/109812610/

WORKAROUNDS AND MITIGATIONS

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

SINEC INS (Infrastructure Network Services) is a web-based application that combines various network services in one tool. This simplifies installation and administration of all network services relevant for industrial networks.

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-2020-7793

The package ua-parser-js before 0.7.23 are vulnerable to Regular Expression Denial of Service (ReDoS) in multiple regexes (see linked commit for more info).

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:O/RC:C
CWE	CWE-400: Uncontrolled Resource Consumption

Vulnerability CVE-2020-12762

json-c through 0.14 has an integer overflow and out-of-bounds write via a large JSON file, as demonstrated by printbuf_memappend.

CVSS v3.1 Base Score	7.8
CVSS Vector	CVSS:3.1/AV:L/AC:L/PR:N/UI:R/S:U/C:H/I:H/A:H/E:P/RL:O/RC:C
CWE	CWE-190: Integer Overflow or Wraparound

Vulnerability CVE-2020-28168

Axios NPM package 0.21.0 contains a Server-Side Request Forgery (SSRF) vulnerability where an attacker is able to bypass a proxy by providing a URL that responds with a redirect to a restricted host or IP address.

CVSS v3.1 Base Score	5.9
CVSS Vector	CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:U/C:H/I:N/A:N/E:P/RL:O/RC:C
CWE	CWE-918: Server-Side Request Forgery (SSRF)

Vulnerability CVE-2020-28500

Lodash versions prior to 4.17.21 are vulnerable to Regular Expression Denial of Service (ReDoS) via the toNumber, trim and trimEnd functions.

CVSS v3.1 Base Score	5.3
CVSS Vector	CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:L/E:P/RL:O/RC:C
CWE	CWE-20: Improper Input Validation

Vulnerability CVE-2021-3749

axios is vulnerable to Inefficient Regular Expression Complexity

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:O/RC:C
CWE	CWE-400: Uncontrolled Resource Consumption

Vulnerability CVE-2021-4160

There is a carry propagation bug in the MIPS32 and MIPS64 squaring procedure. Many EC algorithms are affected, including some of the TLS 1.3 default curves. Impact was not analyzed in detail, because the pre-requisites for attack are considered unlikely and include reusing private keys. Analysis suggests that attacks against RSA and DSA as a result of this defect would be very difficult to perform and are not believed likely. Attacks against DH are considered just feasible (although very difficult) because most of the work necessary to deduce information about a private key may be performed offline. The amount of resources required for such an attack would be significant. However, for an attack on TLS to be meaningful, the server would have to share the DH private key among multiple clients, which is no longer an option since CVE-2016-0701. This issue affects OpenSSL versions 1.0.2, 1.1.1 and 3.0.0. It was addressed in the releases of 1.1.1m and 3.0.1 on the 15th of December 2021. For the 1.0.2 release it is addressed in git commit 6fc1aaaf3 that is available to premium support customers only. It will be made available in 1.0.2zc when it is released. The issue only affects OpenSSL on MIPS platforms. Fixed in OpenSSL 3.0.1 (Affected 3.0.0). Fixed in OpenSSL 1.1.1m (Affected 1.1.1-1.1.1l). Fixed in OpenSSL 1.0.2zc-dev (Affected 1.0.2-1.0.2zb).

CVSS v3.1 Base Score	5.9
CVSS Vector	CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:U/C:H/I:N/A:N/E:P/RL:O/RC:C
CWE	CWE-20: Improper Input Validation

Vulnerability CVE-2021-23337

Lodash versions prior to 4.17.21 are vulnerable to Command Injection via the template function.

CVSS v3.1 Base Score	7.2
CVSS Vector	CVSS:3.1/AV:N/AC:L/PR:H/UI:N/S:U/C:H/I:H/A:H/E:P/RL:O/RC:C
CWE	CWE-77: Improper Neutralization of Special Elements used in a Command ('Command Injection')

Vulnerability CVE-2021-23839

OpenSSL 1.0.2 supports SSLv2. If a client attempts to negotiate SSLv2 with a server that is configured to support both SSLv2 and more recent SSL and TLS versions then a check is made for a version rollback attack when unpadding an RSA signature. Clients that support SSL or TLS versions greater than SSLv2 are supposed to use a special form of padding. A server that supports greater than SSLv2 is supposed to reject connection attempts from a client where this special form of padding is present, because this indicates that a version rollback has occurred (i.e. both client and server support greater than SSLv2, and yet this is the version that is being requested). The implementation of this padding check inverted the logic so that the connection attempt is accepted if the padding is present, and rejected if it is absent. This means that such as server will accept a connection if a version rollback attack has occurred. Further the server will erroneously reject a connection if a normal SSLv2 connection attempt is made. Only OpenSSL 1.0.2 servers from version 1.0.2s to 1.0.2x are affected by this issue. In order to be vulnerable a 1.0.2 server must: 1) have configured SSLv2 support at compile time (this is off by default), 2) have configured SSLv2 support at runtime (this is off by default), 3) have configured SSLv2 ciphersuites (these are not in the default ciphersuite list) OpenSSL 1.1.1 does not have SSLv2 support and therefore is not vulnerable to this issue. The underlying error is in the implementation of the RSA_padding_check_SSLv23() function. This also affects the RSA_SSLV23_PADDING padding mode used by various other functions. Although 1.1.1 does not support SSLv2 the RSA_padding_check_SSLv23() function still exists, as does the RSA_SSLV23_PADDING padding mode. Applications that directly call that function or use that padding mode will encounter this issue. However since there is no support for the SSLv2 protocol in 1.1.1 this is considered a bug and not a security issue in that version. OpenSSL 1.0.2 is out of support and no longer receiving public updates. Premium support customers of OpenSSL 1.0.2 should upgrade to 1.0.2y. Other users should upgrade to 1.1.1j. Fixed in OpenSSL 1.0.2y (Affected 1.0.2s-1.0.2x).

CVSS v3.1 Base Score	3.7
CVSS Vector	CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:U/C:N/I:L/A:N/E:P/RL:O/RC:C
CWE	CWE-326: Inadequate Encryption Strength

Vulnerability CVE-2021-23841

The OpenSSL public API function X509_issuer_and_serial_hash() attempts to create a unique hash value based on the issuer and serial number data contained within an X509 certificate. However it fails to correctly handle any errors that may occur while parsing the issuer field (which might occur if the issuer field is maliciously constructed). This may subsequently result in a NULL pointer deref and a crash leading to a potential denial of service attack. The function X509_issuer_and_serial_hash() is never directly called by OpenSSL itself so applications are only vulnerable if they use this function directly and they use it on certificates that may have been obtained from untrusted sources. OpenSSL versions 1.1.1i and below are affected by this issue. Users of these versions should upgrade to OpenSSL 1.1.1j. OpenSSL versions 1.0.2x and below are affected by this issue. However OpenSSL 1.0.2 is out of support and no longer receiving public updates. Premium support customers of OpenSSL 1.0.2 should upgrade to 1.0.2y. Other users should upgrade to 1.1.1j. Fixed in OpenSSL 1.1.1j (Affected 1.1.1-1.1.1i). Fixed in OpenSSL 1.0.2y (Affected 1.0.2-1.0.2x).

CVSS v3.1 Base Score	5.9
CVSS Vector	CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:U/C:N/I:N/A:H/E:P/RL:O/RC:C
CWE	CWE-311: Missing Encryption of Sensitive Data

Vulnerability CVE-2021-25217

The affected products contain the third party component, ISC DHCP, that possesses a vulnerability if used as a DHCP client or server. The vulnerability affects the DHCP package when storing and reading DHCP lease information containing particular option information.

An attacker could exploit this vulnerability to affect the availability of the DHCP client or server, or in the worst case affect the confidentiality or integrity of device through a buffer overflow or cause a remote-code execution.

CVSS v3.1 Base Score	8.8
CVSS Vector	CVSS:3.1/AV:A/AC:L/PR:N/UI:N/S:C/C:L/I:L/A:H/E:P/RL:O/RC:C
CWE	CWE-119: Improper Restriction of Operations within the Bounds of a Memory Buffer

Vulnerability CVE-2021-25220

BIND 9.11.0 -> 9.11.36 9.12.0 -> 9.16.26 9.17.0 -> 9.18.0 BIND Supported Preview Editions: 9.11.4-S1 -> 9.11.36-S1 9.16.8-S1 -> 9.16.26-S1 Versions of BIND 9 earlier than those shown - back to 9.1.0, including Supported Preview Editions - are also believed to be affected but have not been tested as they are EOL. The cache could become poisoned with incorrect records leading to queries being made to the wrong servers, which might also result in false information being returned to clients.

CVSS v3.1 Base Score	8.6
CVSS Vector	CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:C/C:N/I:H/A:N/E:P/RL:O/RC:C
CWE	CWE-20: Improper Input Validation

Vulnerability CVE-2022-0155

follow-redirects is vulnerable to Exposure of Private Personal Information to an Unauthorized Actor

CVSS v3.1 Base Score	6.5
CVSS Vector	CVSS:3.1/AV:N/AC:L/PR:N/UI:R/S:U/C:H/I:N/A:N/E:P/RL:O/RC:C
CWE	CWE-359: Exposure of Private Personal Information to an Unauthorized Actor

Vulnerability CVE-2022-0235

node-fetch is vulnerable to Exposure of Sensitive Information to an Unauthorized Actor

CVSS v3.1 Base Score	6.1
CVSS Vector	CVSS:3.1/AV:N/AC:L/PR:N/UI:R/S:C/C:L/I:L/A:N/E:P/RL:O/RC:C
CWE	CWE-601: URL Redirection to Untrusted Site ('Open Redirect')

Vulnerability CVE-2022-0396

BIND 9.16.11 -> 9.16.26, 9.17.0 -> 9.18.0 and versions 9.16.11-S1 -> 9.16.26-S1 of the BIND Supported Preview Edition. Specifically crafted TCP streams can cause connections to BIND to remain in CLOSE_WAIT status for an indefinite period of time, even after the client has terminated the connection.

CVSS v3.1 Base Score	5.3
CVSS Vector	CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:L/E:P/RL:O/RC:C
CWE	CWE-404: Improper Resource Shutdown or Release

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 (2022-09-13): Publication Date

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