

SSA-190839: X_T File Parsing Vulnerabilities in Parasolid

Publication Date: 2023-09-12
Last Update: 2023-09-12
Current Version: V1.0
CVSS v3.1 Base Score: 7.8

SUMMARY

Parasolid is affected by out of bounds write vulnerabilities that could be triggered when the application reads files in X_T format. If a user is tricked to open a malicious file with the affected applications, an attacker could leverage the vulnerability to perform remote code execution in the context of the current process.

Siemens has released updates for the affected products and recommends to update to the latest versions.

AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
Parasolid V34.1: All versions < V34.1.258 only affected by CVE-2023-41032	Update to V34.1.258 or later version https://support.sw.siemens.com/en-US/product/258316782/ See recommendations from section Workarounds and Mitigations
Parasolid V35.0: All versions < V35.0.253 only affected by CVE-2023-41032	Update to V35.0.253 or later version https://support.sw.siemens.com/en-US/product/258316782/ See recommendations from section Workarounds and Mitigations
Parasolid V35.0: All versions < V35.0.260 only affected by CVE-2023-41033	Update to V35.0.260 or later version https://support.sw.siemens.com/en-US/product/258316782/ See recommendations from section Workarounds and Mitigations
Parasolid V35.1: All versions < V35.1.184 only affected by CVE-2023-41032	Update to V35.1.184 or later version https://support.sw.siemens.com/en-US/product/258316782/ See recommendations from section Workarounds and Mitigations
Parasolid V35.1: All versions < V35.1.246 only affected by CVE-2023-41033	Update to V35.1.246 or later version https://support.sw.siemens.com/en-US/product/258316782/ See recommendations from section Workarounds and Mitigations
Parasolid V36.0: All versions < V36.0.142 only affected by CVE-2023-41032	Update to V36.0.142 or later version https://support.sw.siemens.com/en-US/product/258316782/ See recommendations from section Workarounds and Mitigations

Parasolid V36.0: All versions < V36.0.156 only affected by CVE-2023-41033	Update to V36.0.156 or later version https://support.sw.siemens.com/en-US/product/258316782/ 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:

- Do not open untrusted X_T files in Parasolid

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

Parasolid is a 3D geometric modeling tool that supports various techniques, including solid modeling, direct editing, and free-form surface/sheet modeling.

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-2023-41032

The affected application contains an out of bounds write past the end of an allocated structure while parsing specially crafted X_T files. This could allow an attacker to execute code in the context of the current process. (ZDI-CAN-21263)

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-787: Out-of-bounds Write

Vulnerability CVE-2023-41033

The affected application contains an out of bounds write past the end of an allocated structure while parsing specially crafted X_T files. This could allow an attacker to execute code in the context of the current process. (ZDI-CAN-21266)

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-787: Out-of-bounds Write

ACKNOWLEDGMENTS

Siemens thanks the following party for its efforts:

- Trend Micro Zero Day Initiative 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 (2023-09-12): Publication Date

TERMS OF USE

Siemens Security Advisories are subject to the terms and conditions contained in Siemens' underlying license terms or other applicable agreements previously agreed to with Siemens (hereinafter "License Terms"). To the extent applicable to information, software or documentation made available in or through a Siemens Security Advisory, the Terms of Use of Siemens' Global Website (https://www.siemens.com/terms_of_use, hereinafter "Terms of Use"), in particular Sections 8-10 of the Terms of Use, shall apply additionally. In case of conflicts, the License Terms shall prevail over the Terms of Use.