

## SSA-131450: File parsing Vulnerabilities in Solid Edge, JT2Go and Teamcenter Visualization

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 Current Version: V1.0  
 CVSS v3.1 Base Score: 7.8

### SUMMARY

Siemens JT2Go, Teamcenter Visualization and Solid Edge are affected by multiple file parsing vulnerabilities. If a user is tricked to open a malicious file (crafted as ASM or TIFF file format) with any of the affected products, this could lead the application to crash or potentially lead to arbitrary code execution.

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
JT2Go: All versions < V14.2.0.5	Update to V14.2.0.5 or later version <a href="https://www.plm.automation.siemens.com/global/en/products/plm-components/jt2go.html">https://www.plm.automation.siemens.com/global/en/products/plm-components/jt2go.html</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>
Solid Edge SE2022: All versions < V222.0 Update 13 only affected by CVE-2023-28830	Update to V222.0 Update 13 or later version <a href="https://support.sw.siemens.com/">https://support.sw.siemens.com/</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>
Solid Edge SE2023: All versions < V223.0 Update 4 only affected by CVE-2023-28830	Update to V223.0 Update 4 or later version <a href="https://support.sw.siemens.com/">https://support.sw.siemens.com/</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>
Teamcenter Visualization V13.2: All versions < V13.2.0.15 only affected by CVE-2023-28830	Update to V13.2.0.15 or later version <a href="https://support.sw.siemens.com/">https://support.sw.siemens.com/</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>
Teamcenter Visualization V13.2: All versions < V13.2.0.14 only affected by CVE-2023-38682, CVE-2023-38683	Update to V13.2.0.14 or later version <a href="https://support.sw.siemens.com/">https://support.sw.siemens.com/</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>
Teamcenter Visualization V13.3: All versions < V13.3.0.11 only affected by CVE-2023-28830	Update to V13.3.0.11 or later version <a href="https://support.sw.siemens.com/">https://support.sw.siemens.com/</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>
Teamcenter Visualization V14.1: All versions < V14.1.0.11 only affected by CVE-2023-28830	Update to V14.1.0.11 or later version <a href="https://support.sw.siemens.com/">https://support.sw.siemens.com/</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>

Teamcenter Visualization V14.1: All versions < V14.1.0.10 only affected by CVE-2023-38682, CVE-2023-38683	Update to V14.1.0.10 or later version <a href="https://support.sw.siemens.com/">https://support.sw.siemens.com/</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>
Teamcenter Visualization V14.2: All versions < V14.2.0.5	Update to V14.2.0.5 or later version <a href="https://support.sw.siemens.com/">https://support.sw.siemens.com/</a> See recommendations from section <a href="#">Workarounds and Mitigations</a>

## **WORKAROUNDS AND MITIGATIONS**

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

- Avoid to open untrusted files in JT2Go, Teamcenter Visualization and Solid Edge

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**

JT2Go is a 3D JT viewing tool to allow users to view JT, PDF, Solid Edge, PLM XML with available JT, VFZ, CGM, and TIF data.

Solid Edge is a portfolio of software tools that addresses various product development processes: 3D design, simulation, manufacturing and design management.

Teamcenter Visualization software enables enterprises to enhance their product lifecycle management (PLM) environment with a comprehensive family of visualization solutions. The software enables enterprise users to access documents, 2D drawings and 3D models in a single environment.

## **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-2023-28830**

The affected application contains a use-after-free vulnerability that could be triggered while parsing specially crafted ASM file. An attacker could leverage this vulnerability to execute code in the context of the current process.

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:T/RC:C](#)  
CWE                         CWE-416: Use After Free

### **Vulnerability CVE-2023-38682**

The affected applications contain an out of bounds read past the end of an allocated structure while parsing specially crafted TIFF files. This could allow an attacker to execute code in the context of the current process.

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-125: Out-of-bounds Read

### **Vulnerability CVE-2023-38683**

The affected application contains an out of bounds write past the end of an allocated buffer while parsing a specially crafted TIFF file. This could allow an attacker to execute code in the context of the current process.

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 parties for their efforts:

- Michael Heinzl for coordinated disclosure of CVE-2023-28830
- Jin Huang from ADLab of Venustech for reporting the vulnerabilities CVE-2023-38682 and CVE-2023-38683

## **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 (2023-08-08):      Publication date

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