

SSA-553086: Multiple File Parsing Vulnerabilities in JT2Go and Teamcenter Visualization

Publication Date: 2022-05-10
Last Update: 2022-05-10
Current Version: V1.0
CVSS v3.1 Base Score: 7.8

SUMMARY

Siemens has released updates for JT2Go and Teamcenter Visualization to fix multiple file parsing vulnerabilities. If a user is tricked to open a malicious file (crafted as CGM, TIFF or TG4) 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 some of the affected products and recommends to update to the latest versions. Siemens is preparing further updates and recommends specific countermeasures for products where updates are not yet available.

AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
JT2Go: All versions < V13.3.0.3	Update to V13.3.0.3 or later version https://www.plm.automation.siemens.com/global/en/products/plm-components/jt2go.html See further recommendations from section Workarounds and Mitigations
Teamcenter Visualization V13.3: All versions < V13.3.0.3	Update to V13.3.0.3 or later version https://support.sw.siemens.com/ See further recommendations from section Workarounds and Mitigations
Teamcenter Visualization V14.0: All versions < V14.0.0.1	Update to V14.0.0.1 or later version https://support.sw.siemens.com/ See further 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:

- Avoid to open untrusted files from unknown sources in affected products

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.

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-2022-29028

The Tiff_Loader.dll is vulnerable to infinite loop condition while parsing specially crafted TIFF files. An attacker could leverage this vulnerability to crash the application causing denial of service condition.

CVSS v3.1 Base Score	3.3
CVSS Vector	CVSS:3.1/AV:L/AC:L/PR:N/UI:R/S:U/C:N/I:N/A:L/E:P/RL:O/RC:C
CWE	CWE-835: Loop with Unreachable Exit Condition ('Infinite Loop')

Vulnerability CVE-2022-29029

The CGM_NIST_Loader.dll contains a null pointer dereference vulnerability while parsing specially crafted CGM files. An attacker could leverage this vulnerability to crash the application causing denial of service condition.

CVSS v3.1 Base Score	3.3
CVSS Vector	CVSS:3.1/AV:L/AC:L/PR:N/UI:R/S:U/C:N/I:N/A:L/E:P/RL:O/RC:C
CWE	CWE-476: NULL Pointer Dereference

Vulnerability CVE-2022-29030

The Mono_Loader.dll library is vulnerable to integer overflow condition while parsing specially crafted TG4 files. An attacker could leverage this vulnerability to crash the application causing denial of service condition.

CVSS v3.1 Base Score	3.3
CVSS Vector	CVSS:3.1/AV:L/AC:L/PR:N/UI:R/S:U/C:N/I:N/A:L/E:P/RL:O/RC:C
CWE	CWE-680: Integer Overflow to Buffer Overflow

Vulnerability CVE-2022-29031

The CGM_NIST_Loader.dll contains a null pointer dereference vulnerability while parsing specially crafted CGM files. An attacker could leverage this vulnerability to crash the application causing denial of service condition.

CVSS v3.1 Base Score	3.3
CVSS Vector	CVSS:3.1/AV:L/AC:L/PR:N/UI:R/S:U/C:N/I:N/A:L/E:P/RL:O/RC:C
CWE	CWE-476: NULL Pointer Dereference

Vulnerability CVE-2022-29032

The CGM_NIST_Loader.dll library contains a double free vulnerability while parsing specially crafted CGM files. 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:O/RC:C
CWE	CWE-415: Double Free

Vulnerability CVE-2022-29033

The CGM_NIST_Loader.dll library is vulnerable to uninitialized pointer free while parsing specially crafted CGM files. 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:O/RC:C
CWE	CWE-824: Access of Uninitialized Pointer

ACKNOWLEDGMENTS

Siemens thanks the following parties for their efforts:

- Jin Huang from ADLab of Venustech for reporting the vulnerabilities

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 (2022-05-10): Publication Date

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