

SSA-360681: Datalogics File Parsing Vulnerabilities in Teamcenter Visualization and JT2Go

Publication Date: 2022-12-13
 Last Update: 2022-12-13
 Current Version: V1.0
 CVSS v3.1 Base Score: 7.8

SUMMARY

Siemens Teamcenter Visualization and JT2Go are affected by multiple out of bounds write vulnerabilities in the APDFL library from Datalogics. If a user is tricked to open a malicious PDF file with 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 < V14.1.0.5	Update to V14.1.0.5 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 < V13.3.0.8	Update to V13.3.0.8 or later version https://support.sw.siemens.com/ See further recommendations from section Workarounds and Mitigations
Teamcenter Visualization V14.0: All versions < V14.0.0.4	Update to V14.0.0.4 or later version https://support.sw.siemens.com/ See further recommendations from section Workarounds and Mitigations
Teamcenter Visualization V14.1: All versions < V14.1.0.5	Update to V14.1.0.5 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:

- Do not open untrusted PDF files in JT2Go and Teamcenter Visualization

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-2022-3159

The APDFL.dll contains a stack-based buffer overflow vulnerability that could be triggered while parsing specially crafted PDF 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-121: Stack-based Buffer Overflow

Vulnerability CVE-2022-3160

The APDFL.dll contains an out of bounds write past the fixed-length heap-based buffer while parsing specially crafted PDF 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-122: Heap-based Buffer Overflow

Vulnerability CVE-2022-3161

The APDFL.dll contains a memory corruption vulnerability while parsing specially crafted PDF 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-119: Improper Restriction of Operations within the Bounds of a Memory Buffer

ACKNOWLEDGMENTS

Siemens thanks the following parties for their efforts:

- Michael Heinzl for reporting the vulnerability CVE-2022-3159
- Nafiez for reporting vulnerabilities CVE-2022-3160 and CVE-2022-3161

ADDITIONAL INFORMATION

This advisory covers security vulnerabilities (CVE-2022-3159, CVE-2022-3160, and CVE-2022-3161) in APDFL library in Datalogics [1].

[1] Datalogics Release Notes SF#45175, SF#45202, SF#45203: <https://dev.datalogics.com/adobe-pdf-library/release-notes-adobe-pdf-library-v-18/>

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 (2022-12-13): 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.