OPC Foundation Security Bulletin

Security Update for the OPC UA .NET Standard Stack

Published: May 1st, 2022
Version: 1.0

Executive Summary

This security update resolves a vulnerability in the OPC UA .NET Standard Stack that allows a malicious client or server to bypass the application authentication mechanism and allow a connection to an untrusted peer.

This security update has a base score of 6.5 (medium) using the CVSS v3.1 guidelines.

The CVSS vector string is:
AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:L/A:N

Affected Software

The following software has been updated to address the issue:

<table>
<thead>
<tr>
<th>Download</th>
<th>Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPCFoundation/UA-.NETStandard</td>
<td>GitHub Commit</td>
</tr>
<tr>
<td>This version or any version after it.</td>
<td><a href="https://github.com/OPCFoundation/UA-.NETStandard/tree/1.4.368.58">https://github.com/OPCFoundation/UA-.NETStandard/tree/1.4.368.58</a></td>
</tr>
<tr>
<td>OPCFoundation/UA-.NET-Legacy</td>
<td>GitHub Commit</td>
</tr>
<tr>
<td>This version or any version after it.</td>
<td><a href="https://github.com/OPCFoundation/UA-.NET-Legacy/tree/35199e43d46f0eef793cace12baa806838ddba2c">https://github.com/OPCFoundation/UA-.NET-Legacy/tree/35199e43d46f0eef793cace12baa806838ddba2c</a></td>
</tr>
</tbody>
</table>

OPC Foundation Vulnerability Information
Vulnerabilities and Exposures list:

<table>
<thead>
<tr>
<th>Vulnerability</th>
<th>CVE number</th>
<th>Publicly disclosed</th>
<th>Exploited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CWE-303</strong> Incorrect Implementation of Authentication Algorithm.</td>
<td>CVE-2022-29865</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Mitigating Factors**

Only affects applications running on Windows or MacOS.

**Workarounds**

Use self-signed Certificates for application authentication.

Move CAs from the trust list to the issuers list and explicitly add each trusted peer into the trust list.

Require user authentication in addition to application authentication.

**Acknowledgments**

The OPC Foundation recognizes Daan Keuper & Thijs Alkemade from Computest working with Trend Micro Zero Day Initiative for discovering and reporting this issue.

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**Revisions**

- V1.0 (May 1st, 2022): Bulletin published.