Schneider Electric Security Notification

C-Bus Toolkit and C-Gate Server (V3.0)

13 April 2021 (14 September 2021)

Overview

Schneider Electric is aware of multiple vulnerabilities in its C-Bus Toolkit and C-Gate server products.

The C-Bus Toolkit product, which includes C-Gate Server, is an application you run on your personal computer to configure and commission C-Bus Installations.

Failure to apply the remediations provided below may risk remote code execution attack, which could result in an attacker having remote access to the computer.

September 2021 Update: New research has made Schneider Electric aware that the previous security notification was incomplete, it has now been updated to include C-Gate Server as an affected product of CVE-2021-22720, add CVE-2021-22796, and update the previously provided remediation.

Affected Product and Versions

<table>
<thead>
<tr>
<th>C-Bus Toolkit V1.15.9 and prior</th>
<th>CVE-2021-22716</th>
<th>CVE-2021-22717</th>
<th>CVE-2021-22718</th>
<th>CVE-2021-22719</th>
<th>CVE-2021-22720</th>
<th>CVE-2021-22748</th>
<th>CVE-2021-22796</th>
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C-Gate Server 2.11.7 and prior

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Vulnerability Details

CVE ID: **CVE-2021-22716**

CVSS v3.0 Base Score 7.8 | High | CVSS:3.0/AV:L/AC:L/PR:L/UI:N/S:U/C:H/I:H/A:H

A **CWE-269: Improper Privilege Management** vulnerability exists that could allow remote code execution when an unprivileged user modifies a file.
Schneider Electric Security Notification

CVE ID: **CVE-2021-22717**
CVSS v3.0 Base Score 8.8 | High | CVSS:3.0/AV:N/AC:L/PR:L/UI:N/S:U/C:H/I:H/A:H

A **CWE-22: Improper Limitation of a Pathname to a Restricted Directory ('Path Traversal')** vulnerability exists that could allow a remote code execution when processing config files.

CVE ID: **CVE-2021-22718**
CVSS v3.0 Base Score 7.8 | High | CVSS:3.0/AV:L/AC:L/PR:N/UI:R/S:U/C:H/I:H/A:H

A **CWE-22: Improper Limitation of a Pathname to a Restricted Directory ('Path Traversal')** vulnerability exists that could allow a remote code execution when restoring project files.

CVE ID: **CVE-2021-22719**
CVSS v3.0 Base Score 8.8 | High | CVSS:3.0/AV:N/AC:L/PR:L/UI:N/S:U/C:H/I:H/A:H

A **CWE-22: Improper Limitation of a Pathname to a Restricted Directory ('Path Traversal')** vulnerability exists that could allow a remote code execution when a file is uploaded.

CVE ID: **CVE-2021-22720**
CVSS v3.0 Base Score 6.5 | Medium | CVSS:3.0/AV:N/AC:L/PR:L/UI:N/S:U/C:H/I:N/A:N

A **CWE-22: Improper Limitation of a Pathname to a Restricted Directory ('Path Traversal')** vulnerability exists that could allow a remote code execution when restoring a project.

CVE ID: **CVE-2021-22748**
CVSS v3.1 Base Score 8.8 | High | CVSS:3.1/AV:N/AC:L/PR:L/UI:N/S:U/C:H/I:H/A:H

A **CWE-22: Improper Limitation of a Pathname to a Restricted Directory ('Path Traversal')** vulnerability exists that could allow a remote code execution when a file is saved.

CVE ID: **CVE-2021-22796**
CVSS v3.1 Base Score 8.8 | High | CVSS:3.1/AV:N/AC:L/PR:L/UI:N/S:U/C:H/I:H/A:H

A **CWE-287:Improper Authentication** vulnerability exists that could allow remote code execution when a malicious file is uploaded.

**Remediation**

Version 1.15.10 of the C-Bus Toolkit product, which contains the C-Gate Server, includes a fix for these vulnerabilities and is available for download here:
Version 2.11.8 of the C-Gate Server product is also available at the link above.

A reboot will be needed after the update.

Customers should use appropriate patching methodologies when applying these patches to their systems. We strongly recommend the use of back-ups and evaluating the impact of these patches in a Test and Development environment or on an offline infrastructure. Contact Schneider Electric’s Customer Care Center if you need assistance removing a patch.

If customers choose not to apply the remediation provided above, they should immediately apply the following mitigations to reduce the risk of exploit:

- Use an allow list for this application
- Turn on the computer’s firewall
- Use an antivirus program
- Secure this computer to prevent unauthorized personnel from accessing this computer

General Security Recommendations

We strongly recommend the following industry cybersecurity best practices.

- Locate control and safety system networks and remote devices behind firewalls and isolate them from the business network.
- Install physical controls so no unauthorized personnel can access your industrial control and safety systems, components, peripheral equipment, and networks.
- Place all controllers in locked cabinets and never leave them in the “Program” mode.
- Never connect programming software to any network other than the network for the devices that it is intended for.
- Scan all methods of mobile data exchange with the isolated network such as CDs, USB drives, etc. before use in the terminals or any node connected to these networks.
- Never allow mobile devices that have connected to any other network besides the intended network to connect to the safety or control networks without proper sanitation.
- Minimize network exposure for all control system devices and systems and ensure that they are not accessible from the Internet.
- When remote access is required, use secure methods, such as Virtual Private Networks (VPNs). Recognize that VPNs may have vulnerabilities and should be updated to the most current version available. Also, understand that VPNs are only as secure as the connected devices.

For more information refer to the Schneider Electric Recommended Cybersecurity Best Practices document.
Acknowledgements

Schneider Electric recognizes the following researchers for identifying and helping to coordinate a response to this vulnerability:

<table>
<thead>
<tr>
<th>CVE</th>
<th>Researchers</th>
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<tr>
<td>CVE-2021-22716</td>
<td>• Simon Zuckerbraun of Trend Micro Zero Day Initiative</td>
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For More Information

This document provides an overview of the identified vulnerability or vulnerabilities and actions required to mitigate. For more details and assistance on how to protect your installation, contact your local Schneider Electric representative or Schneider Electric Industrial Cybersecurity Services: [https://www.se.com/ww/en/work/solutions/cybersecurity/](https://www.se.com/ww/en/work/solutions/cybersecurity/). These organizations will be fully aware of this situation and can support you through the process.

For further information related to cybersecurity in Schneider Electric’s products, visit the company’s cybersecurity support portal page: [https://www.se.com/ww/en/work/support/cybersecurity/overview.jsp](https://www.se.com/ww/en/work/support/cybersecurity/overview.jsp)

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We provide energy and automation digital solutions for efficiency and sustainability. We combine world-leading energy technologies, real-time automation, software and services into integrated solutions for Homes, Buildings, Data Centers, Infrastructure and Industries.

We are committed to unleash the infinite possibilities of an open, global, innovative community that is passionate with our Meaningful Purpose, Inclusive and Empowered values.

www.se.com

Revision Control:

<table>
<thead>
<tr>
<th>Version 1.0</th>
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<td>13 April 2021</td>
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<thead>
<tr>
<th>Version 2.0</th>
<th>Added CVE-2021-22748</th>
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| Version 3.0 | C-Gate Server added as an affected product of CVE-2021-22720  
CVE-2021-22796 added  
Updated the previously provided remediation  
Added Tenable Security to the acknowledgement section |
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