NicheStack TCP/IP Vulnerabilities (INFRA:HALT) in Lexium ILE, ILA, ILS, and Communication Option Boards for Altivar and Lexium32 drives

05 August 2021 (08 February 2022)

Overview

Schneider Electric is aware of multiple vulnerabilities in HCC Embedded’s NicheStack TCP/IP third party component, which is integrated into Schneider Electric’s Lexium ILE, ILA, ILS, Altivar Profinet Communication Module (VW3A3627), Altivar and Lexium Ethernet TCP/IP Communication Module (VW3A3616), and Altivar Profinet - Communication Card (VW3A3327) products.

Failure to apply the mitigations provided below may risk denial of service of the drives.

February 2022 Update: Added Altivar Profinet Communication Module (VW3A3627), Altivar and Lexium Ethernet TCP/IP Communication Module (VW3A3616), and Altivar Profinet - Communication Card (VW3A3327) to the list of affected products.

Affected Products and Versions

<table>
<thead>
<tr>
<th>Product</th>
<th>Version</th>
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<tbody>
<tr>
<td>Lexium ILE ILA ILS</td>
<td>V01.103 and prior</td>
</tr>
<tr>
<td>Altivar 32/320/340/600/900 Profinet communication module (VW3A3627)</td>
<td>All versions</td>
</tr>
<tr>
<td>Altivar 32/320 and Lexium 32 Ethernet TCP/IP communication module (VW3A3616)</td>
<td>All versions</td>
</tr>
<tr>
<td>Altivar 61/71 Profinet - communication card (VW3A3327)</td>
<td>All versions</td>
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</table>

Vulnerability Details

Five of the 14 vulnerabilities disclosed by researchers in the NicheStack TCP/IP component impact Schneider Electric’s Lexium ILE, ILA, ILS, Altivar Profinet Communication Module (VW3A3627), Altivar and Lexium Ethernet TCP/IP Communication Module (VW3A3616), and Altivar Profinet - Communication Card (VW3A3327).
Schneider Electric Security Notification

Additional information vulnerability details can be found at [https://us-cert.cisa.gov/ics/advisories/icsa-21-217-01](https://us-cert.cisa.gov/ics/advisories/icsa-21-217-01)

- CVE-2021-31400
- CVE-2021-31401
- CVE-2020-35683
- CVE-2020-35684
- CVE-2020-35685

Mitigations

Schneider Electric is establishing a remediation plan for all future versions of Lexium ILE, ILA, ILS, Altivar Profinet Communication Module (VW3A3627), Altivar and Lexium Ethernet TCP/IP Communication Module (VW3A3616), and Altivar Profinet - Communication Card (VW3A3327) products. We will update this document when the remediation or additional mitigations are available. Until then, customers should immediately apply the following mitigations to reduce the risk of exploit:

- Implement a firewall to restrict network access to the drives
- Configure the controller associated to the drives by disabling IP forwarding as described in the online help of your controller.
- Configure the controller with dedicated access control lists as described below

More information to implement these mitigations can be found in the online help of the controllers at:


To ensure you are informed of all updates, including details on affected products and remediation plans, subscribe to Schneider Electric’s security notification service here:


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.

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/. 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

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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.

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Revision Control:

<table>
<thead>
<tr>
<th>Version 1.0</th>
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<tr>
<td>5 August 2021</td>
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Product Security Office

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