Multiple Expat vulnerabilities in in Hirschmann HiOS products, HiSecOS products, BAT-C2, and GECKO

Date: 2023-09-26
Version: 1.0

Summary

The following vulnerabilities affect the expat functionality in one or more versions of the products listed in the next section:

<table>
<thead>
<tr>
<th>ID</th>
<th>Title / Description</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVE-2021-45960[1]</td>
<td>In Expat (aka libexpat) before 2.4.3, a left shift by 29 (or more) places in the storeAtts function in xmlparse.c can lead to realloc misbehavior (e.g., allocating too few bytes, or only freeing memory).</td>
<td>CVSS v3.1: 8.8</td>
</tr>
<tr>
<td>CVE-2021-46143[2]</td>
<td>In doProlog in xmlparse.c in Expat (aka libexpat) before 2.4.3, an integer overflow exists for m_groupSize.</td>
<td>CVSS v3.1: 7.8</td>
</tr>
<tr>
<td>CVE-2022-22822[3]</td>
<td>addBinding in xmlparse.c in Expat (aka libexpat) before 2.4.3 has an integer overflow.</td>
<td>CVSS v3.1: 9.8</td>
</tr>
<tr>
<td>CVE-2022-22823[4]</td>
<td>build_model in xmlparse.c in Expat (aka libexpat) before 2.4.3 has an integer overflow.</td>
<td>CVSS v3.1: 9.8</td>
</tr>
<tr>
<td>CVE-2022-22824[5]</td>
<td>defineAttribute in xmlparse.c in Expat (aka libexpat) before 2.4.3 has an integer overflow.</td>
<td>CVSS v3.1: 9.8</td>
</tr>
<tr>
<td>CVE-2022-22825[6]</td>
<td>lookup in xmlparse.c in Expat (aka libexpat) before 2.4.3 has an integer overflow.</td>
<td>CVSS v3.1: 8.8</td>
</tr>
<tr>
<td>CVE-2022-22826[7]</td>
<td>nextScaffoldPart in xmlparse.c in Expat (aka libexpat) before 2.4.3 has an integer overflow.</td>
<td>CVSS v3.1: 8.8</td>
</tr>
<tr>
<td>CVE-2022-22827[8]</td>
<td>storeAtts in xmlparse.c in Expat (aka libexpat) before 2.4.3 has an integer overflow.</td>
<td>CVSS v3.1: 8.8</td>
</tr>
<tr>
<td>CVE-2022-25314[9]</td>
<td>In Expat (aka libexpat) before 2.4.5, there is an integer overflow in copyString.</td>
<td>CVSS v3.1: 7.5</td>
</tr>
<tr>
<td>CVE-2022-25315[10]</td>
<td>In Expat (aka libexpat) before 2.4.5, there is an integer overflow in storeRawNames.</td>
<td>CVSS v3.1: 9.8</td>
</tr>
<tr>
<td>CVE-2022-25235[11]</td>
<td>xmltok_impl.c in Expat (aka libexpat) before 2.4.5 lacks certain validation of encoding, such as checks for whether a UTF-8 character is valid in a certain context.</td>
<td>CVSS v3.1: 9.8</td>
</tr>
<tr>
<td>CVE-2022-25236[12]</td>
<td>xmlparse.c in Expat (aka libexpat) before 2.4.5 allows attackers to insert namespace-separator characters into namespace URIs.</td>
<td>CVSS v3.1: 9.8</td>
</tr>
<tr>
<td>CVE-2022-23852[13]</td>
<td>Expat (aka libexpat) before 2.4.4 has a signed integer overflow in XML_GetBuffer, for configurations with a nonzero XML_CONTEXT_BYTES.</td>
<td>CVSS v3.1: 9.8</td>
</tr>
<tr>
<td>CVE-2022-23990[14]</td>
<td>Expat (aka libexpat) before 2.4.4 has an integer overflow in the doProlog function.</td>
<td>CVSS v3.1: 7.5</td>
</tr>
</tbody>
</table>

Affected Products

<table>
<thead>
<tr>
<th>Brand</th>
<th>Product Line / Platform</th>
<th>Product</th>
<th>Version</th>
</tr>
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<tbody>
<tr>
<td>Hirschmann</td>
<td>Classic</td>
<td>RS, RSR, RSB, MACH100, MACH1000, MACH4000, MS, OCTOPUS</td>
<td>09.1.07 or lower</td>
</tr>
<tr>
<td>Hirschmann</td>
<td>HiOS</td>
<td>RSP2S, RSPS, RSPL, EES, EESX</td>
<td>07.1.05 or lower</td>
</tr>
</tbody>
</table>
Solution

Updates are available, which address the vulnerability. Customers are advised to update their product.

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<tbody>
<tr>
<td>Hirschmann</td>
<td>HiOS</td>
<td>RS, RSR, RSB, MACH100, MACH1000, MACH4000, MS, OCTOPUS</td>
<td>09.1.08</td>
</tr>
<tr>
<td>Hirschmann</td>
<td>HiSecOS</td>
<td>Eagle</td>
<td>04.2.01 or lower</td>
</tr>
<tr>
<td>Hirschmann</td>
<td>HiLCOS</td>
<td>BAT C2</td>
<td>9.12 or lower</td>
</tr>
<tr>
<td>Hirschmann</td>
<td>Lite Managed</td>
<td>GECKO</td>
<td>2.3.3 or lower</td>
</tr>
</tbody>
</table>

For Help or Feedback

To view all Belden Security Bulletins or to report suspected security vulnerabilities, go to https://www.belden.com/security.
For technical support and other requests, please visit https://hirschmann-support.belden.com.

Related Links

- [1] https://nvd.nist.gov/vuln/detail/CVE-2021-45960

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Revisions

V1.0 (2023-09-26): Bulletin created.