**Summary**

Below are integer overflow issues in the TI-NDK versions 2.x and 3.x that could potentially lead to issues like denial of service or remote code execution.

<table>
<thead>
<tr>
<th>CVEID</th>
<th>Description</th>
<th>CVSS score (v3.1)</th>
<th>CVSS vector</th>
<th>TI-NDK</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVE-2021-22671</td>
<td>Integer overflow in 'DNSGetHostByName' when trying to resolve long domain names</td>
<td>9.8</td>
<td>AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Integer overflow in 'DNSResolve' when trying to resolve long domain names</td>
<td>9.8</td>
<td>AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H</td>
<td>+</td>
</tr>
</tbody>
</table>

**Affected products and versions**

- TI-NDK 3_80_00_19 and older versions

The following SDK releases are affected as they integrate the above mentioned NDK versions.

- SimpleLink™ MSP432E4 SDK 4.20.00.12 and older versions
- Processor SDK for TDAx ADAS SoCs (VISION, RADAR) 03_08_00 and older versions
- DRA7xx Processor SDK (rtos-automotive) - 04.03.00.05 and older versions
- RTOS SDK for AM65x, J721E and J72100 Jacinto™ Processors - 07.03.00.07 and older versions
- Processor SDK RTOS version - 07.03.00.07 and any older SDK releases for all C66x, C674x, C64x, ARM9, Cortex-A8, Cortex-A9, Cortex-A15 family of devices. Some of these are highlighted below:
  - AM57x, AM437x, AM335x
  - OMAPL13x, C674x, C64x, Keystone 1, Keystone 2 and Davinci family of devices

**Potentially impacted features**

- DNS initialization

**Suggested mitigations**

- The TI-NDK is in long term maintenance, and as such there is no plan to update or provide patches to it at this time.
- SimpleLink MSP432E4 SDK does not have a planned SDK update to implement mitigations due to the mature nature of its software.
- Processor SDKs for AM65x, J721E and J7200 families will be updated in mid-2021 (08.00) and replace TI-NDK with lwIP.
- Other Processor SDKs do not plan to implement mitigations due to the mature nature of the software.

*If you have any questions, contact psirt@ti.com.*

**Note:** Customers are solely responsible for the security of their products and are encouraged to assess the possible risk of any potential security vulnerability.

**Acknowledgment**

We would like to thank Omri Ben Bassat and David Atch of Microsoft for working with CISA to report these vulnerabilities to the TI Product Security Incident Response Team (PSIRT).
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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
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