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## CVE-2018-14618

# NTLM password overflow via integer overflow

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Project curl Security Advisory, September 5th 2018 - [Permalink](#)

## VULNERABILITY

libcurl contains a buffer overrun in the NTLM authentication code.

The internal function `Curl_ntlm_core_mk_nt_hash` multiplies the `length` of the password by two (SUM) to figure out how large temporary storage area to allocate from the heap.

The `length` value is then subsequently used to iterate over the password and generate output into the allocated storage buffer. On systems with a 32-bit `size_t`, the math to calculate SUM triggers an integer overflow when the password length exceeds 2GB ( $2^{31}$  bytes). This integer overflow usually causes a tiny buffer to actually get allocated instead of the intended huge one, making the use of that buffer end up in a heap buffer overflow.

(This bug is almost identical to [CVE-2017-8816](#).)

## INFO

The Common Vulnerabilities and Exposures (CVE) project has assigned the name CVE-2018-14618 to this issue.

CWE-131: Incorrect Calculation of Buffer Size

Severity: High

## AFFECTED VERSIONS

This issue is only present on 32-bit systems. It also requires the password field to use more than 2GB of memory, which should be rare.

- Affected versions: libcurl [7.15.4](#) to and including [7.61.0](#)
- Not affected versions: libcurl < [7.15.4](#) and >= [7.61.1](#)
- Introduced-in: <https://github.com/curl/curl/commit/be285cde3f>

curl is used by many applications, but not always advertised as such.

## SOLUTION

In libcurl version [7.61.1](#), the integer overflow is avoided.

- Fixed-in: <https://github.com/curl/curl/commit/57d299a499155d4b327e34>

## RECOMMENDATIONS

We suggest you take one of the following actions immediately, in order of preference:

A - Upgrade curl to version [7.61.1](#)

B - Apply the patch to your version and rebuild

C - Put length restrictions on the password you can pass to libcurl

## TIMELINE

It was [publicly reported](#) to the curl project on July 18, 2018. We contacted [distros@openwall](mailto:distros@openwall) on August 27.

curl [7.61.1](#) was released on September 5 2018, coordinated with the publication of this advisory.

## CREDITS

- Reported-by: Zhaoyang Wu
- Patched-by: Daniel Stenberg

Thanks a lot!