



## Bug 1406712 (CVE-2016-9586) - CVE-2016-9586 curl: printf floating point buffer overflow

**Keywords:** Reopened  Security

**Status:** CLOSED ERRATA

**Alias:** CVE-2016-9586

**Product:** Security Response

**Component:** vulnerability

**Version:** unspecified

**Hardware:** All

**OS:** Linux

**Priority:** low

**Severity:** low

**Target Milestone:** ---

**Assignee:** Red Hat Product Security

**QA Contact:**

**Docs Contact:**

**URL:**

**Whiteboard:**

**Depends On:** [1406716](#) [1406717](#) [1406718](#)

**Blocks:** [1406719](#)

**TreeView+** [depends on](#) / [blocked](#)

**Reported:** 2016-12-21 10:11 UTC by Andrej Nemeec

**Modified:** 2021-10-21 11:58 UTC [\(History\)](#)

**CC List:** 33 users [\(show\)](#)

**Fixed In Version:** curl 7.52.0

**Clone Of:**

**Environment:**

**Last Closed:** 2021-10-21 11:58:41 UTC

**Embargoed:**

Attachments	<a href="#">(Terms of Use)</a>
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### Links

System	ID	Private	Priority	Status	Summary	Last Updated
Red Hat Product Errata	<a href="#">RHSA-2018:3558</a>	0	None	None	None	2018-11-13 08:34:20 UTC

Andrej Nemeec	2016-12-21 10:11:52 UTC	Description
<pre>libcurl's implementation of the printf() functions triggers a buffer overflow when doing a large floating point output. The bug occurs when the conversion</pre>		

outputs more than 255 bytes.

The flaw happens because the floating point conversion is using system functions without the correct boundary checks.

The functions have been documented as deprecated for a long time and users are discouraged from using them in "new programs" as they are planned to get removed at a future point. But as the functions are present and there's nothing preventing users from using them, we expect there to be a certain amount of existing users in the wild.

If there are any application that accepts a format string from the outside without necessary input filtering, it could allow remote attacks.

This flaw does not exist in the command line tool.

We are not aware of any exploit of this flaw.

References:

<http://seclists.org/oss-sec/2016/q4/719>

External References:

[https://curl.haxx.se/docs/adv\\_20161221A.html](https://curl.haxx.se/docs/adv_20161221A.html)

Upstream patch:

<https://curl.haxx.se/CVE-2016-9586.patch>

Andrej Nemeec 2016-12-21 10:12:18 UTC

[Comment 1](#)

Acknowledgments:

Name: the Curl project

Andrej Nemeec 2016-12-21 10:21:36 UTC

[Comment 2](#)

Created curl tracking bugs for this issue:

Affects: fedora-all [ [bug-1406716](#) ]

Andrej Nemeec 2016-12-21 10:21:54 UTC

[Comment 3](#)

Created mingw-curl tracking bugs for this issue:

Affects: fedora-all [ [bug-1406717](#) ]

Affects: epel-7 [ [bug-1406718](#) ]

~~Doran Moppert~~ 2016-12-22 03:55:27 UTC

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This flaw is present in the curl\_\*printf (curlx\_\*printf) family of functions, which are not used by curl but are exposed from libcurl. I can't find any of these functions being used across Enterprise Linux.

To be exposed, third-party code would need to be using these long-deprecated functions, with a floating-point specifier and user-controlled (floating-point) input. The overflow itself is of a 256-byte stack-allocated buffer, when the decimal expansion of the float exceeds that by up to 70 bytes. Beyond about 16 digits for a double, the decimal expansion is effectively random so the attacker has very little control over precisely what bytes are written. I think the chance of ACE can be discounted here.

Kamil Dudka 2016-12-23 08:48:28 UTC

[Comment 5](#)

upstream commit:

[https://github.com/curl/curl/commit/curl-7\\_51\\_0-162-g3ab3c16](https://github.com/curl/curl/commit/curl-7_51_0-162-g3ab3c16)

errata-xmlrpc 2018-11-13 08:34:08 UTC

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This issue has been addressed in the following products:

- Red Hat Software Collections for Red Hat Enterprise Linux 6
- Red Hat Software Collections for Red Hat Enterprise Linux 7
- Red Hat Software Collections for Red Hat Enterprise Linux 7.4 EUS
- Red Hat Software Collections for Red Hat Enterprise Linux 7.5 EUS
- Red Hat Software Collections for Red Hat Enterprise Linux 7.6 EUS

Via RHSA-2018:3558 <https://access.redhat.com/errata/RHSA-2018:3558>

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