

python / cpython Public

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New issue



# Disallow setting an empty list for NPN in CPython 3.9 and earlier #121227

Closed

Labels

3.9 (EOL)

stdlib

topic-SSL

type-security



sethmlarson opened on Jul 1, 2024 · edited by bedevere-app

Edits ▾

Contributor



## Bug report

### Bug description:

OpenSSL prior to 3.3.2 had a defect in `SSL_select_next_proto` where invalid values (such as an empty list) would cause a buffer overread (see [CVE-2024-5535](#)). The issue can be fixed in CPython by not calling `SSL_select_next_proto` with an invalid value.

This is a low severity vulnerability in CPython and is tracked separately in [CVE-2024-5642](#). CPython 3.10 and beyond removed support for NPN and thus aren't affected by this issue.

### CPython versions tested on:

3.8, 3.9

### Operating systems tested on:

*No response*

### Linked PRs

- [\[3.9\] gh-121227: Disallow setting an empty list for NPN #137161](#)

  **sethmlarson** added **type-bug** **type-security** and removed **type-bug** on Jul 1, 2024

  **Eclips4** added **3.9 (EOL)** **3.8 (EOL)** on Jul 1, 2024

 **AdrianBunk** on Jul 23, 2024 ⋮

CPython 3.7 to 3.9 are only affected when using OpenSSL < 1.1.1, since CPython >= 3.7 did already drop NPN support with OpenSSL >= 1.1.1 (by accident? see [29eab55](#) and [9617741](#)).

CPython 3.8 was released a year after OpenSSL 1.1.1, which makes it unlikely that the vulnerable combination of CPython >= 3.8 and OpenSSL < 1.1.1 would be common.

For Python3 < 3.7 in Debian ELTS I did the big hammer

```

-# define HAVE_NPN 1
+# define HAVE_NPN 0

```



which might also be a reasonable approach for you for the rare affected setups with 3.8 or 3.9?

  **mcepl** added a commit that references this issue on Oct 9, 2024

[\[CVE-2024-5642\]](#) Switch off NPN support ⋮

Verified 1036c4b

  **StanFromIreland** removed **3.8 (EOL)** on Jul 28, 2025

  **bedevere-app** mentioned this on Jul 28, 2025

[\[3.9\] gh-121227: Disallow setting an empty list for NPN #137161](#)


  **picnixz** added **stdlib** **topic-SSL** on Jul 28, 2025

  **ambv** added a commit that references this issue on Oct 7, 2025

[\[3.9\] gh-121227: Disallow setting an empty list for NPN \(GH-137161\)](#)

Verified a2cdbb6

  **StanFromIreland** closed this as completed on Oct 7, 2025

 **StanFromIreland** on Oct 7, 2025 Member ⋮

I don't know how to mark a CVE as completed.



sethmlarson on Oct 7, 2025

Contributor

Author



[@StanFromIreland](#) I can update the CVE record. Thanks!

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## Metadata

### Assignees

No one assigned

### Labels

3.9 (EOL)

stdlib

topic-SSL

type-security

### Projects

No projects

### Milestone

No milestone

### Relationships

None yet

### Development

No branches or pull requests

### Participants

