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Hash: SHA512

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FreeBSD-SA-25:09.netinet Security Advisory  
The FreeBSD Project

Topic: SO\_REUSEPORT\_LB breaks connect(2) for UDP sockets

Category: core

Module: netinet

Announced: 2025-10-22

Credits: MSc. student Omer Ben Simhon and Prof. Amit Klein,  
both from the Hebrew University School of Computer  
Science and Engineering

Affects: All supported versions of FreeBSD.

Corrected: 2025-10-22 15:48:25 UTC (stable/15, 15.0-STABLE)  
2025-10-22 15:50:30 UTC (releng/15.0, 15.0-BETA2-p1)  
2025-10-22 15:48:51 UTC (stable/14, 14.3-STABLE)  
2025-10-22 15:51:57 UTC (releng/14.3, 14.3-RELEASE-p5)  
2025-10-22 15:49:32 UTC (stable/13, 13.4-STABLE)  
2025-10-22 15:53:35 UTC (releng/13.5, 13.5-RELEASE-p6)

CVE Name: CVE-2025-24934

For general information regarding FreeBSD Security Advisories, including descriptions of the fields above, security branches, and the following sections, please visit <URL:https://security.FreeBSD.org/>.

## I. Background

SO\_REUSEPORT\_LB is a socket option, set by setsockopt(2), which allows multiple TCP or UDP sockets to bind to the same socket address, creating a load-balancing group. Incoming packets and connections are distributed evenly among sockets in a group. This helps network services avoid scalability bottlenecks caused by having a single TCP listening socket. In particular, it is expected that sockets belonging to a load-balancing group will accept packets from any source address.

## II. Problem Description

Connected sockets are not intended to belong to load-balancing groups. However, the kernel failed to check the connection state of sockets when adding them to load-balancing groups. Furthermore, when looking up the destination socket for an incoming packet, the kernel will match a socket belonging to a load-balancing group even if it is connected.

Connected sockets are only supposed to receive packets originating from the connected host. The above behavior violates this contract.

## III. Impact

Software which sets SO\_REUSEPORT\_LB on a socket and then connects it to a host will not observe any problems. However, due to its membership in a load-balancing group, that socket will receive packets originating from any host. This breaks the contract of the connect(2) and implied connect via sendto(2), and may leave the application vulnerable to spoofing attacks.

## IV. Workaround

No workaround is available. Software which does not use SO\_REUSEPORT\_LB is not affected.

## V. Solution

Upgrade your vulnerable system to a supported FreeBSD stable or release / security branch (releng) dated after the correction date.

Perform one of the following:

1) To update your vulnerable system via a binary patch:

Systems running a RELEASE version of FreeBSD on the amd64 or arm64 platforms, or the i386 platform on FreeBSD 13, can be updated via the `freebsd-update(8)` utility:

```
# freebsd-update fetch
# freebsd-update install
# shutdown -r +10min "Rebooting for a security update"
```

2) To update your vulnerable system via a source code patch:

The following patches have been verified to apply to the applicable FreeBSD release branches.

a) Download the relevant patch from the location below, and verify the detached PGP signature using your PGP utility.

```
[FreeBSD 15.x]
# fetch https://security.FreeBSD.org/patches/SA-25:09/netinet-15.patch
# fetch https://security.FreeBSD.org/patches/SA-25:09/netinet-15.patch.asc
# gpg --verify netinet-15.patch.asc
```

```
[FreeBSD 14.x]
# fetch https://security.FreeBSD.org/patches/SA-25:09/netinet-14.patch
# fetch https://security.FreeBSD.org/patches/SA-25:09/netinet-14.patch.asc
# gpg --verify netinet-14.patch.asc
```

```
[FreeBSD 13.x]
# fetch https://security.FreeBSD.org/patches/SA-25:09/netinet-13.patch
# fetch https://security.FreeBSD.org/patches/SA-25:09/netinet-13.patch.asc
# gpg --verify netinet-13.patch.asc
```

b) Apply the patch. Execute the following commands as root:

```
# cd /usr/src
# patch < /path/to/patch
```

c) Recompile your kernel as described in <https://www.FreeBSD.org/handbook/kernelconfig.html> and reboot the system.

## VI. Correction details

This issue is corrected as of the corresponding Git commit hash in the following stable and release branches:

Branch/path	Hash	Revision
stable/15/ releng/15.0/	ef159100ec2b 98c539667881	stable/15-n280782 releng/15.0-n280723
stable/14/ releng/14.3/	e276759b3687 058bcb57cd4b	stable/14-n272700 releng/14.3-n271448
stable/13/ releng/13.5/	df888c8f41f6 90e14aa082d3	stable/13-n259508 releng/13.5-n259180

Run the following command to see which files were modified by a particular commit:

5/4/26, 4:12 AM

```
# git show --stat <commit hash>
```

Or visit the following URL, replacing NNNNNN with the hash:

<URL:https://cgit.freebsd.org/src/commit/?id=NNNNNN>

To determine the commit count in a working tree (for comparison against nNNNNNN in the table above), run:

```
# git rev-list --count --first-parent HEAD
```

## VII. References

<URL:https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2025-24934>

The latest revision of this advisory is available at

<URL:https://security.FreeBSD.org/advisories/FreeBSD-SA-25:09.netinet.asc>

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```
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=RgID
```

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