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FreeBSD-SA-17:01.openssh

Security Advisory  
The FreeBSD Project

Topic: OpenSSH multiple vulnerabilities

Category: contrib

Module: OpenSSH

Announced: 2017-01-11

Affects: All supported versions of FreeBSD.

Corrected: 2017-01-11 05:56:40 UTC (stable/11, 11.0-STABLE)

2017-01-11 06:01:23 UTC (releng/11.0, 11.0-RELEASE-p7)

2017-01-11 05:56:40 UTC (stable/10, 10.3-STABLE)

2017-01-11 06:01:23 UTC (releng/10.3, 10.3-RELEASE-p16)

CVE Name: CVE-2016-10009, CVE-2016-10010

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

OpenSSH is an implementation of the SSH protocol suite, providing an encrypted and authenticated transport for a variety of services, including remote shell access.

OpenSSH supports accessing keys provided by a PKCS#11 token.

## II. Problem Description

The ssh-agent(1) agent supports loading a PKCS#11 module from outside a trusted whitelist. An attacker can request loading of a PKCS#11 module across forwarded agent-socket. [CVE-2016-10009]

When privilege separation is disabled, forwarded Unix domain sockets would be created by sshd(8) with the privileges of 'root' instead of the authenticated user. [CVE-2016-10010]

## III. Impact

A remote attacker who have control of a forwarded agent-socket on a remote system and have the ability to write files on the system running ssh-agent(1) agent can run arbitrary code under the same user credential. Because the attacker must already have some control on both systems, it is relatively hard to exploit this vulnerability in a practical attack. [CVE-2016-10009]

When privilege separation is disabled (on FreeBSD, privilege separation is enabled by default and has to be explicitly disabled), an authenticated attacker can potentially gain root privileges on systems running OpenSSH server. [CVE-2016-10010]

## IV. Workaround

Systems not running ssh-agent(1) and sshd(8) services are not affected.

System administrators may remove ssh-agent(1) to mitigate CVE-2016-10009.

System administrators should enable privilege separation when running OpenSSH server, which is the FreeBSD default, to mitigate CVE-2016-10010.

## V. Solution

Perform one of the following:

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

Kill all running ssh-agent(1) process and restart sshd(8) service.  
A reboot is recommended but not required.

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

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

```
# freebsd-update fetch
# freebsd-update install
```

Kill all running ssh-agent(1) process and restart sshd(8) service.  
A reboot is recommended but not required.

3) 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.

```
# fetch https://security.FreeBSD.org/patches/SA-17:01/openssh.patch
# fetch https://security.FreeBSD.org/patches/SA-17:01/openssh.patch.asc
# gpg --verify openssh.patch.asc
```

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

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

c) Recompile the operating system using buildworld and installworld as described in <URL:https://www.FreeBSD.org/handbook/makeworld.html>.

Kill all running ssh-agent(1) process and restart sshd(8) service.  
A reboot is recommended but not required.

## VI. Correction details

The following list contains the correction revision numbers for each affected branch.

Branch/path	Revision
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stable/10/	r311915
releng/10.3/	r311916
stable/11/	r311915
releng/11.0/	r311916
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To see which files were modified by a particular revision, run the following command, replacing NNNNNN with the revision number, on a machine with Subversion installed:

```
# svn diff -cNNNNNN --summarize svn://svn.freebsd.org/base
```

Or visit the following URL, replacing NNNNNN with the revision number:

6/8/26, 11:45 PM

<URL:https://svnweb.freebsd.org/base?view=revision&revision=NNNNNN>

## VII. References

<URL:https://www.openssh.com/txt/release-7.4>

<URL:https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2016-10009>

<URL:https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2016-10010>

The latest revision of this advisory is available at

<URL:https://security.FreeBSD.org/advisories/FreeBSD-SA-17:01.openssh.asc>

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