



# CVE-2016-4778

- MITRE
- NVD
- CVE.ORG
- JSON API
- Print: PDF

## Summary

|                 |                                                                                                                                                                                     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CVE             | CVE-2016-4778                                                                                                                                                                       |
| State           | PUBLISHED                                                                                                                                                                           |
| Assigner        | apple                                                                                                                                                                               |
| Source Priority | CVE Program / NVD first with legacy fallback                                                                                                                                        |
| Published       | 2016-09-25 11:00:10 UTC                                                                                                                                                             |
| Updated         | 2026-05-06 22:30:45 UTC                                                                                                                                                             |
| Description     | The kernel in Apple iOS before 10, OS X before 10.12, tvOS before 10, and watchOS before 3 allows attackers to execute arbitrary code with kernel privileges via a crafted exploit. |

## Risk And Classification

**Primary CVSS:** v3.0 7.8 HIGH from nvd@nist.gov

CVSS:3.0/AV:L/AC:L/PR:N/UI:R/S:U/C:H/I:H/A:H

**EPSS:** 0.005100000 probability, percentile 0.664920000 (date 2026-05-07)

**Problem Types:** CWE-264 | n/a

| Version | Source       | Type    | Score | Severity | Vector                                       |
|---------|--------------|---------|-------|----------|----------------------------------------------|
| 3.0     | nvd@nist.gov | Primary | 7.8   | HIGH     | CVSS:3.0/AV:L/AC:L/PR:N/UI:R/S:U/C:H/I:H/A:H |
| 2.0     | nvd@nist.gov | Primary | 9.3   |          | AV:N/AC:M/Au:N/C:C/I:C/A:C                   |

## CVSS v3.0 Breakdown

Attack Vector

Local

Attack Complexity

Low

Privileges Required

None

User Interaction

Required

Scope

Unchanged

Confidentiality

High

Integrity

High

High

Availability

High

CVSS:3.0/AV:L/AC:L/PR:N/UI:R/S:U/C:H/I:H/A:H

CVSS v2.0 Breakdown

Access Vector

Network

Access Complexity

Medium

Authentication

None

Confidentiality

Complete

Integrity

Complete

Availability

Complete

AV:N/AC:M/Au:N/C:C/I:C/A:C

NVD Known Affected Configurations (CPE 2.3)

| Type             | Vendor | Product   | Version | Update | Edition | Language |
|------------------|--------|-----------|---------|--------|---------|----------|
| Operating System | Apple  | Iphone Os | All     | All    | All     | All      |
| Operating System | Apple  | Mac Os X  | All     | All    | All     | All      |
| Operating System | Apple  | Tvos      | All     | All    | All     | All      |
| Operating System | Apple  | Watchos   | All     | All    | All     | All      |

Vendor Declared Affected Products

| Source | Vendor | Product | Version      | Platforms     |
|--------|--------|---------|--------------|---------------|
| CNA    | Na     | N/a     | affected n/a | Not specified |

References

| Reference                                                        |
|------------------------------------------------------------------|
| APPLE-SA-2016-09-20-5 watchOS 3                                  |
| About the security content of iOS 10 - Apple Support             |
| About the security content of tvOS 10 - Apple Support            |
| About the security content of macOS Sierra 10.12 - Apple Support |
| About the security content of watchOS 3 - Apple Support          |
| APPI F-SA-2016-09-20 macOS Sierra 10.12                          |

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|-------------------------------------------------------------------------------------------------------------------------------------------|
| APPLE-SA-2016-09-20-6 tvOS 10                                                                                                             |
| Apple iOS/tvOS/macOS/watchOS Multiple Security Vulnerabilities                                                                            |
| Apple macOS/OS X Multiple Flaws Let Remote and Local Users Deny Service, Obtain Potentially Sensitive Information, Execute Arbitrary Code |
| APPLE-SA-2016-09-20-3 iOS 10                                                                                                              |
| CVE Program record                                                                                                                        |
| NVD vulnerability detail                                                                                                                  |
| <div> <div></div> <div></div> </div>                                                                                                      |
| No vendor comments have been submitted for this CVE.                                                                                      |
| There are currently no legacy QID mappings associated with this CVE.                                                                      |