



# CVE-2021-3656

[MITRE](#)[NVD](#)[CVE.ORG](#)[Print: PDF](#)

## Summary

|                        |  |
|------------------------|--|
| <b>CVE</b>             | CVE-2021-3656  |
| <b>State</b>           | PUBLIC   |
| <b>Assigner</b>        | secalert@redhat.com  |
| <b>Source Priority</b> | CVE Program / NVD first with legacy fallback   |
| <b>Published</b>       | 2022-03-04 19:15:00 UTC  |
| <b>Updated</b>         | 2023-01-19 15:53:00 UTC  |
| <b>Description</b>     | A flaw was found in the KVM's AMD code for supporting SVM nested virtualization. The flaw occurs when processing the V |

## Risk And Classification

**Problem Types:** CWE-862

## NVD Known Affected Configurations (CPE 2.3)

| Type             | Vendor                        | Product                                  | Version | Update |
|------------------|-------------------------------|--|---------|--------|
| Operating System | <a href="#">Fedoraproject</a> | <a href="#">Fedora</a>                   | 33      | All    |
| Operating System | <a href="#">Fedoraproject</a> | <a href="#">Fedora</a>                   | 34      | All    |
| Operating System | <a href="#">Linux</a>         | <a href="#">Linux Kernel</a>             | All     | All    |
| Operating System | <a href="#">Linux</a>         | <a href="#">Linux Kernel</a>             | 5.14    | -      |
| Operating System | <a href="#">Linux</a>         | <a href="#">Linux Kernel</a>             | 5.14    | rc1    |
| Operating System | <a href="#">Linux</a>         | <a href="#">Linux Kernel</a>             | 5.14    | rc2    |
| Operating System | <a href="#">Linux</a>         | <a href="#">Linux Kernel</a>             | 5.14    | rc3    |
| Operating System | <a href="#">Linux</a>         | <a href="#">Linux Kernel</a>             | 5.14    | rc4    |
| Operating System | <a href="#">Linux</a>         | <a href="#">Linux Kernel</a>             | 5.14    | rc5    |
| Operating System | <a href="#">Linux</a>         | <a href="#">Linux Kernel</a>             | 5.14    | rc6    |
| Application      | <a href="#">Redhat</a>        | <a href="#">3scale Api Management</a>    | 2.0     | All    |
| Application      | <a href="#">Redhat</a>        | <a href="#">Codeready Linux Builder</a>  | -       | All    |
| Operating System | <a href="#">Redhat</a>        | <a href="#">Enterprise Linux</a>         | 7.0     | All    |
| Operating System | <a href="#">Redhat</a>        | <a href="#">Enterprise Linux</a>         | 8.0     | All    |
| Operating System | <a href="#">Redhat</a>        | <a href="#">Enterprise Linux</a>         | 8.0     | All    |
| Operating System | <a href="#">Redhat</a>        | <a href="#">Enterprise Linux Desktop</a> | 7.0     | All    |
| Operating System | <a href="#">Redhat</a>        | <a href="#">Enterprise Linux Eus</a>     | 8.1     | All    |

|                  |                        |  |     |     |
|------------------|------------------------|--|-----|-----|
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Eus</a>                         | 8.2 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Eus</a>                         | 8.4 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Eus</a>                         | 8.1 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Eus</a>                         | 8.2 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Eus</a>                         | 8.4 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Ibm Z Systems</a>           | 7.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Ibm Z Systems</a>           | 8.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Ibm Z Systems Eus</a>       | 8.1 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Ibm Z Systems Eus</a>       | 8.2 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Ibm Z Systems Eus</a>       | 8.4 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Big Endian</a>        | 7.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian</a>     | 8.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian</a>     | 7.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian</a>     | 8.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian Eus</a> | 8.1 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian Eus</a> | 8.2 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian Eus</a> | 8.4 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian Eus</a> | 8.1 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian Eus</a> | 8.2 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Power Little Endian Eus</a> | 8.4 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Real Time</a>               | 7   | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Real Time</a>               | 8   | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Real Time For Nfv</a>       | 7   | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Real Time For Nfv</a>       | 8   | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Real Time For Nfv Tus</a>   | 8.2 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Real Time For Nfv Tus</a>   | 8.4 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Real Time Tus</a>           | 8.2 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Real Time Tus</a>           | 8.4 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux For Scientific Computing</a>    | 7.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Server</a>                      | 7.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Server</a>                      | 7.0 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Server Aus</a>                  | 7.6 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Server Aus</a>                  | 7.7 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Server Aus</a>                  | 8.2 | All |
| Operating System | <a href="#">Redhat</a> | <a href="#">Enterprise Linux Server Aus</a>                  | 8.4 | All |

|                  |        |   |     |     |
|------------------|--------|---|-----|-----|
| Operating System | Redhat | Enterprise Linux Server For Power Little Endian Update Services For Sap Solutions | 7.6 | All |
| Operating System | Redhat | Enterprise Linux Server For Power Little Endian Update Services For Sap Solutions | 8.1 | All |
| Operating System | Redhat | Enterprise Linux Server For Power Little Endian Update Services For Sap Solutions | 8.2 | All |
| Operating System | Redhat | Enterprise Linux Server For Power Little Endian Update Services For Sap Solutions | 8.4 | All |
| Operating System | Redhat | Enterprise Linux Server Tus   | 7.6 | All |
| Operating System | Redhat | Enterprise Linux Server Tus   | 7.7 | All |
| Operating System | Redhat | Enterprise Linux Server Tus   | 8.2 | All |
| Operating System | Redhat | Enterprise Linux Server Tus   | 8.4 | All |
| Operating System | Redhat | Enterprise Linux Server Update Services For Sap Solutions                         | 7.6 | All |
| Operating System | Redhat | Enterprise Linux Server Update Services For Sap Solutions                         | 7.7 | All |
| Operating System | Redhat | Enterprise Linux Server Update Services For Sap Solutions                         | 8.1 | All |
| Operating System | Redhat | Enterprise Linux Server Update Services For Sap Solutions                         | 8.2 | All |
| Operating System | Redhat | Enterprise Linux Server Update Services For Sap Solutions                         | 8.4 | All |
| Operating System | Redhat | Enterprise Linux Workstation  | 7.0 | All |
| Application      | Redhat | Openstack   | 13  | All |
| Application      | Redhat | Software Collections  | -   | All |
| Application      | Redhat | Virtualization Host   | 4.0 | All |

## References

| Reference   | Source  | Link                                |
|---|---------|-------------------------------------|
| 1983988 – (CVE-2021-3656) CVE-2021-3656 kernel: SVM nested virtualization issue in KVM (VMLoad/VMSave)  | MISC    | <a href="#">bugzilla.redhat.com</a> |
| oss-security - [CVE-2021-3653, CVE-2021-3656] SVM nested virtualization issues in KVM                   | MISC    | <a href="#">www.openstack.org</a>   |
| KVM: nSVM: always intercept VMLoad/VMSave when nested (CVE-2021-3656) · torvalds/linux@c7dfa40 · GitHub | MISC    | <a href="#">github.com</a>          |
| kvm/kvm.git - kernel-based virtual machine - kvm  | MISC    | <a href="#">git.kernel.org</a>      |
| CVE Program record  | CVE.ORG | <a href="#">www.cve.org</a>         |
| NVD vulnerability detail  | NVD     | <a href="#">nvd.nist.gov</a>        |

No vendor comments have been submitted for this CVE.

## Legacy QID Mappings

|   |
|---|
| <a href="#">159364</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel (ELSA-2021-9419)           |
| <a href="#">159365</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel (ELSA-2021-9420)           |
| <a href="#">159366</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel-container (ELSA-2021-9421) |
| <a href="#">159367</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel-container (ELSA-2021-9422) |

|   |
|---|
| <a href="#">159393</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel (ELSA-2021-9450)           |
| <a href="#">159394</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel-container (ELSA-2021-9451) |
| <a href="#">159399</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel (ELSA-2021-9452)           |
| <a href="#">159400</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel-container (ELSA-2021-9453) |
| <a href="#">159415</a> Oracle Enterprise Linux Security Update for kernel (ELSA-2021-3801)                                  |
| <a href="#">159443</a> Oracle Enterprise Linux Security Update for kernel (ELSA-2021-4056)                                  |
| <a href="#">159564</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel (ELSA-2021-9564)           |
| <a href="#">159565</a> Oracle Enterprise Linux Security Update for Unbreakable Enterprise kernel-container (ELSA-2021-9565) |
| <a href="#">159727</a> Oracle Enterprise Linux Security Update for unbreakable enterprise kernel-container (ELSA-2022-9245) |
| <a href="#">159729</a> Oracle Enterprise Linux Security Update for unbreakable enterprise kernel (ELSA-2022-9244)           |
| <a href="#">178809</a> Debian Security Update for linux (DSA 4978-1)  |
| <a href="#">178844</a> Debian Security Update for linux-4.19 (DLA 2785-1)   |
| <a href="#">180048</a> Debian Security Update for linux (CVE-2021-3656)   |
| <a href="#">198487</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-5071-1)                           |
| <a href="#">198491</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-5070-1)                           |
| <a href="#">198495</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-5072-1)                           |
| <a href="#">198497</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-5073-1)                           |
| <a href="#">198502</a> Ubuntu Security Notification for Linux kernel (HWE) Vulnerabilities (USN-5071-2)                     |
| <a href="#">198504</a> Ubuntu Security Notification for Linux kernel (OEM) Vulnerabilities (USN-5082-1)                     |
| <a href="#">198506</a> Ubuntu Security Notification for Linux kernel (GCP) Vulnerabilities (USN-5073-2)                     |
| <a href="#">239656</a> Red Hat Update for kernel (RHSA-2021:3676)   |
| <a href="#">239675</a> Red Hat Update for kernel-rt (RHSA-2021:3802)  |
| <a href="#">239676</a> Red Hat Update for kernel (RHSA-2021:3801)   |
| <a href="#">239689</a> Red Hat Update for kernel-rt (RHSA-2021:3909)  |
| <a href="#">239691</a> Red Hat Update for kernel (RHSA-2021:3904)   |
| <a href="#">239762</a> Red Hat Update for kernel-rt (RHSA-2021:4088)  |
| <a href="#">239771</a> Red Hat Update for kernel security (RHSA-2021:4056)  |
| <a href="#">257119</a> CentOS Security Update for kernel (CESA-2021:3801)   |
| <a href="#">281837</a> Fedora Security Update for kernel (FEDORA-2021-a424256622)   |

|   |
|---|
| 281838 Fedora Security Update for kernel (FEDORA-2021-33819e6b09)                           |
| 352839 Amazon Linux Security Advisory for kernel: ALAS2-2021-1704                           |
| 353155 Amazon Linux Security Advisory for kernel : ALAS2KERNEL-5.10-2022-005                |
| 356186 Amazon Linux Security Advisory for microvm-kernel : ALASMICROVM-KERNEL-4.14-2023-003 |
| 356218 Amazon Linux Security Advisory for microvm-kernel : ALASMICROVM-KERNEL-4.14-2023-002 |
| 6140281 AWS Bottlerocket Security Update for kernel (GHSA-9gv2-fc96-xqcj)                   |
| 671137 EulerOS Security Update for kernel (EulerOS-SA-2021-2713)                            |
| 751137 OpenSUSE Security Update for the Linux Kernel (openSUSE-SU-2021:1271-1)              |
| 751155 SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2021:3192-1)     |
| 751160 OpenSUSE Security Update for the Linux Kernel (openSUSE-SU-2021:3179-1)              |
| 751163 SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2021:3206-1)     |
| 751170 OpenSUSE Security Update for the Linux Kernel (openSUSE-SU-2021:3205-1)              |
| 751437 SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2021:3876-1)     |
| 751441 OpenSUSE Security Update for the Linux Kernel (openSUSE-SU-2021:3876-1)              |
| 751473 SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2021:3969-1)     |
| 751476 SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2021:3972-1)     |
| 900729 Common Base Linux Mariner (CBL-Mariner) Security Update for kernel (8878)            |
| 905818 Common Base Linux Mariner (CBL-Mariner) Security Update for kernel (8878-1)          |
| 940068 AlmaLinux Security Update for kernel (ALSA-2021:4056)                                |
| 960019 Rocky Linux Security Update for kernel-rt (RLSA-2021:4088)                           |
| 960061 Rocky Linux Security Update for kernel (RLSA-2021:4056)                              |

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