



# CVE-2023-20588

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

## Summary

<b>CVE</b>	CVE-2023-20588
<b>State</b>	PUBLIC
<b>Assigner</b>	psirt@amd.com
<b>Source Priority</b>	CVE Program / NVD first with legacy fallback
<b>Published</b>	2023-08-08 18:15:00 UTC
<b>Updated</b>	2024-04-01 15:45:00 UTC
<b>Description</b>	A division-by-zero error on some AMD processors can potentially return speculative data resulting in loss of confidentiality.

## Risk And Classification

**Problem Types:** CWE-369

## NVD Known Affected Configurations (CPE 2.3)

Type	Vendor	Product	Version	Update	Edition	Language
Hardware	<a href="#">Amd</a>	<a href="#">Athlon Gold 3150g</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Athlon Gold 3150ge</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Athlon Gold 3150ge Firmware</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Athlon Gold 3150g Firmware</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Athlon Gold Pro 3150g</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Athlon Gold Pro 3150ge</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Athlon Gold Pro 3150ge Firmware</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Athlon Gold Pro 3150g Firmware</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Athlon Pro 300ge</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Athlon Pro 300ge Firmware</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Athlon Silver 3050ge</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Athlon Silver 3050ge Firmware</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Athlon Silver Pro 3125ge</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Athlon Silver Pro 3125ge Firmware</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Epyc 7251</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Epyc 7251 Firmware</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Epyc 7261</a>	-	All	All	All

Operating System	Amd	Epyc 7261 Firmware	-	All	All	All
Hardware	Amd	Epyc 7281	-	All	All	All
Operating System	Amd	Epyc 7281 Firmware	-	All	All	All
Hardware	Amd	Epyc 7301	-	All	All	All
Operating System	Amd	Epyc 7301 Firmware	-	All	All	All
Hardware	Amd	Epyc 7351	-	All	All	All
Hardware	Amd	Epyc 7351p	-	All	All	All
Operating System	Amd	Epyc 7351p Firmware	-	All	All	All
Operating System	Amd	Epyc 7351 Firmware	-	All	All	All
Hardware	Amd	Epyc 7371	-	All	All	All
Operating System	Amd	Epyc 7371 Firmware	-	All	All	All
Hardware	Amd	Epyc 7401	-	All	All	All
Hardware	Amd	Epyc 7401p	-	All	All	All
Operating System	Amd	Epyc 7401p Firmware	-	All	All	All
Operating System	Amd	Epyc 7401 Firmware	-	All	All	All
Hardware	Amd	Epyc 7451	-	All	All	All
Operating System	Amd	Epyc 7451 Firmware	-	All	All	All
Hardware	Amd	Epyc 7501	-	All	All	All
Operating System	Amd	Epyc 7501 Firmware	-	All	All	All
Hardware	Amd	Epyc 7551	-	All	All	All
Hardware	Amd	Epyc 7551p	-	All	All	All
Operating System	Amd	Epyc 7551p Firmware	-	All	All	All
Operating System	Amd	Epyc 7551 Firmware	-	All	All	All
Hardware	Amd	Epyc 7571	-	All	All	All
Operating System	Amd	Epyc 7571 Firmware	-	All	All	All
Hardware	Amd	Epyc 7601	-	All	All	All
Operating System	Amd	Epyc 7601 Firmware	-	All	All	All
Hardware	Amd	Ryzen 3 3200g	-	All	All	All
Hardware	Amd	Ryzen 3 3200ge	-	All	All	All
Operating System	Amd	Ryzen 3 3200ge Firmware	-	All	All	All
Operating System	Amd	Ryzen 3 3200g Firmware	-	All	All	All
Hardware	Amd	Ryzen 3 Pro 3200g	-	All	All	All
Hardware	Amd	Ryzen 3 Pro 3200ge	-	All	All	All
Operating System	Amd	Ryzen 3 Pro 3200ge Firmware	-	All	All	All
Operating System	Amd	Ryzen 3 Pro 3200g Firmware	-	All	All	All

Hardware	<a href="#">Amd</a>	<a href="#">Ryzen 5 3400g</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Ryzen 5 3400g Firmware</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Ryzen 5 Pro 3350g</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Ryzen 5 Pro 3350ge</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Ryzen 5 Pro 3350ge Firmware</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Ryzen 5 Pro 3350g Firmware</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Ryzen 5 Pro 3400g</a>	-	All	All	All
Hardware	<a href="#">Amd</a>	<a href="#">Ryzen 5 Pro 3400ge</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Ryzen 5 Pro 3400ge Firmware</a>	-	All	All	All
Operating System	<a href="#">Amd</a>	<a href="#">Ryzen 5 Pro 3400g Firmware</a>	-	All	All	All
Operating System	<a href="#">Debian</a>	<a href="#">Debian Linux</a>	10.0	All	All	All
Operating System	<a href="#">Debian</a>	<a href="#">Debian Linux</a>	11.0	All	All	All
Operating System	<a href="#">Debian</a>	<a href="#">Debian Linux</a>	12.0	All	All	All
Operating System	<a href="#">Fedoraproject</a>	<a href="#">Fedora</a>	37	All	All	All
Operating System	<a href="#">Fedoraproject</a>	<a href="#">Fedora</a>	38	All	All	All
Operating System	<a href="#">Fedoraproject</a>	<a href="#">Fedora</a>	39	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows 10 1507</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows 10 1607</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows 10 1809</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows 10 21h2</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows 10 22h2</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows 11 21h2</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows 11 22h2</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows 11 23h2</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows Server 2008</a>	-	sp2	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows Server 2008</a>	r2	sp1	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows Server 2012</a>	-	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows Server 2012</a>	r2	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows Server 2016</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows Server 2019</a>	All	All	All	All
Operating System	<a href="#">Microsoft</a>	<a href="#">Windows Server 2022 23h2</a>	All	All	All	All
Operating System	<a href="#">Xen</a>	<a href="#">Xen</a>	-	All	All	All

## References

Reference	Source	Link
oss-security - Xen Security Advisory 439 v2 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="http://www.openwall.com/lists/oss-security/2023/07/20/439">www.openwall.com/lists/oss-security/2023/07/20/439</a>

[SECURITY] [DLA 3623-1] linux-5.10 security update	MISC	<a href="#">lists.debian</a>
[SECURITY] Fedora 39 Update: xen-4.17.2-2.fc39 - package-announce - Fedora Mailing-Lists	MISC	<a href="#">lists.fedora</a>
Debian -- Security Information -- DSA-5480-1 linux	MISC	<a href="#">www.debian</a>
oss-security - Re: Xen Security Advisory 439 v1 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="#">www.open</a>
[SECURITY] Fedora 38 Update: xen-4.17.2-2.fc38 - package-announce - Fedora Mailing-Lists	MISC	<a href="#">lists.fedora</a>
oss-security - Re: Xen Security Advisory 439 v1 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="#">www.open</a>
oss-security - Re: Xen Security Advisory 439 v1 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="#">www.open</a>
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[SECURITY] Fedora 37 Update: xen-4.16.5-2.fc37 - package-announce - Fedora Mailing-Lists	MISC	<a href="#">lists.fedora</a>
oss-security - Re: Xen Security Advisory 439 v1 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="#">www.open</a>
<a href="#">www.amd.com/en/corporate/product-security/bulletin/AMD-SB-7007</a>	MISC	<a href="#">www.amd.</a>
oss-security - Re: Xen Security Advisory 439 v1 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="#">www.open</a>
Debian -- Security Information -- DSA-5492-1 linux	MISC	<a href="#">www.debian</a>
oss-security - Re: Xen Security Advisory 439 v1 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="#">www.open</a>
oss-security - Re: Xen Security Advisory 439 v1 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="#">www.open</a>
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XSA-439 - Xen Security Advisories	MISC	<a href="#">xenbits.xer</a>
oss-security - Re: Xen Security Advisory 439 v1 (CVE-2023-20588) - x86/AMD: Divide speculative information leak	MISC	<a href="#">www.open</a>
CVE Program record	CVE.ORG	<a href="#">www.cve.o</a>
NVD vulnerability detail	NVD	<a href="#">nvd.nist.go</a>

No vendor comments have been submitted for this CVE.

#### Legacy QID Mappings

[160963](#) Oracle Enterprise Linux Security Update for unbreakable enterprise kernel (ELSA-2023-12858)

[160978](#) Oracle Enterprise Linux Security Update for unbreakable enterprise kernel (ELSA-2023-12874)

[160980](#) Oracle Enterprise Linux Security Update for unbreakable enterprise kernel container (ELSA-2023-12814)

<a href="#">160962</a> Oracle Enterprise Linux Security Update for unbreakable enterprise kernel-container (ELSA-2023-12911)
<a href="#">160985</a> Oracle Enterprise Linux Security Update for unbreakable enterprise kernel-container (ELSA-2023-12910)
<a href="#">199766</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-6386-1)
<a href="#">199767</a> Ubuntu Security Notification for Linux kernel (OEM) Vulnerabilities (USN-6384-1)
<a href="#">199769</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-6383-1)
<a href="#">199770</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-6387-1)
<a href="#">199785</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-6387-2)
<a href="#">199791</a> Ubuntu Security Notification for Linux kernel (Raspberry Pi) Vulnerabilities (USN-6386-2)
<a href="#">199796</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-6386-3)
<a href="#">199883</a> Ubuntu Security Notification for Linux kernel (NVIDIA) Vulnerabilities (USN-6466-1)
<a href="#">200038</a> Ubuntu Security Notification for Linux kernel (AWS) Vulnerabilities (USN-6577-1)
<a href="#">200067</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-6602-1)
<a href="#">200072</a> Ubuntu Security Notification for Linux kernel Vulnerabilities (USN-6604-1)
<a href="#">200079</a> Ubuntu Security Notification for Linux kernel (Azure) Vulnerabilities (USN-6604-2)
<a href="#">284559</a> Fedora Security Update for xen (FEDORA-2023-4125279976)
<a href="#">284611</a> Fedora Security Update for xen (FEDORA-2023-948136565a)
<a href="#">285241</a> Fedora Security Update for xen (FEDORA-2023-35d2ad2328)
<a href="#">379614</a> Alibaba Cloud Linux Security Update for cloud-kernel (ALINUX3-SA-2024:0017)
<a href="#">503355</a> Alpine Linux Security Update for xen
<a href="#">503356</a> Alpine Linux Security Update for xen
<a href="#">503358</a> Alpine Linux Security Update for xen
<a href="#">503436</a> Alpine Linux Security Update for xen
<a href="#">503557</a> Alpine Linux Security Update for xen
<a href="#">505972</a> Alpine Linux Security Update for xen
<a href="#">6000212</a> Debian Security Update for linux (DSA 5480-1)
<a href="#">6000220</a> Debian Security Update for linux (DSA 5492-1)
<a href="#">6000265</a> Debian Security Update for linux-5.10 (DLA 3623-1)
<a href="#">6140076</a> AWS Bottlerocket Security Update for kernel (GHSA-8vwp-f338-rj3v)
<a href="#">673595</a> EulerOS Security Update for kernel (EulerOS-SA-2023-3247)

<a href="#">673644</a> EulerOS Security Update for kernel (EulerOS-SA-2023-3336)
<a href="#">673692</a> EulerOS Security Update for kernel (EulerOS-SA-2023-3275)
<a href="#">673848</a> EulerOS Security Update for kernel (EulerOS-SA-2023-3217)
<a href="#">754832</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3600-1)
<a href="#">754833</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3599-1)
<a href="#">754855</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3656-1)
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<a href="#">754884</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3704-1)
<a href="#">754899</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3599-2)
<a href="#">754900</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3600-2)
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<a href="#">754999</a> SUSE Enterprise Linux Security Update for xen (SUSE-SU-2023:3903-1)
<a href="#">755000</a> SUSE Enterprise Linux Security Update for xen (SUSE-SU-2023:3902-1)
<a href="#">755026</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3964-1)
<a href="#">755037</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3971-1)
<a href="#">755038</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3969-1)
<a href="#">755043</a> SUSE Enterprise Linux Security Update for the Linux Kernel (SUSE-SU-2023:3988-1)

[755282](#) SUSE Enterprise Linux Security Update for xen (SUSE-SU-2023:4476-1)

[755283](#) SUSE Enterprise Linux Security Update for xen (SUSE-SU-2023:4475-1)

[92085](#) Microsoft Windows Security Update for December 2023

[92089](#) Microsoft Azure Stack Hub Security Updates for December 2023

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