CVE-2021-28707

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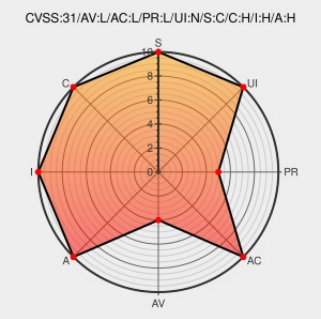

Certain versions of Xen from Xen contain the following vulnerability:

PoD operations on misaligned GFNs T[his CNA information record relates to multiple CVEs; the text explains which aspects/vulnerabilities correspond to which CVE.] x86 HVM and PVH guests may be started in populate-on-demand (PoD) mode, to provide a way for them to later easily have more memory assigned. Guests are permitted to control certain P2M aspects of individual pages via hypercalls. These hypercalls may act on ranges of pages specified via page orders (resulting in a power-of-2 number of pages). The implementation of some of these hypercalls for PoD does not enforce the base page frame number to be suitably aligned for the specified order, yet some code involved in PoD handling actually makes such an assumption. These operations are XENMEM_decrease_reservation (CVE-2021-28704) and XENMEM_populate_physmap (CVE-2021-28707), the latter usable only by domains controlling the guest, i.e. a de-privileged qemu or a stub domain. (Patch 1, combining the fix to both these two issues.) In addition handling of XENMEM_decrease_reservation can also trigger a host crash when the specified page order is neither 4k nor 2M nor 1G (CVE-2021-28708, patch 2).

CVE-2021-28707 has been assigned by security@xen.org to track the vulnerability - currently rated as HIGH severity.

Affected Vendor/Software: **Xen** - **xen** version **xen-unstable**

Affected Vendor/Software: **Xen** - **xen** version **?< 4.12**

Affected Vendor/Software: **Xen** - **xen** version **>= 4.12.x**

Affected Vendor/Software: **Xen** - **xen** version **!> 4.14.x**

Affected Vendor/Software: **Xen** - **xen** version **4.15.x**

CVSS3 Score: 8.8 - HIGH

Attack Vector	Attack Complexity	Privileges Required	User Interaction
LOCAL	LOW	LOW	NONE

Scope	Confidentiality Impact	Integrity Impact	Availability Impact
CHANGED	HIGH	HIGH	HIGH

CVSS2 Score: 6.9 - MEDIUM

Access Vector	Access Complexity	Authentication
LOCAL	MEDIUM	NONE

Confidentiality Impact	Integrity Impact	Availability Impact
COMPLETE	COMPLETE	COMPLETE

CVE References

Description	Tags	Link
[SECURITY] Fedora 35 Update: xen-4.15.1-4.fc35 - package-announce - Fedora Mailing-Lists	Mailing List Third Party Advisory lists.fedoraproject.org text/html	FEDORA FEDORA-2021-03645e9807
	xenbits.xenproject.org text/plain	MISC xenbits.xenproject.org/xsa/advisory-388.txt

Related QID Numbers

751411 SUSE Enterprise Linux Security Update for xen (SUSE-SU-2021:3852-1)

751414 SUSE Enterprise Linux Security Update for xen (SUSE-SU-2021:3851-1)

751417 SUSE Enterprise Linux Security Update for xen (SUSE-SU-2021:3842-1)

751422 SUSE Enterprise Linux Security Update for xen (SUSE-SU-2021:3849-1)

Known Affected Configurations (CPE V2.3)

Type	Vendor	Product	Version	Update	Edition	Language
Operating System	Xen	Xen	All	All	All	All

cpe:2.3:o:xen:xen:*:*:*:*:*:*:x86:*:

Social Mentions

Source	Title	Posted (UTC)
@CVEreport	CVE-2021-28707 : PoD operations on misaligned GFNs T[his CNA information record relates to multiple CVEs; the text… twitter.com/i/web/status/1…	2021-11-24 01:00:35

@oss_security	Xen Security Advisory 388 v3 (CVE-2021-28704,CVE-2021-28707,CVE-2021-28708) - PoD operations on misaligned GFNs: Po… twitter.com/i/web/status/1…	2021-11-24 02:30:14

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