CVE-2022-29219

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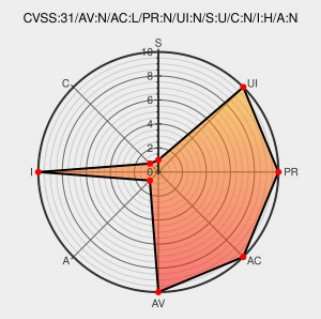
CVE-2022-29219 - advisory for GHSA-cvj7-5f3c-9vg9

Source: Mitre | Source: NIST | CVE.ORG | Print: PDF



Certain versions of Lodestar from Chainsafe contain the following vulnerability:

Lodestar is a TypeScript implementation of the Ethereum Consensus specification. Prior to version 0.36.0, there is a possible consensus split given maliciously-crafted `AttesterSlashing` or `ProposerSlashing` being included on-chain. Because the developers represent `uint64` values as native javascript `number`s, there is an issue when those variables with large (greater than 2^53) `uint64` values are included on chain. In those cases, Lodestar may view valid_`AttesterSlashing` or `ProposerSlashing` as invalid, due to rounding errors in large `number` values. This causes a consensus split, where Lodestar nodes are forked away from the main network. Similarly, Lodestar may consider invalid `ProposerSlashing` as valid, thus including in proposed blocks that will be considered invalid by the network. Version 0.36.0 contains a fix for this issue. As a workaround, use `BigInt` to represent `Slot` and `Epoch` values in `AttesterSlashing` and `ProposerSlashing` objects. `BigInt` is too slow to be used in all `Slot` and `Epoch` cases, so one may carefully use `BigInt` just where necessary for consensus.

CVE-2022-29219 has been assigned by security-advisories@github.com to track the vulnerability - currently rated as HIGH severity.

Affected Vendor/Software: **ChainSafe** - **lodestar** version **< 0.36.0**

CVSS3 Score: 7.5 - HIGH

Attack Vector	Attack Complexity	Privileges Required	User Interaction
NETWORK	LOW	NONE	NONE
Scope	**Confidentiality Impact**	**Integrity Impact**	**Availability Impact**
UNCHANGED	NONE	HIGH	NONE

CVSS2 Score: 5 - MEDIUM

Access Vector	Access Complexity	Authentication

NETWORK	LOW	NONE
Confidentiality Impact	**Integrity Impact**	**Availability Impact**
NONE	PARTIAL	NONE

CVE References

Description	Tags	Link
Release Release v0.36.0 · ChainSafe/lodestar · GitHub	github.com text/html	MISC github.com/ChainSafe/lodestar/releases/tag/v0.36.0
AttesterSlashing number overflow · Advisory · ChainSafe/lodestar · GitHub	github.com text/html	CONFIRM github.com/ChainSafe/lodestar/security/advisories/GHSA-cvj7-5f3c-9vg9
Reorg uint variables by dapplion · Pull Request #3977 · ChainSafe/lodestar · GitHub	github.com text/html	MISC github.com/ChainSafe/lodestar/pull/3977

There are currently no QIDs associated with this CVE

Known Affected Configurations (CPE V2.3)

Type	Vendor	Product	Version	Update	Edition	Language
Application	Chainsafe	Lodestar	All	All	All	All

cpe:2.3:a:chainsafe:lodestar:*:*:*:*:*:*:*:*:

No vendor comments have been submitted for this CVE

Social Mentions

Source	Title	Posted (UTC)
@CVEreport	CVE-2022-29219 : Lodestar is a TypeScript implementation of the Ethereum Consensus specification. Prior to version… twitter.com/i/web/status/1…	2022-05-24 14:31:35
/r/netcve	CVE-2022-29219	2022-05-24 15:38:15

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CVE.report and Source URL Uptime Status status.cve.report