2023 CVE Data Review

January 3, 2024 7710 Views

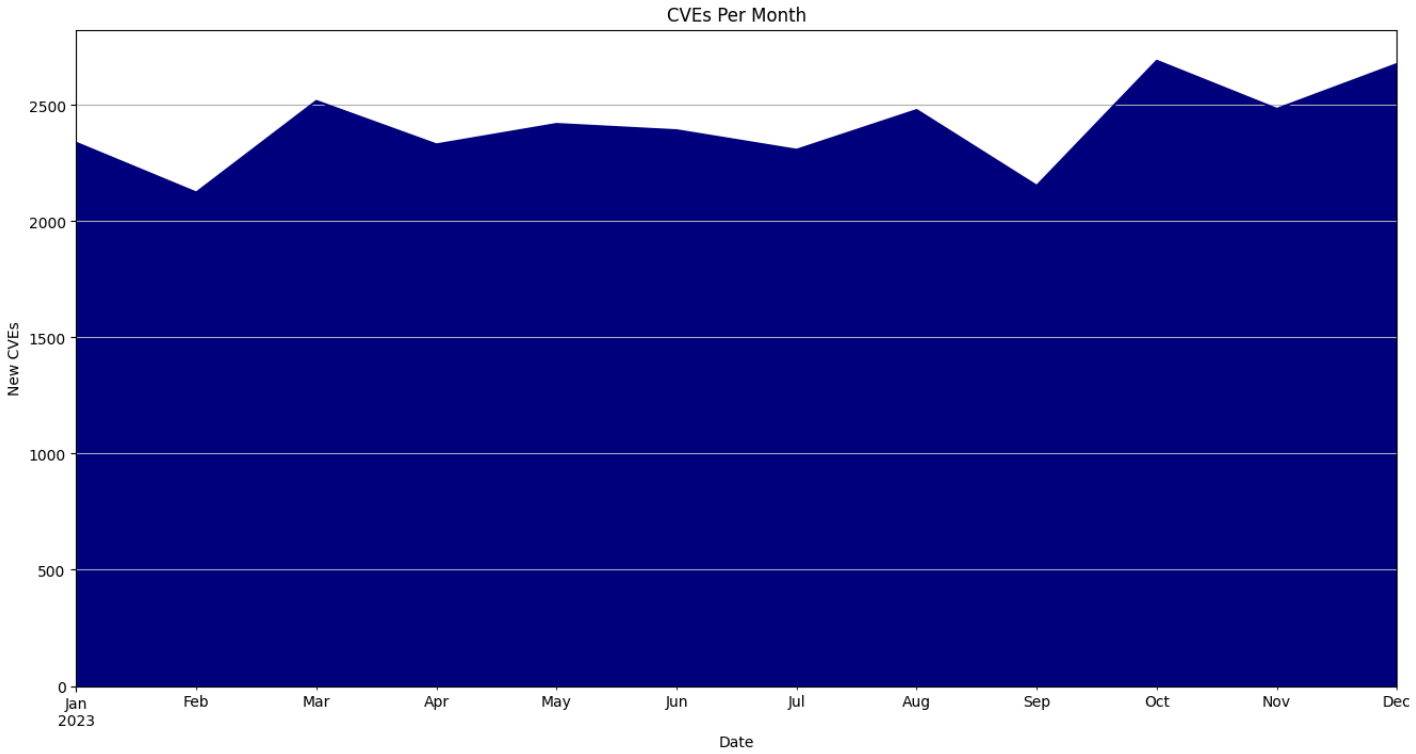
2023 marked another year of record growth in CVE data, and I thought it fitting to kick off the new year by delving into these statistics and showcasing some of the more interesting data points.

CVEs By The Numbers

We ended 2023 with **28,902** published CVEs, up over 15% from the **25,081** CVEs published in 2022.

On average, there were **79.18** CVEs published per day.
October was the month with the most CVEs published, with **2,690** or **9.3%** of all CVEs for the year.
Tuesdays were the top publishing days, with **6,438** CVEs or **22.3%** of all CVEs published.
January 26th had the most CVEs published in a single day, with **348**.

CVEs By Month

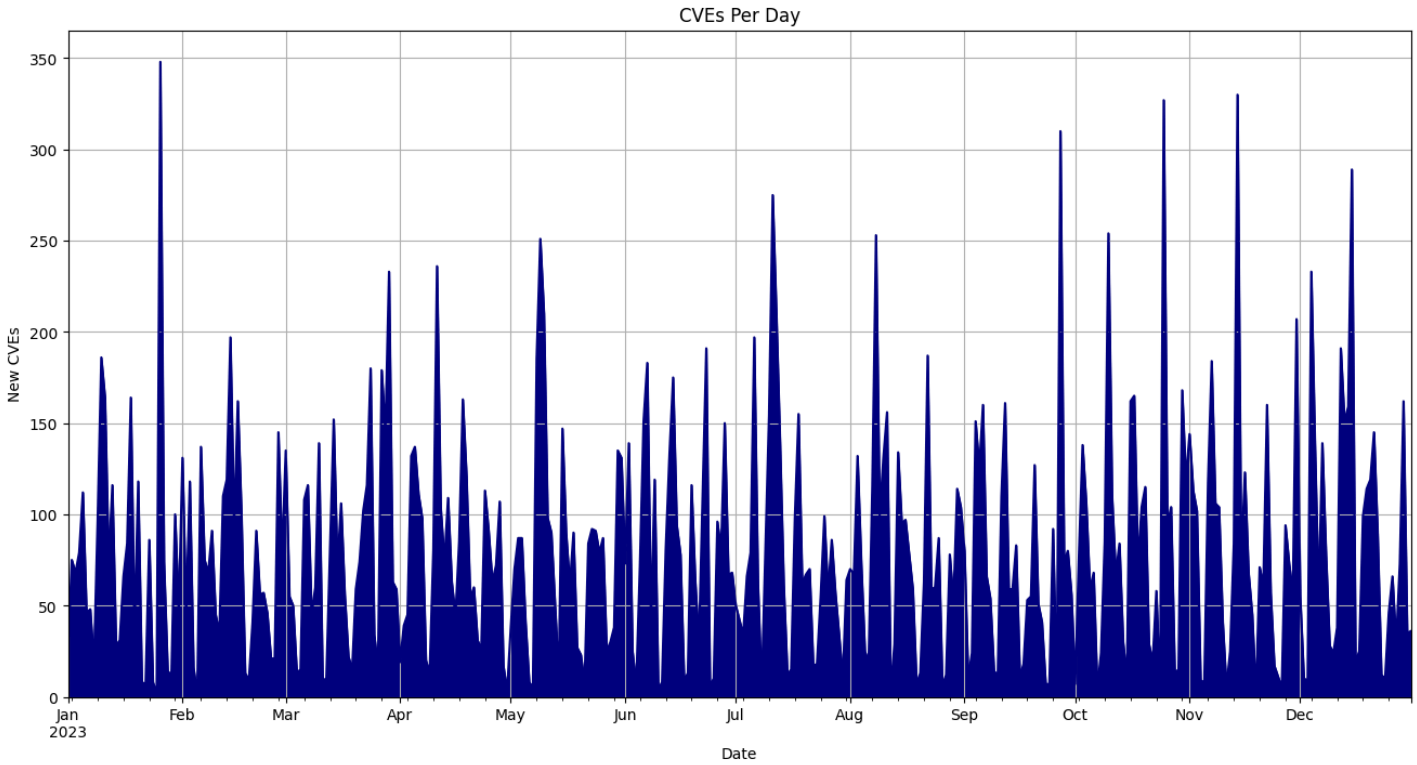


Month	CVEs	Percentage
January	2337	8.1
February	2123	7.3
March	2517	8.7
April	2330	8.1
May	2418	8.4
June	2391	8.3
July	2307	8.0
August	2478	8.6
September	2152	7.4
October	2690	9.3
November	2483	8.6
December	2676	9.3

CVEs By Day Of The Week

Day	CVEs	Percentage
Monday	5005	17.3
Tuesday	6438	22.3
Wednesday	5895	20.4
Thursday	5064	17.5
Friday	4597	15.9
Saturday	1006	3.5
Sunday	897	3.1

Top 10 CVE Publishing Days

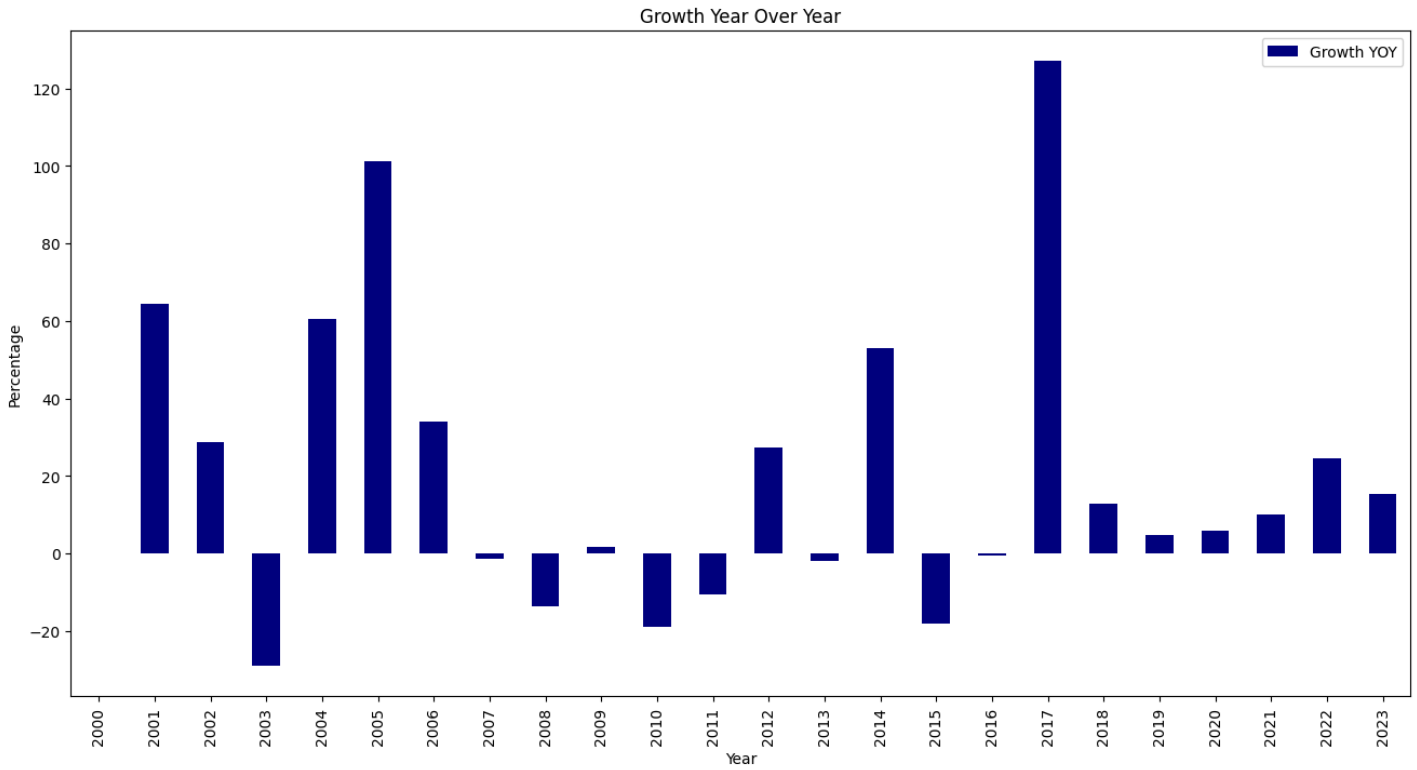


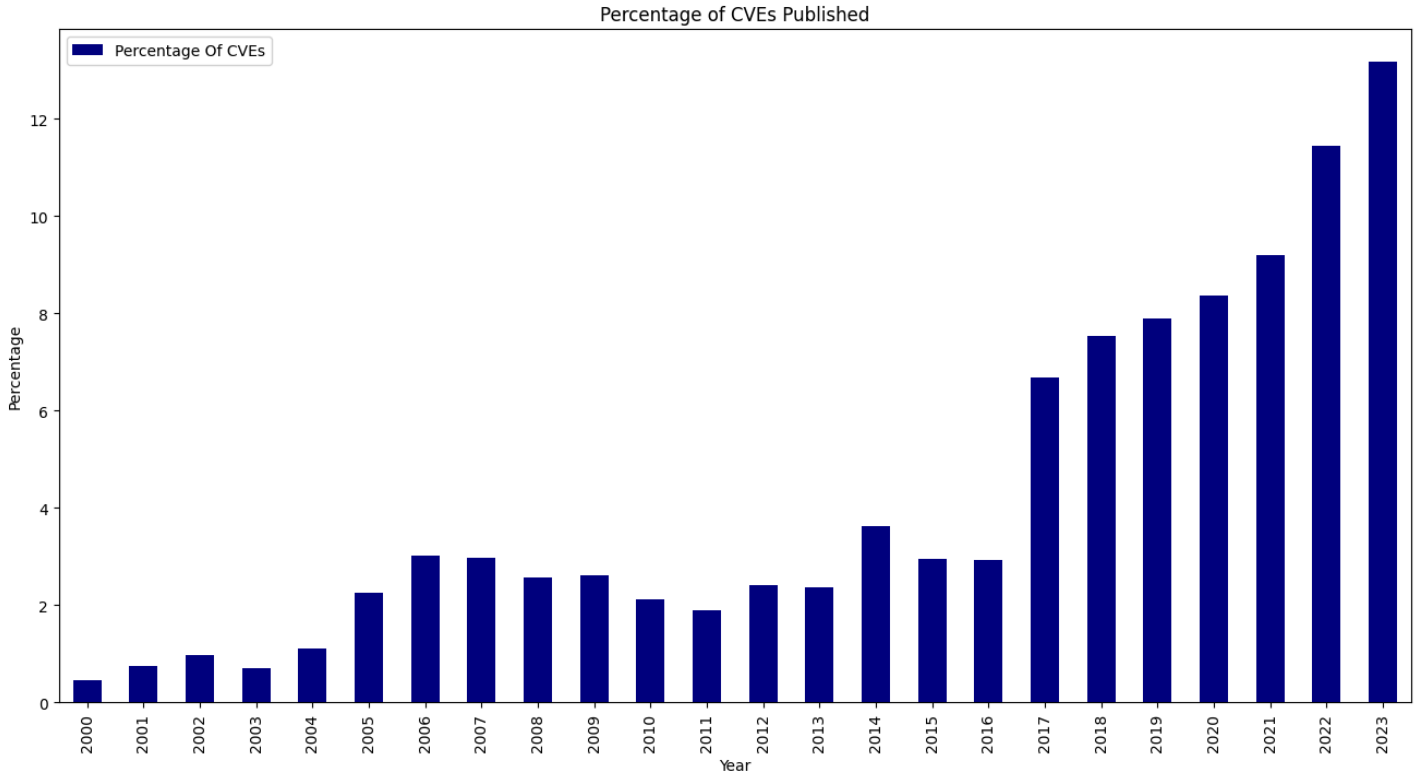
Day	CVEs
2023-01-26	348
2023-11-14	330
2023-10-25	327
2023-09-27	310

Day	CVEs
2023-12-15	289
2023-07-11	275
2023-10-10	254
2023-08-08	253
2023-05-09	251
2023-04-11	236

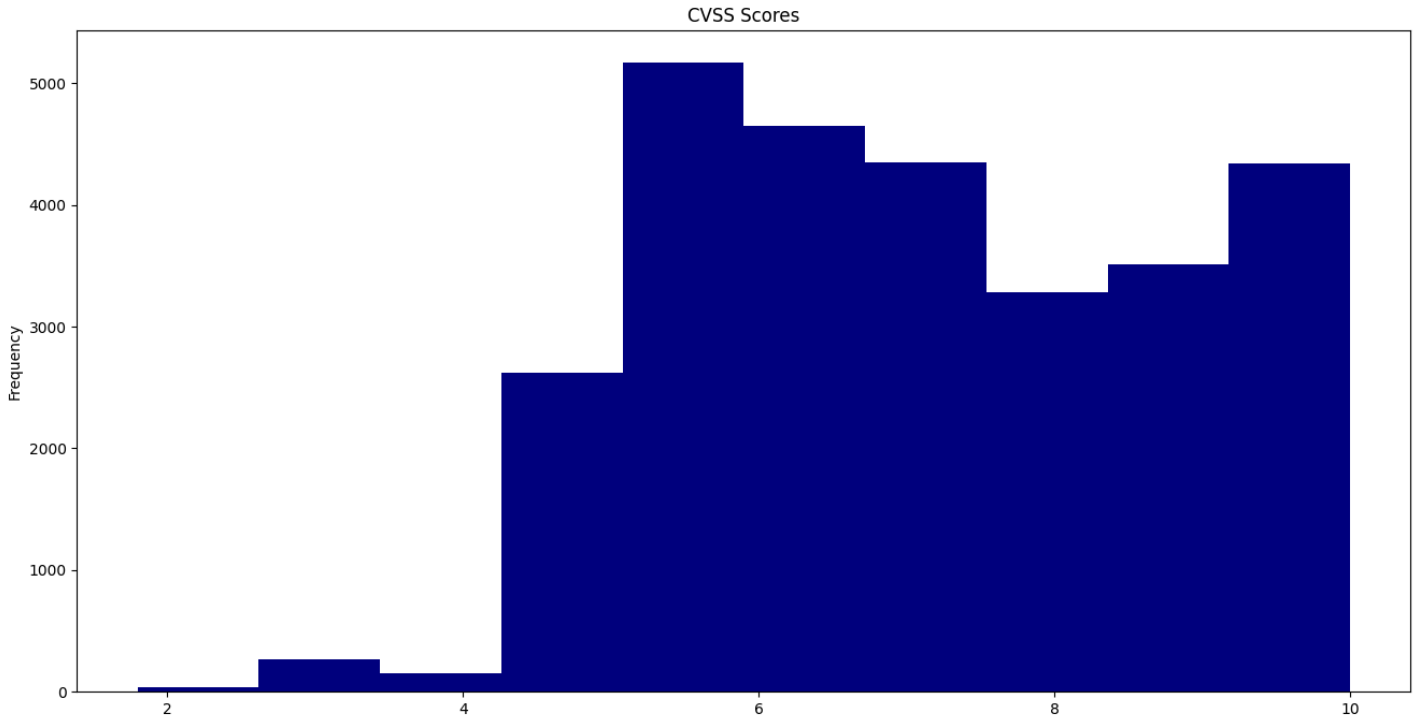
CVE Growth

Like every year since 2017, we saw a record-breaking number of CVEs published, with **28,902**. a **15.23%** increase over 2022. It also means that **13.18%** of all CVEs published were published in the last year.





CVSS



The Common Vulnerability Scoring System (CVSS) provides a way to capture the principal characteristics of a vulnerability and produce a numerical score from 0.0 to 10.0, reflecting its severity. The average CVSS score this year was **7.12**.

This year, 36 CVEs scored a “perfect” **10.0**.

CVE-2023-21928 had the lowest published CVSS score of 1.8.

CPE

Common Platform Enumeration (CPE) is a structured naming scheme for information technology systems, software, and packages to help identify vulnerable software identified in a CVE.

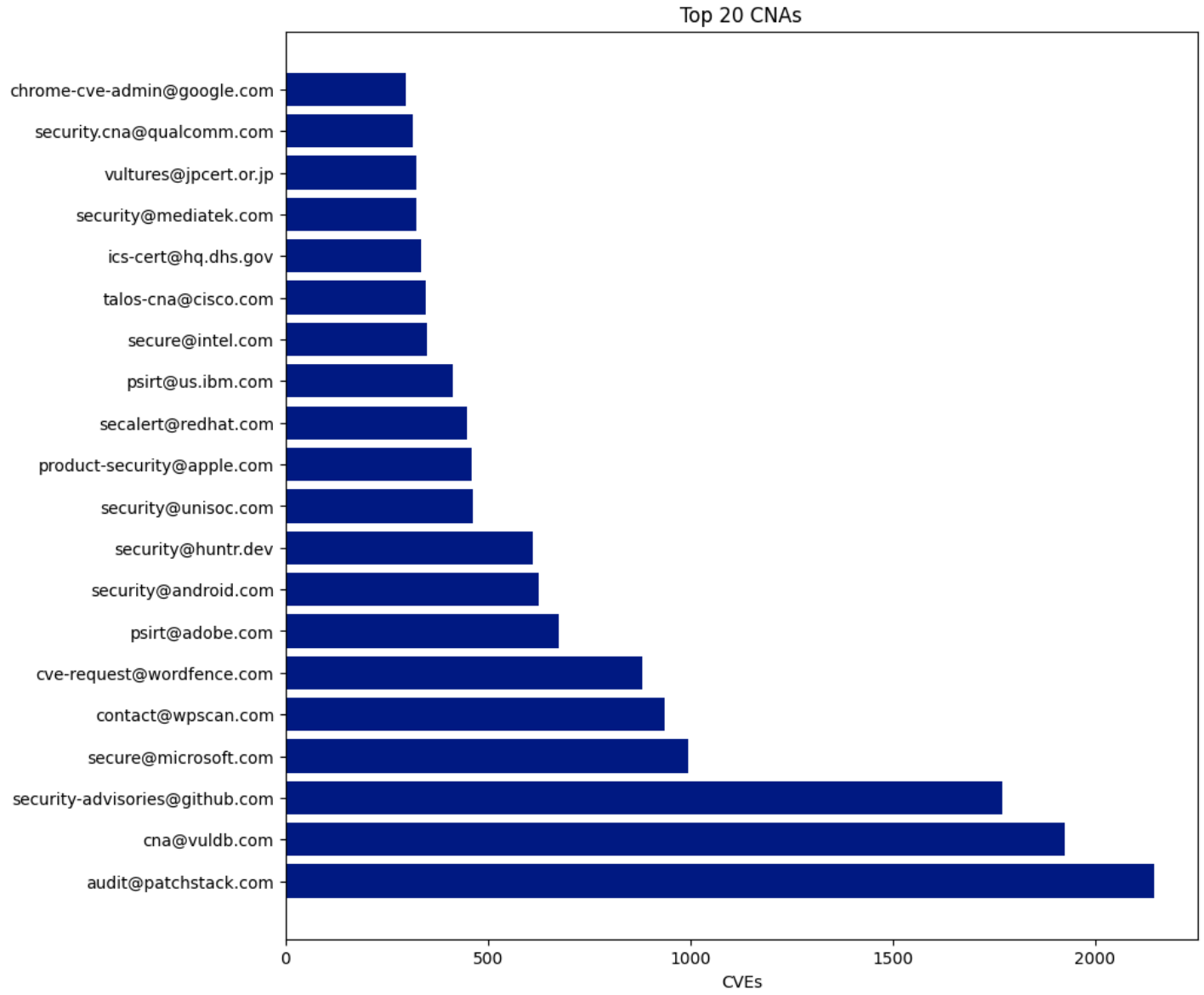
This year, **3,119** unique **CPEs were** identified in CVEs. The most common was `cpe:2.3:o:google:android:12.0:*:*:*:*:*:*:*` that was applied to **547** CVEs.

CVE-2023-44183, a Juniper Networks Junos OS vulnerability, is the CVE with the most CPEs with **240** unique, vulnerable configurations.

CNA

CVE Numbering Authorities (CNAs) are software vendors, open source projects, coordination centers, bug bounty service providers, hosted services, and research groups authorized by the CVE Program to assign CVE IDs to vulnerabilities and publish CVE Records within their specific scopes of coverage.

Today, there are **346** CNAs. This year, **250** of those CNAs published at least one CVE.



The Top 5 CNAs last year were:

Patchstack

VulDB

Github

Microsoft

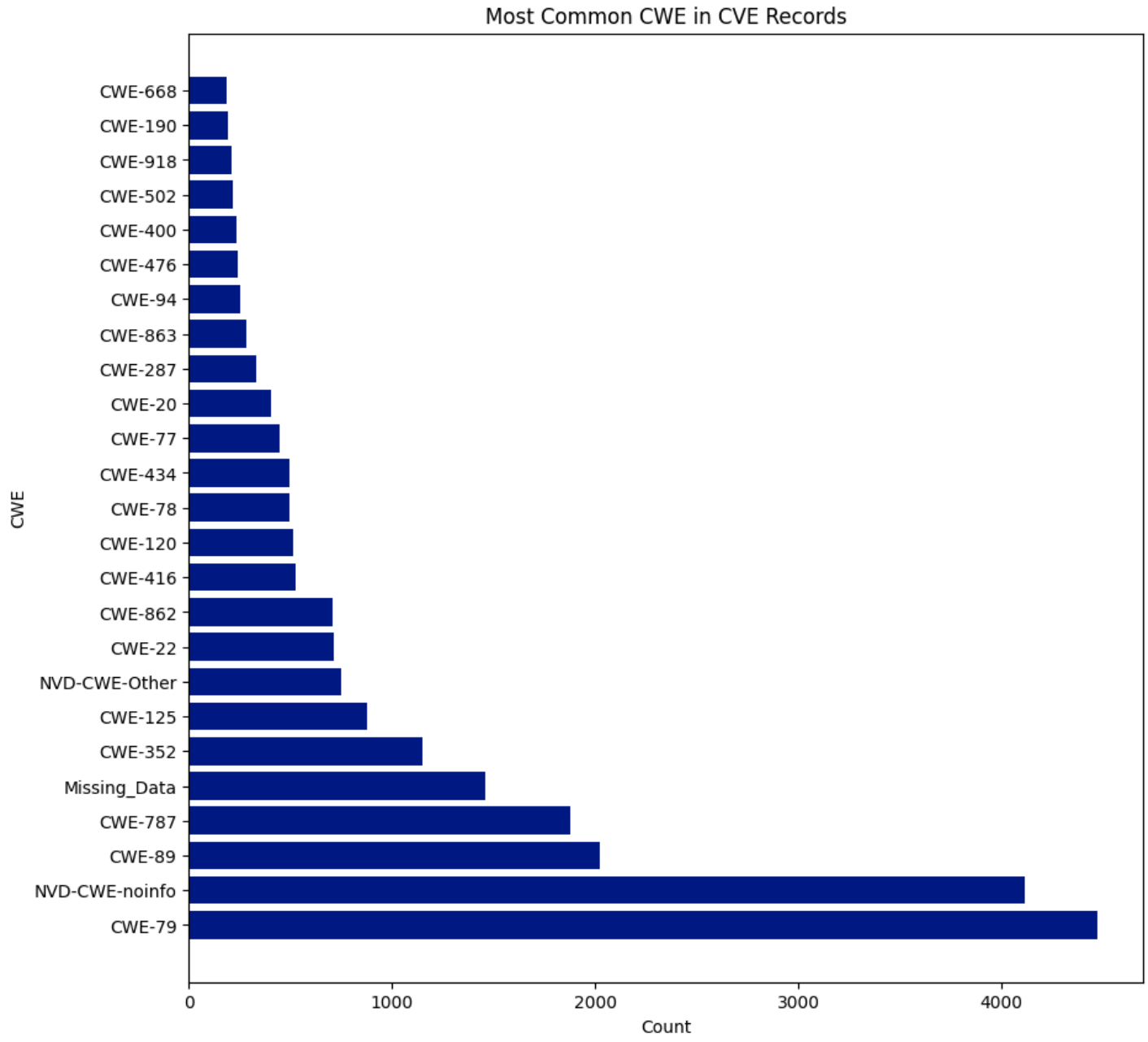
WPScan

Four of the top five CNAs this year, excluding Microsoft, were purpose-built to report CVEs for open-source projects (VulDB & Github) or WordPress Plugins (Patchstack & WPScan). Those four CNAs published **6,778,** or **24.12%** of all CVES this year.

CWE

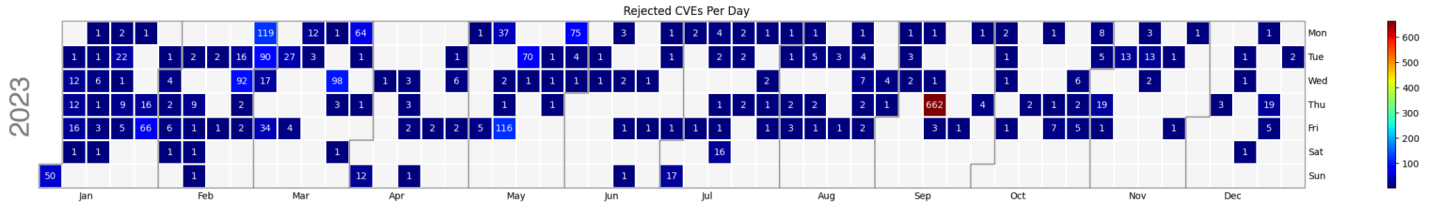
CWE is a community-developed list of software and hardware weakness types. It is a common language, a measuring stick for security tools, and a baseline for weakness identification, mitigation, and prevention efforts.

There are 1,332 CWEs, and **237** were assigned to CVEs this year. CWE-79 was the most assigned CWE and was assigned **4,474** times or **15.48%** of all CVEs. NVD didn't assign a CWE **4,113** times or **14.23%** of all CVEs.



Notes

2,112 Rejected CVEs have been removed from the dataset because some CNAs publish and reject any unused reserved CVE IDs, causing an artificially inflated record count. On September 14th alone, **662** were published and then immediately rejected.



This GitHub repository has jupyter notebooks containing all the data and visualizations used in this blog.

CVE.ICU is an open-source project I run that tracks most of the above data points in real-time throughout the year if you are interested in keeping up with the data.

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