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CVE Intelligent Ranking

Microsoft
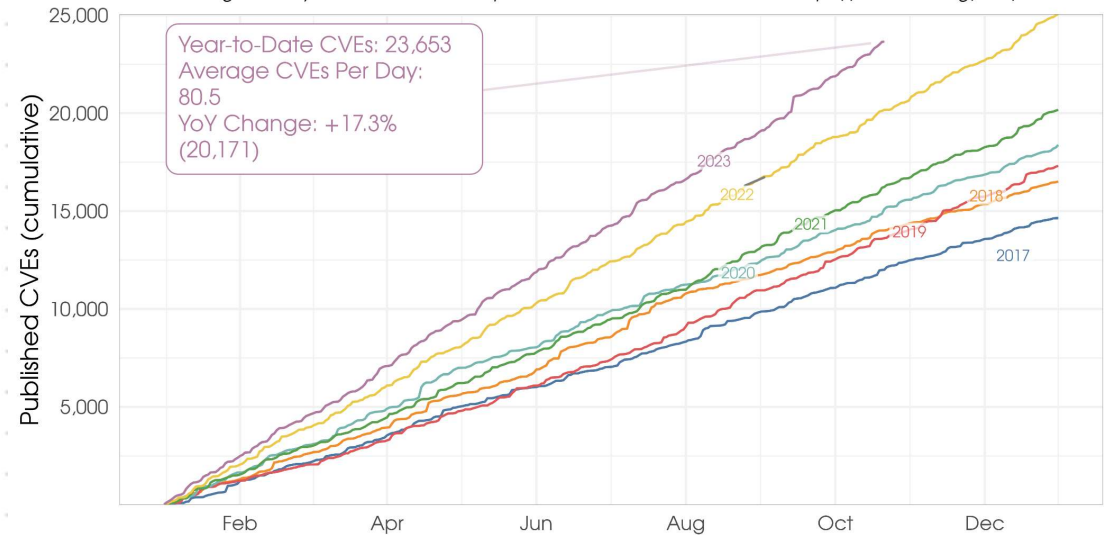Solutions Partner

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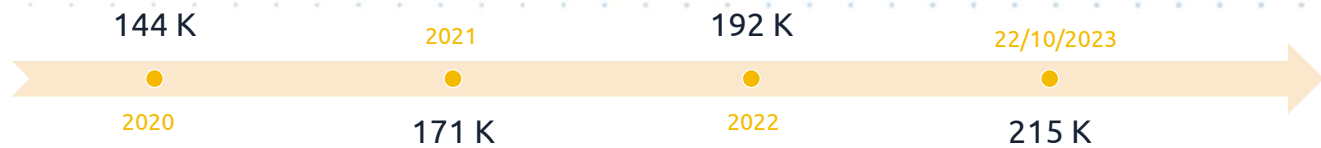# Constant growth in the number of CVEs

The exponential growth of Common Vulnerability Exposures (CVE) makes the usual analysis performed by CVSS insufficient, resulting in poor remediation efficiency. An "intelligent" risk management process to effectively prioritize and customize vulnerabilities is therefore urgently needed.

Year-to-date CVE publications (MITRE CVE List)
Lines showing the daily cumulative count of published CVEs on MITRE's CVE List, https://cve.mitre.org/cve/

Year-to-Date CVEs: 23,653
Average CVEs Per Day: 80.5
YoY Change: +17.3% (20,171)

Published CVEs (cumulative)

25,000
20,000
15,000
10,000
5,000

Feb   Apr   Jun   Aug   Oct   Dec

2023
2022
2021
2020
2019
2018
2017

Source: https://first.org/epss/data_stats, 2023-10-22

144 K — 2020
2021 — 171 K
192 K — 2022
22/10/2023 — 215 K

Source: NVD Statistics

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Traditional approach and its problems

Traditional Approach

Assign priority to CVEs that have CVSS Score greater than a certain threshold (ed. CVSS 8+, 9+, 10+)

Problems with the approach:

- It does not consider the existence of codes published to exploit the vulnerability
- Does not use historical data regarding "exploits in the wild"
- Empirically gives priority also to the many CVEs that will not really be exploited in the future (many false positives)

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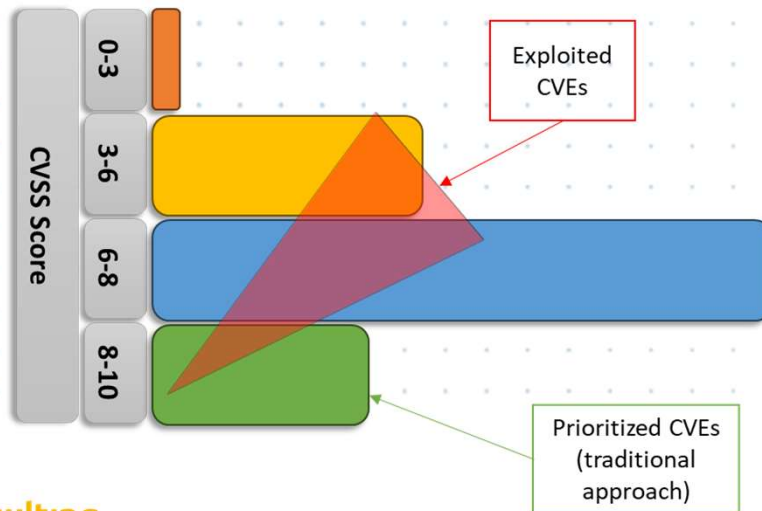
CVE-IR goals & objectives

The CVE-IR (CVE Intelligent Ranking) represents the probability that a CVE can be exploited "in the wild" in the first twelve months after its publication.

The goal is to prioritize CVEs so that the highest risk CVEs are addressed first, ensuring the best trade-off between coverage and efficiency.

Main Benefits

Efficiency: The system prevents actions on CVEs with high score, but unexploited, thus increasing efficiency and focus

Remediation effort minimization: Significant reduction of CVEs remediation effort

Tailored scoring: The resulting score can be generated through internal assessments of business criticality, making the assessment customized

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Ask a question via email: info.cve.ir@iconsulting.biz

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