OWASP

Open Web Application Security Project

vPrioritizer

Art of Risk Prioritization

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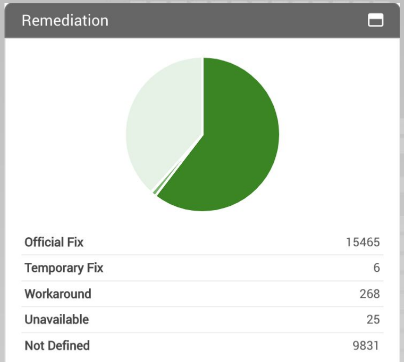
About Me

- Manager - Application Security @Netskope
- Security Testing & DevSecOps
- Author of three open source products:
  - Omniscient - LetsMapYourNetwork: a graph-based asset management framework
  - vPrioritizer - Art of Risk Prioritization: a risk prioritization framework
  - sec-depend-aider - Dependabot Pull Request Monitoring Automation
- BlackHatEurope2018 | BlackHatUSA2019 | Defcon27 | BlackHatEurope2019 | nullconGoa2020 | BlackHatUSA2020 | nullconGoa2022 | OWASP Pune Chapter Leader | OSCP

Before We Start

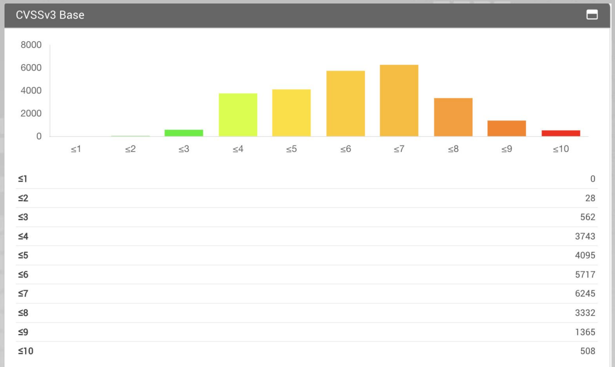
- Security is important
- Capacity is limited
- Risk is huge
- Business is demanding

CONTEXT



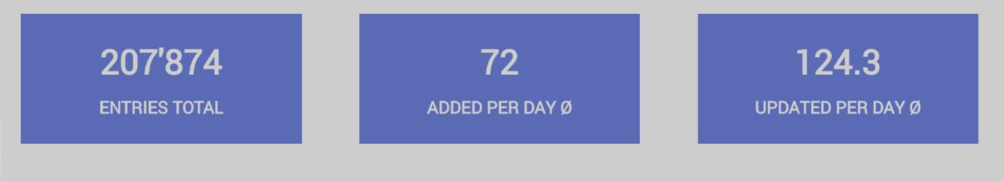
Remediation

Official Fix	15465
Temporary Fix	6
Workaround	268
Unavailable	25
Not Defined	9831



CVSSv3 Base

≤1	0
≤2	28
≤3	562
≤4	3743
≤5	4095
≤6	5717
≤7	6245
≤8	3332
≤9	1365
≤10	508



207'874	72	124.3
ENTRIES TOTAL	ADDED PER DAY Ø	UPDATED PER DAY Ø

As reflected, on a daily basis, ~70 new vulnerabilities become **known** to industry

Even if an organization considers the impact rate of 10%, it's still very challenging to manage it effectively

Huge number of vulnerabilities to *assess and remediate;* safe to assume that count is going to increase furthermore

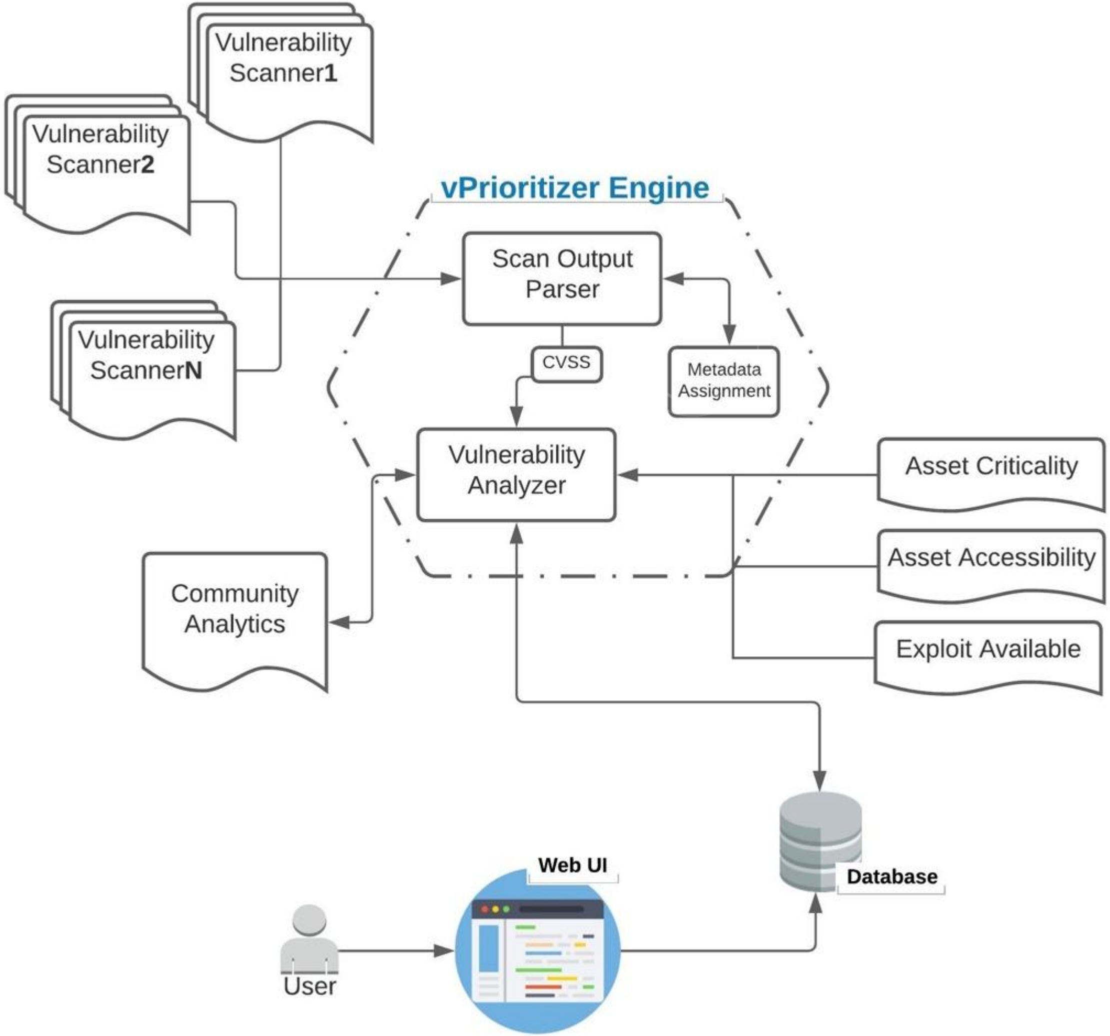
With this amount organization is focusing (or should focus) on ***reducing*** the risk rather than ***eliminating*** it

WHY vPRIORITIZER

In current era, vulnerability management is (almost) equal to risk prioritization because -

- Resources (skillset and time) is limited in every organization
- Environment is changing too fast and too frequently (ROI is less in analysis and remediation of a vulnerability if affected asset is not going to be live for a longer time - small attack surface)
- Attack surface is increasing exponentially in diversity (which again comes down to prioritization)
- Remember the 80/20 rule - **20% of vulnerabilities bring 80% of risk**

Risk is a contextualized value and depends on several factors like CVSS, exploit availability, asset criticality, asset availability etc. and practically difficult to determine across a medium to large organization.



HOW vPRIORITIZER WORKS

KEY FEATURES

- Support upload of **csv** scan files from Nexpose, Nessus and QualysGuard (custom mapping option available **at runtime**)
- User can assess the risk on different layers such as - significance on per asset basis, severity on per vulnerability basis, can adjust both factors at asset-vulnerability relationship level
- Comprehensive dashboard containing multiple sections like "Inherited v/s Projected Risk (vPRisk)", "Top 5 vulnerabilities", "Top 5 Assets" & "Overall Program Timeline"
- Docker support for Linux

CONCLUSION

- vPrioritizer enables us to understand the contextualized risk (vPRisk) pertaining to each asset by each vulnerability across the organization
- It's community-based analytics provides a suggested risk for each vulnerability identified by automated vulnerability scanners and further strengthens risk prioritization process.
- So, at any point of time teams can make an effective and more informed decision, based on unified and standardized data, about what (vulnerability/ties) they should remediate (or can afford not to) and on which (asset/s).

Demo

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https://github.com/varchashva/vPrioritizer

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Questions??