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2025
NORTH
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COMMUNITY
MEETING

Vulnerability Management for PCI DSS

A Risk-Based Approach

PCI DSS Vulnerability Scans

External vulnerability scans (ASV scans)

Internet-facing IPs

PCI-Approved Scan Vendor (ASV)

Pass/fail – all vulnerabilities above CVSS 3.9 are fixed

Internal vulnerability scans

Internal systems

Qualified internal staff or an external resource

Vulnerabilities resolved or addressed according to entity's assigned risk

Is penetration testing a vulnerability scan?

No, it is not

Attempts to exploit vulnerabilities

Complements but does not replace scans

External ASV Scans

Requirement 11.3.2

- Internet-facing IP addresses – more risk!
- Using a PCI-listed Approved Scan Vendor
- Passing scan required at least once every three months
- Passing = all medium and high vulnerabilities are resolved

Vulnerability Scans & Approved Scanning Vendors

A Resource Guide from PCI Security Standards Council

What is a Vulnerability Scan?

A process for identifying security weaknesses and flaws in systems and software. New vulnerabilities, security holes, and bugs are being discovered daily. Test your systems regularly to identify weaknesses and address them as soon as possible.

Why are vulnerability scans important?

In 2023, **25%** of high-risk vulnerabilities were exploited on the day of disclosure.[1]

Another **50%** of these high-risk vulnerabilities were exploited within 19 days.[1]

Between 2020 and 2023, the number of disclosed vulnerabilities increased by **44%**[1]

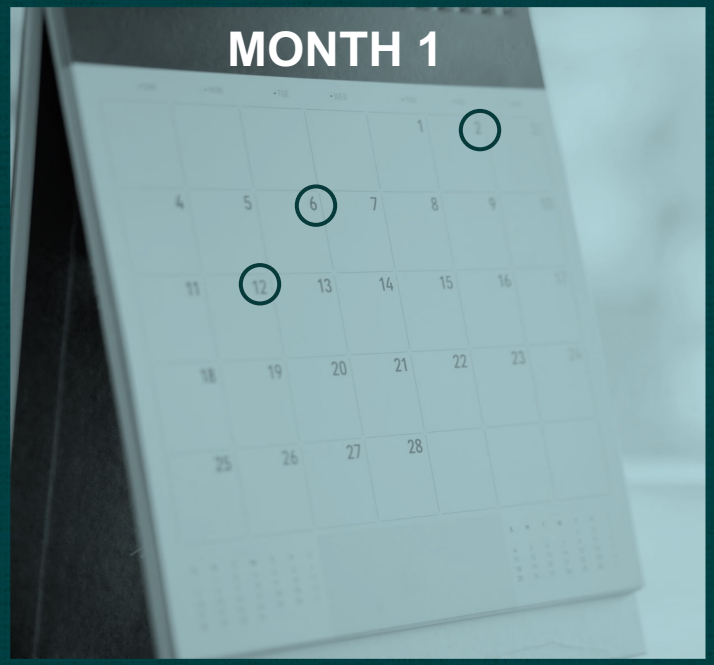
18350 (2020) → 26447 (2023)

One of the main ways attackers access an organization is by **exploiting vulnerabilities**[2]

Sources:
1: Qualys 2023 Threat Landscape Year in Review: If Everything Is Critical, Nothing Is
2: 2023 Verizon Data Breach Investigation Report

Regular vulnerability scans help an organization identify and address vulnerabilities promptly, which reduces the likelihood of an attacker exploiting a vulnerability and potentially compromising the organization and all its payment account data.

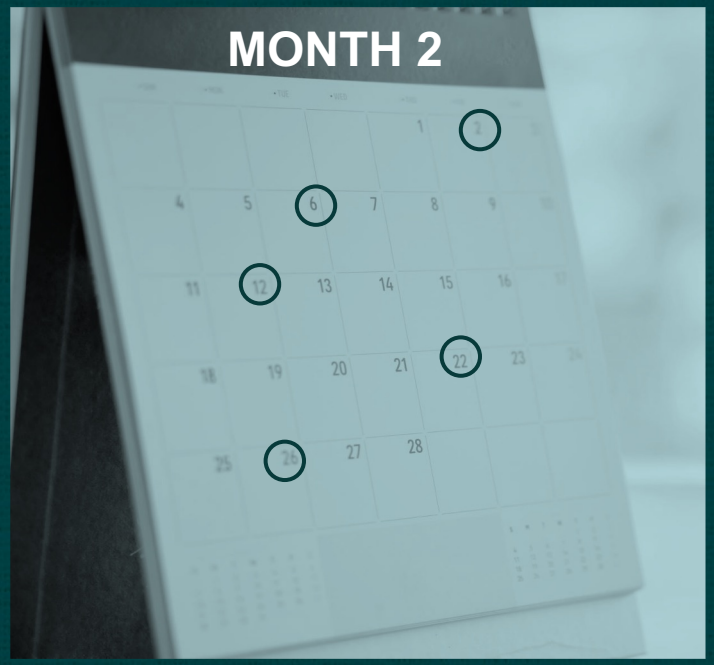
What is an Approved Scanning Vendor (ASV)?



Strongly Encouraged – Scan More Frequently!

- More opportunities to find and correct vulnerabilities within the 3-month period
- Finding vulnerabilities earlier reduces the risk of an attacker exploiting them
- Multiple scans means not forgetting to perform a scan that period

SCAN → REMEDIATE → RESCAN



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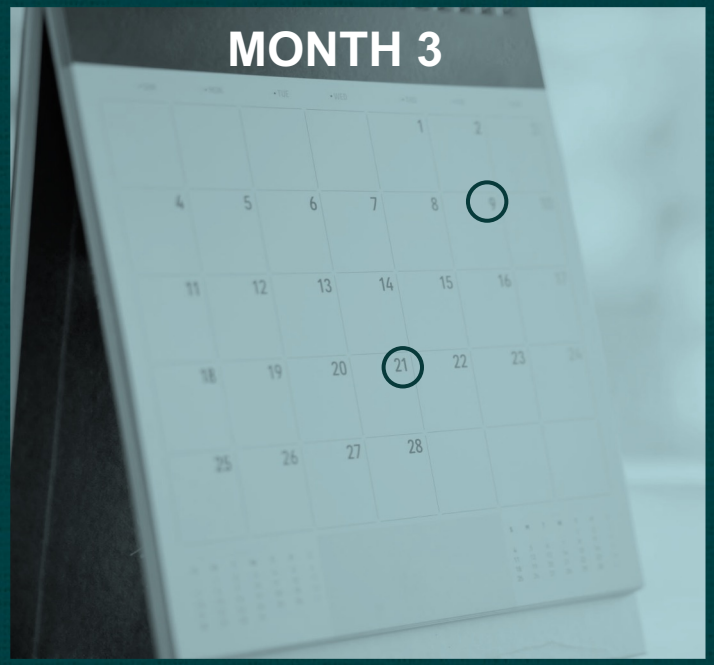

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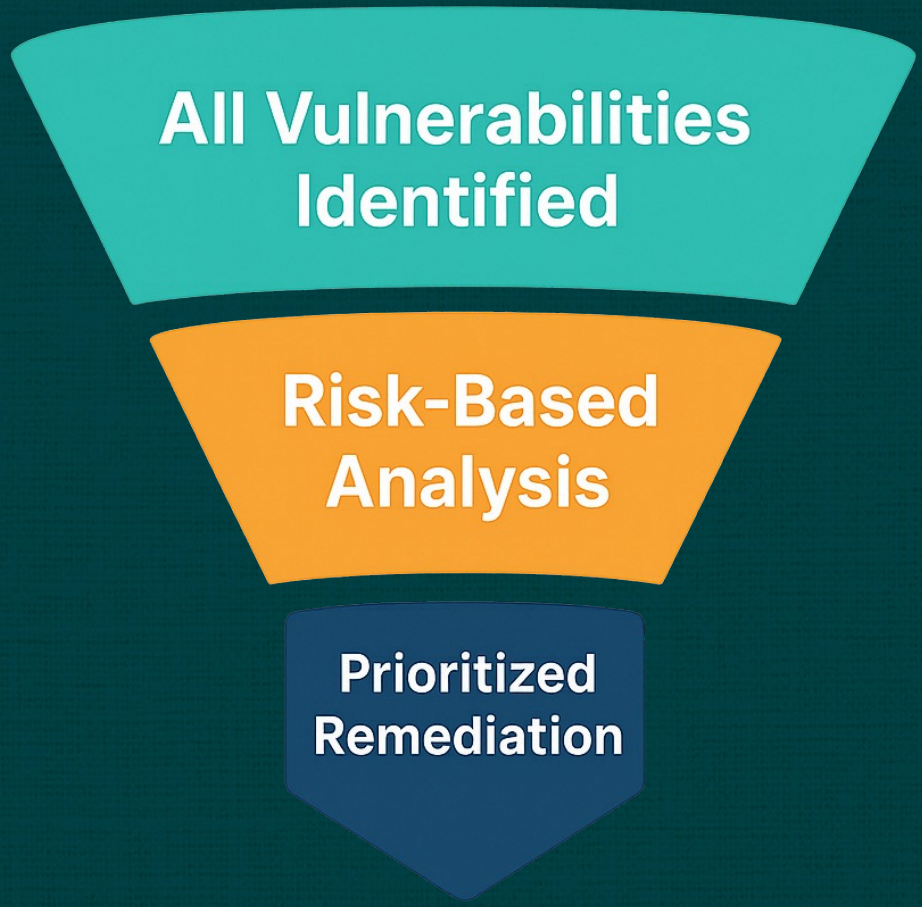
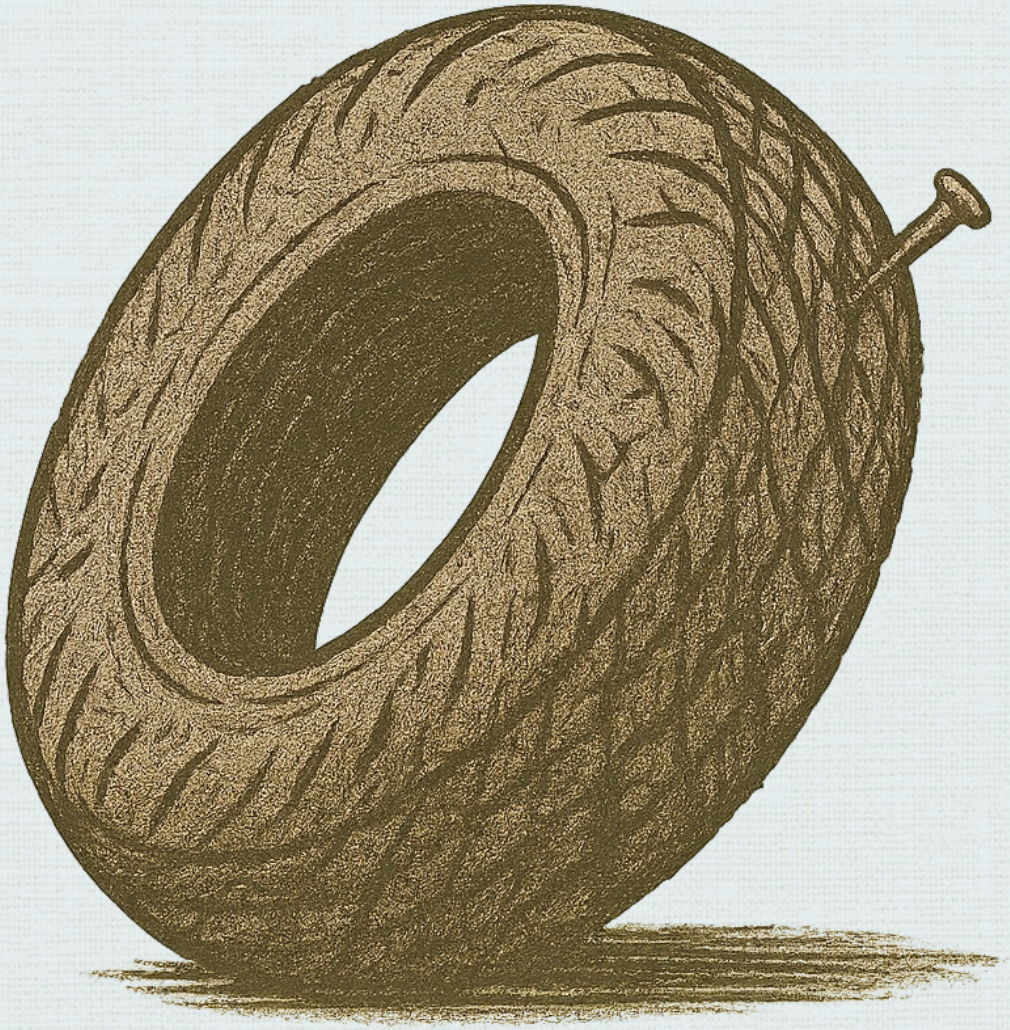
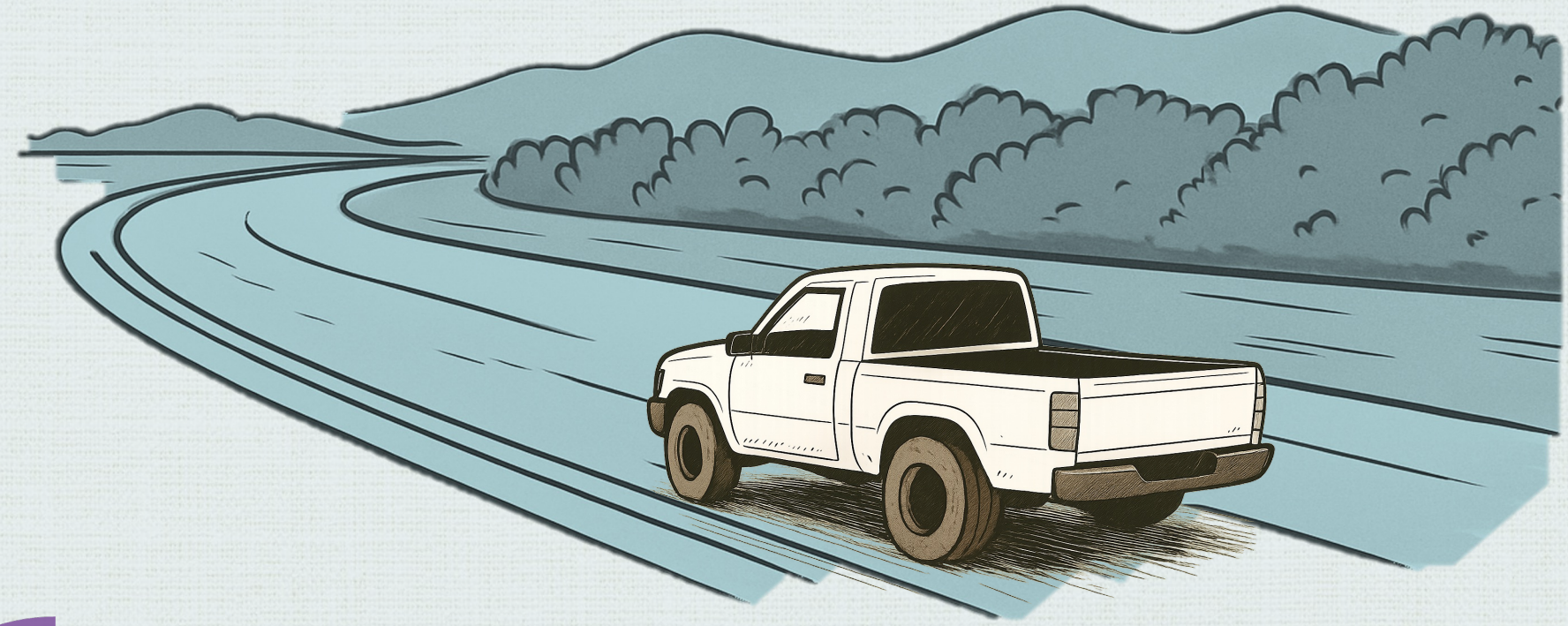
Internal Vulnerability Processes



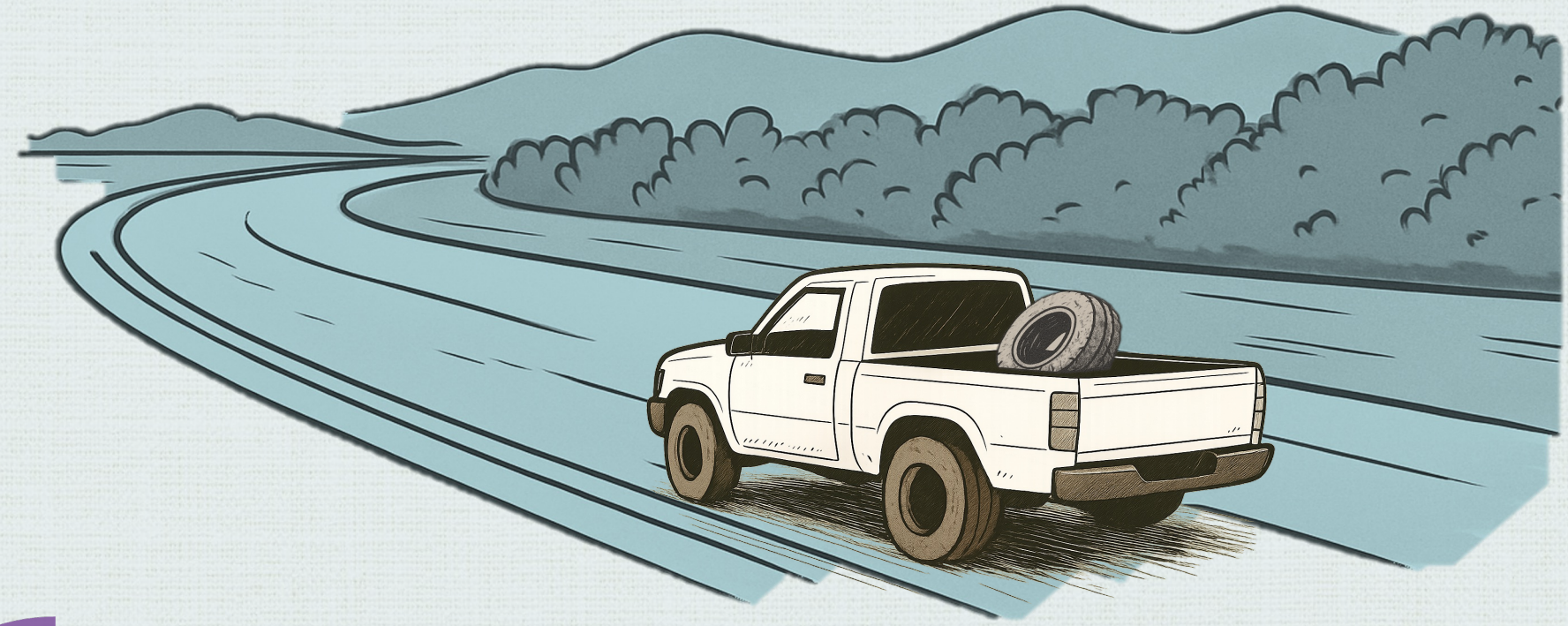
Tires



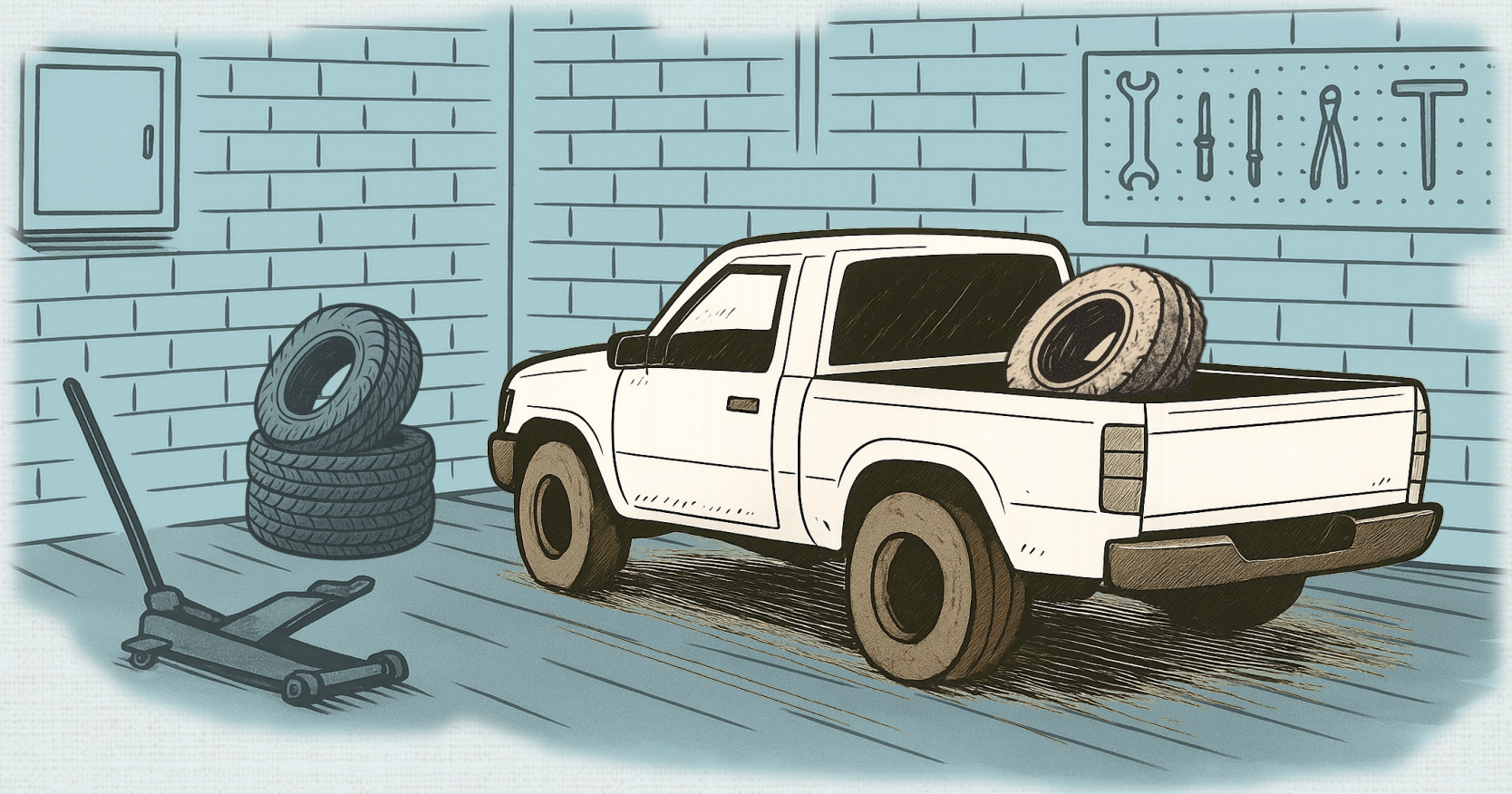
The worn damaged tire…



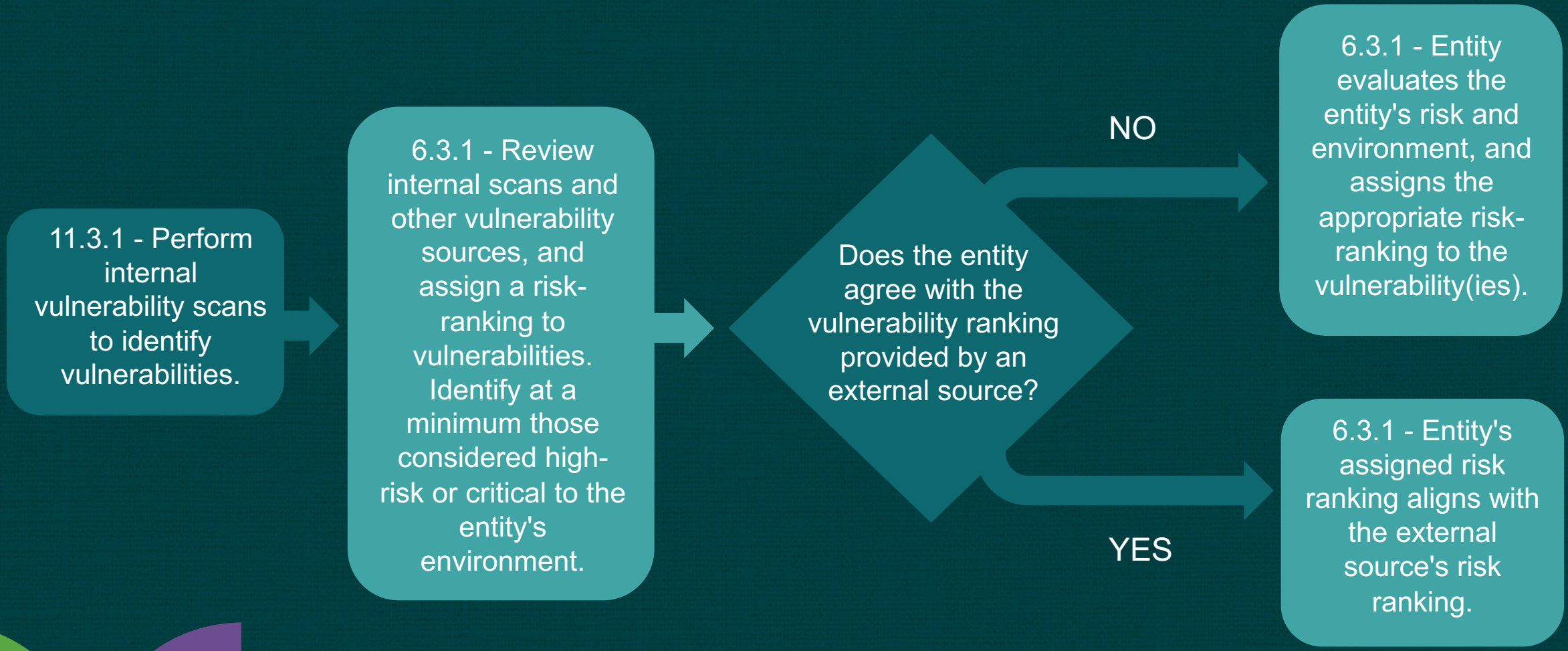
…the damaged spare…



…in the garage.



Identify and Risk-Rank Vulnerabilities



Resolve or Address Vulnerabilities

CRITICAL AND HIGH RISKS

11.3.1 - Resolve critical and high-risk vulnerabilities according to the risk rankings the entity assigned in Requirement 6.3.1.

CRITICAL

6.3.3 - Install patches/ updates for all critical vulnerabilities within one month of release.

HIGH-RISK

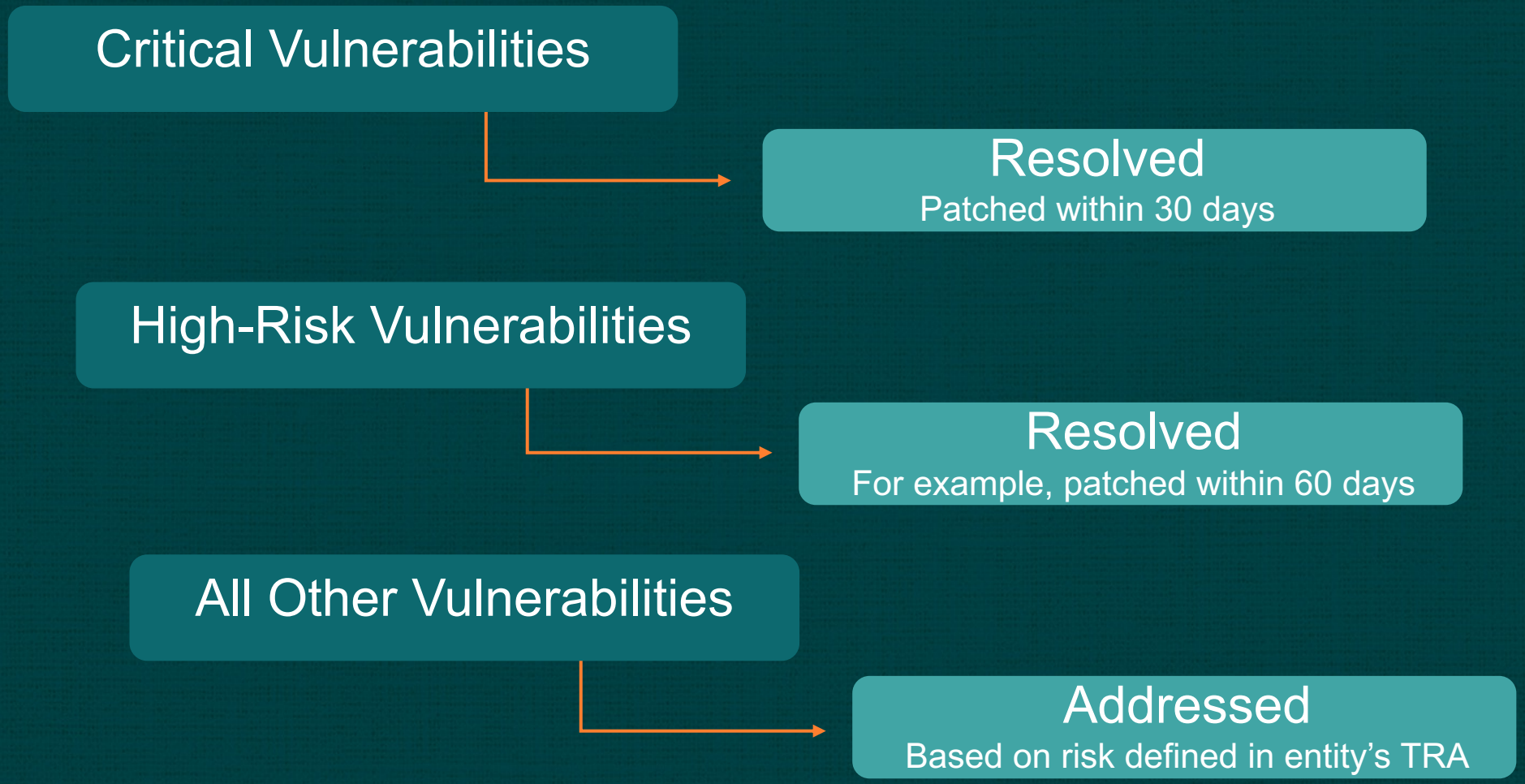
ALL OTHER RISKS

11.3.1.1 - Address all other vulnerabilities (not critical or high-risk) based on the entity's risk defined in a TRA.

6.3.3 - Install all other applicable patches/updates within the time frame determined by the entity, based on the level of risk identified in Requirement 6.3.1.

"All other" includes patches/updates for high-risk vulnerabilities and any lower risk vulnerabilities.

Critical, High, and All Other Vulnerabilities



Difference Between Resolve and Address

Resolve

Fix or solve the vulnerability

Examples:

- Install a security patch
- Change a configuration
- Add a compensating control
- Disable a service
- Decommission a system
- Transfer the risk

Address

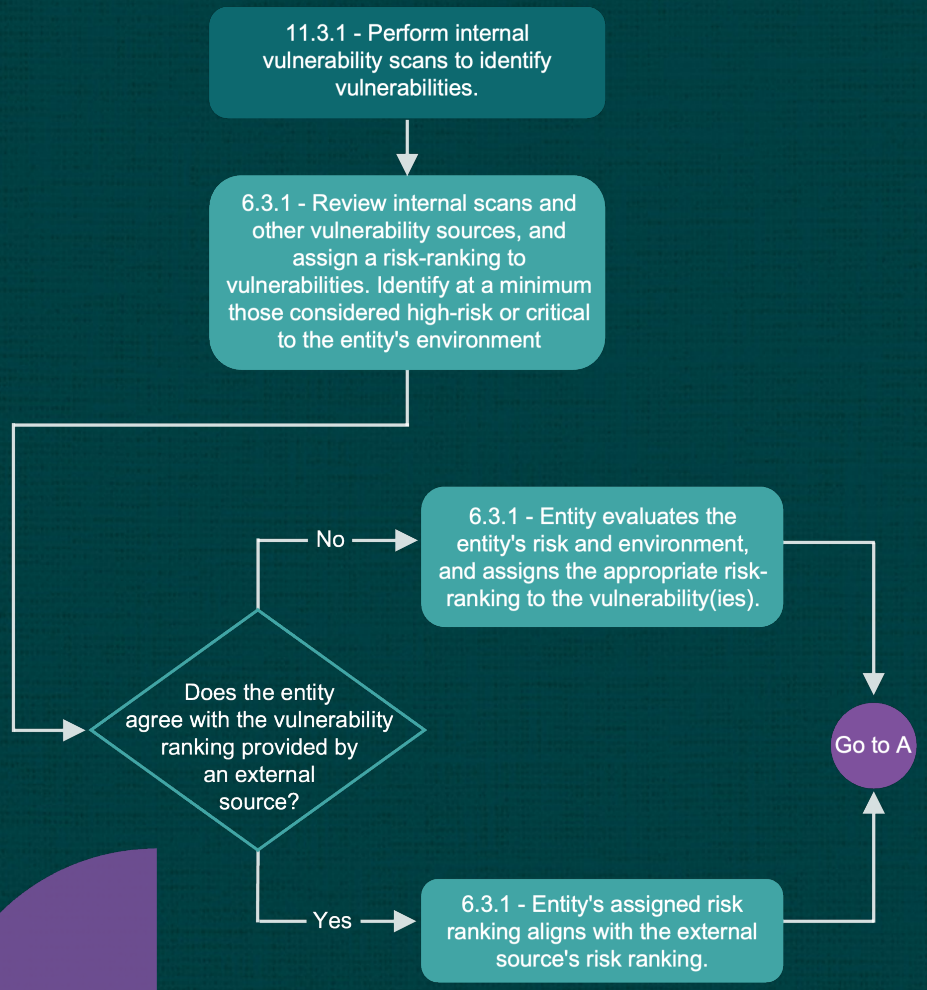
Determine whether to *resolve the vulnerability* or mitigate the risk by *addressing it in another way*.

Examples:

- Resolve it
- Accept a low-risk vulnerability after evaluating risk (TRA)

PCI DSS Vulnerability Management Processes

Identify and Risk-Rank Vulnerabilities



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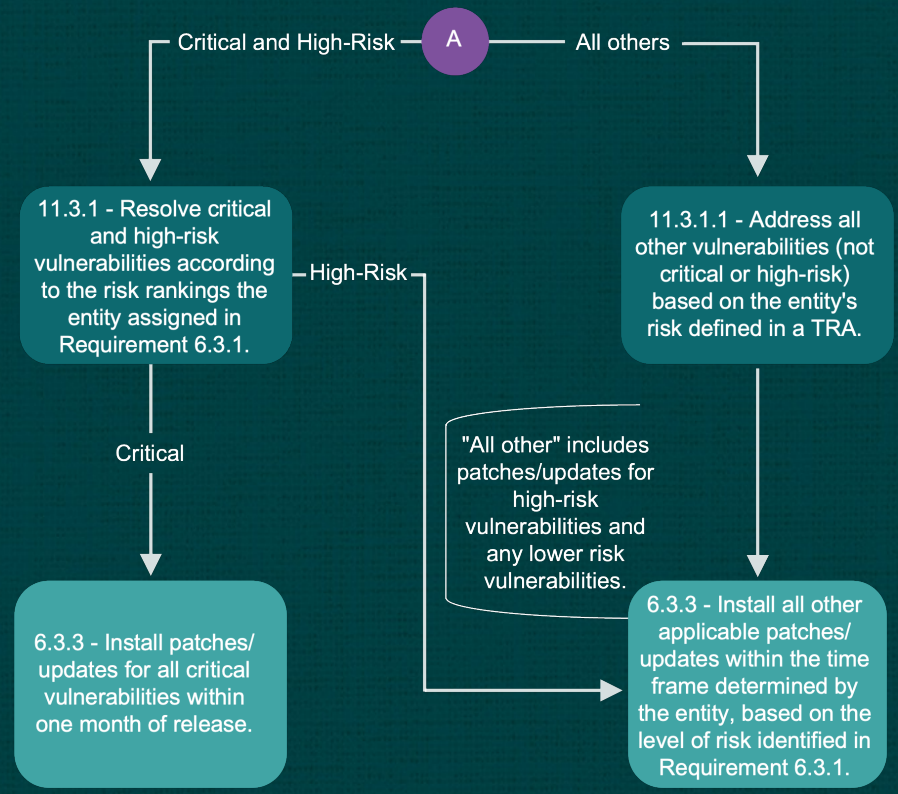


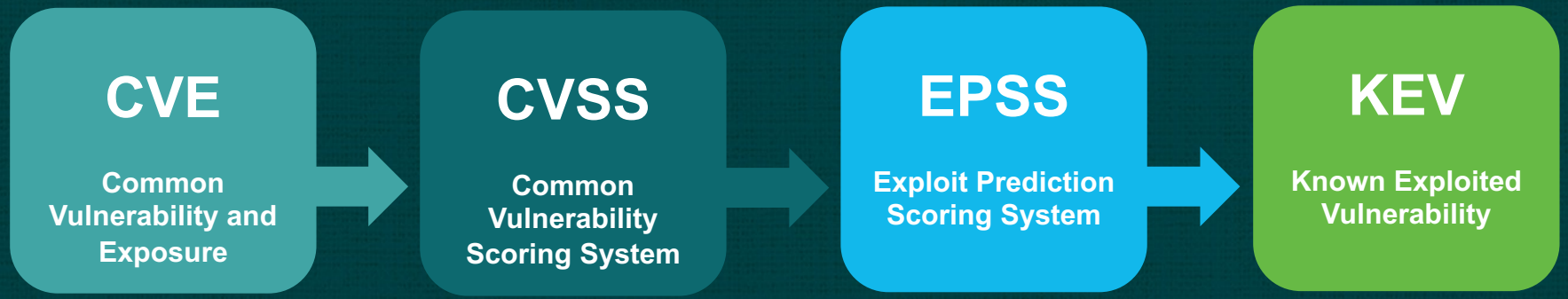
Resolve - the entity solves or fixes the vulnerability.

Address - the entity determines whether to resolve the vulnerability or to mitigate the risk by addressing the vulnerability in another way (e.g., with a compensating control or by disabling a vulnerable service).

Understanding Internal Vulnerabilities

Severity ≠ Risk without context

- A vulnerability does not always mean real-world risk
- Focus on data-driven signals
- Use context layers to prioritize effectively



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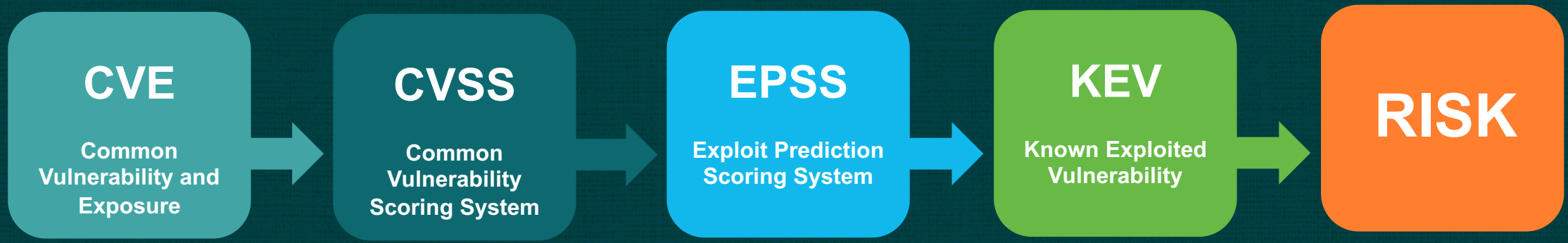

Building Context to Target the Risks

Threat Intelligence and Multiple Sources

- Scanning alone is not the full picture
- KEV + EPSS for near-real-time risk scoring
- Combine internal scan data with external intel
- Feed into a centralized risk-ranking process
- Context turns raw CVEs into actionable priorities

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TRA for All Other Vulnerabilities

Targeted Risk Analysis (TRA) - Your Risk Translator

INPUTS
Ranked vulnerabilities, affected assets, asset criticality

ANALYSIS
Vulnerability risk by asset

OUTPUTS
Vulnerability risk rank per asset, how to address, frequency

- Document in accordance with TRA Requirement 12.3.1
- Show assessor TRA and supporting documentation/evidence
- Annually - re-evaluate risk and re-assess prior decisions

Authenticated Internal Scans – New in v4.x

Requirement 11.3.1.2

- Required after March 2025
- All internal scans, except for systems that are unable to accept credentials

What is an Authenticated Scan?

Unauthenticated Scans

No authentication
(no username/password)

See only what an external attacker with no credentials sees

Limited view hides many vulnerabilities

Authenticated Scans

Authenticate with privileges

See configs, software, permissions, etc.

Full, privileged view reveals many vulnerabilities

PCI DSS Vulnerability Management: Key Takeaways

Pass/Fail
Resolve all vulnerabilities with CVSS scores of 4.0 through 10.0

External ASV scans
Requirement 11.3.2

Performed by a PCI-listed ASV

At Least One Passing Scan Every 3 Months

PCI DSS Vulnerability Management: Key Takeaways

Identify & Risk Rank
Requirement 6.3.1

Internal Scans
Requirement 11.3.1

Resolve with Patching
Requirement 6.3.3

Or Address per a TRA
Requirement 11.3.1

Conclusion

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