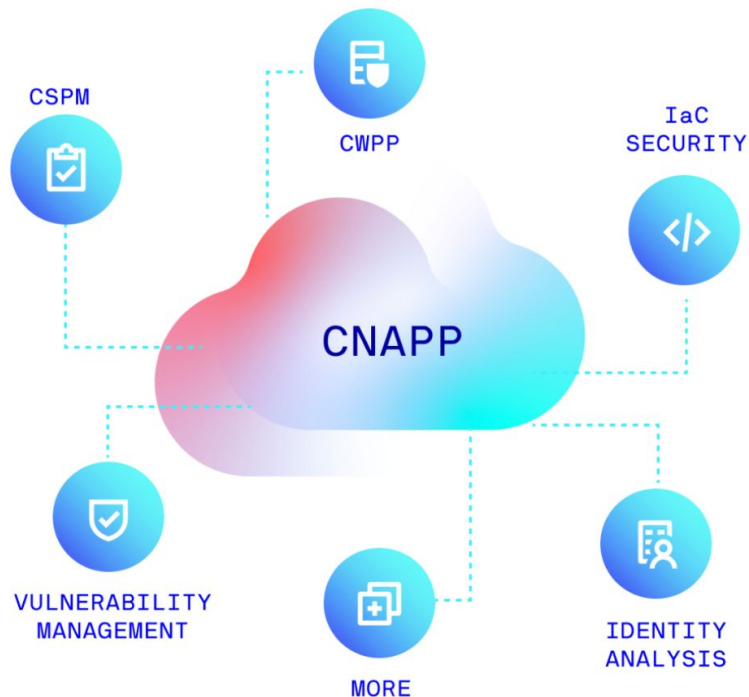


# Vulnerability Management 2.0

Patrice Godefroid



# Lacework = Cloud Security is a Data Problem



A unified cloud security platform that connects the dots for you

Cloud security is a data problem. Our CNAPP automatically makes sense of all your cloud data and uses your own data to better protect your entire environment — from build time through runtime.

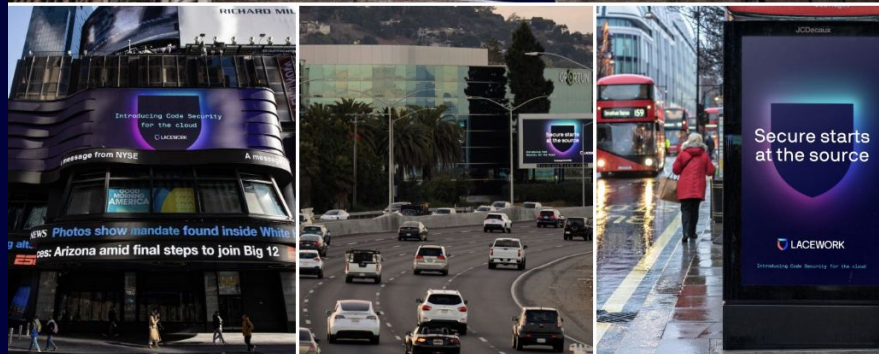
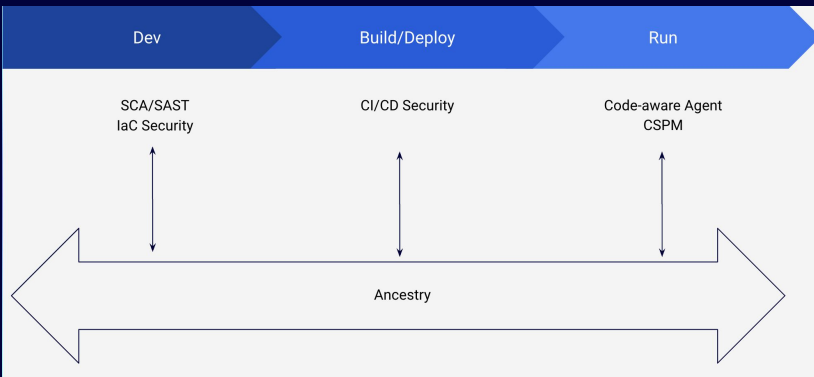


# Introducing Code Security @ Lacework [ [AWS re:Invent, Nov 2023](#) ]

Code Security =

- IaC (Infrastructure as Code)
- SCA (Software Composition Analysis)
- SAST (Static Analysis)
  - Quick
  - Deep
- + Code-Aware Agents [ [RSA, May 2023](#) ]

From Code to Cloud and Back:





# Vulnerability Management

## 1.0: (today)

- Scan your repos/VMs/containers
- To get list of all 3rd party (OSS) packages (SBOM)
- Cross check that list with vulnerability databases

Outcome: list of vulnerable packages + good luck!

## 2.0: (tomorrow) 1.0 + automated remediations

- Find the most optimal fix for each package
  - See the new Lacework Smart Fix  $\longrightarrow$
- Automatically generate Pull Requests to fix those
  - Use search (backtrack) in case of failed steps

[ [RSA, May 2024](#) ]

Goal: 10x to 100x speed ups

- From hours (work) and days (elapsed) to secs
- Automate 90% of security engs and devs tasks

## Lacework Code Security

### Vulnerabilities

• Artifact org.apache.logging.log4j:log4j-core@2.6.1 found in ECommerce/pom.xml has 6 issues:

◦ SmartFix: 2.17.1 (Minimal version with no known vulnerabilities)

◦ Explanation: Why is this SmartFix recommended?

Sorted Version Graph for package pkg:maven/org.apache.logging.log4j/log4j-core@2.6.1

2.6.1 is vulnerable:

critical	CVE-2017-5645	FixVersion= 2.8.2
critical	CVE-2021-44228	FixVersion= 2.15.0
critical	CVE-2021-45046	FixVersion= 2.16.0
high	CVE-2021-45105	FixVersion= 2.17.0
medium	CVE-2021-44832	FixVersion= 2.17.1
low	CVE-2020-9488	FixVersion= 2.13.2

2.8.2 is vulnerable:

critical	CVE-2021-44228	FixVersion= 2.15.0
critical	CVE-2021-45046	FixVersion= 2.16.0
high	CVE-2021-45105	FixVersion= 2.17.0
medium	CVE-2021-44832	FixVersion= 2.17.1
low	CVE-2020-9488	FixVersion= 2.13.2

2.13.2 is vulnerable:

critical	CVE-2021-44228	FixVersion= 2.15.0
critical	CVE-2021-45046	FixVersion= 2.16.0
high	CVE-2021-45105	FixVersion= 2.17.0
medium	CVE-2021-44832	FixVersion= 2.17.1

2.15.0 is vulnerable:

critical	CVE-2021-45046	FixVersion= 2.16.0
high	CVE-2021-45105	FixVersion= 2.17.0
medium	CVE-2021-44832	FixVersion= 2.17.1

2.16.0 is vulnerable:

high	CVE-2021-45105	FixVersion= 2.17.0
medium	CVE-2021-44832	FixVersion= 2.17.1

2.17.0 is vulnerable:

medium	CVE-2021-44832	FixVersion= 2.17.1
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2.17.1 is not vulnerable

Fix recommendations for package pkg:maven/org.apache.logging.log4j/log4j-core@2.6.1

2.17.1 is the minimal version with no known vulnerabilities

2.17.1 is the maximum version and it has no known vulnerabilities

2.17.0 is the minimal version with no critical or high vulnerabilities

Stats: the Version Graph has 7 versions (nodes) and 21 CVEs (edges) (diameter=1)

◦ CVE-2017-5645  $\times$ (critical)

Fixed version: 2.8.2

◦ CVE-2021-44228  $\times$ (critical)

Fixed version: 2.15.0